

NTNU Handbook of participation in European Platforms, Networks and Alliances



EIP-SCC

European Innovation Partnership
on Smart Cities and Communities



EERA

European Energy Research Alliance



EFFRA

EUROPEAN FACTORIES OF THE FUTURE
RESEARCH ASSOCIATION



EASSH

European Alliance for Social
Sciences and Humanities



ECS

EUROPEAN CYBER SECURITY ORGANISATION



EMIRI

ENERGY MATERIALS INDUSTRIAL
RESEARCH INITIATIVE



ERCIM

European Research Consortium
for Informatics and Mathematics

CESAER

conference of european schools
for advanced engineering education
and research

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Introduction

1. What is the purpose?

The NTNU Handbook of European participation aims to provide a quick overview of relevant initiatives at the European level (European Technology Platforms, Alliances, etc., where NTNU is already a member, or a membership would fit the long-term strategy of NTNU).

The Handbook is intended to be a tool for providing referential NTNU entry points to researchers willing to explore European Research Area collaborations in their specific field of interest.

Partnerships, positioning, relevant actors in a specific field can be identified and approached in a direct way and engagement in relevant initiatives can be discussed with the researcher(s) representing NTNU in a specific initiative of interest.

2. What type of information is here?

Each Platform/Alliance/etc has a short description about what it is, who the NTNU contact person is, who the administrative contact person is and link to its web page. When it is relevant, it is also stated which TSO or Enabling Technology that is related to it. In the context of this Handbook, the task for the administrative contact person is to stay up to date on changes in NTNU contact persons or if memberships are terminated.

Please send corrections and updates to Thomas Aarnseth: thomas.aarnseth@ntnu.no

3. Typology of the European platforms in the document

The platforms and alliances are divided in 11 different categories. The numbered list below is the same numbering as the chapters. Input on categorization for future versions is welcome.

1. European Platforms with shadow working groups at NTNU. These platforms (CESAER, EERA and ERCIM) receive extra attention, either at the central level or at a faculty level. NTNU staff is member of several working groups and coordinate their effort.
2. NTNU is a member of 17 out of 41 European Technology Platforms (ETP). The role for ETPs is to develop research and innovation agendas and roadmaps. ETPs are independent and self-financing entities. They conduct their activities in a transparent manner and are open to new members. ETPs are one of the most influential entities in shaping European R&I agendas.
3. NTNU is a member of (at least) 16 University alliances that has a specific European focus. The criteria to be listed is an NTNU institutional membership.
4. ERIC and ESFRI represents two level of maturity of European Research Infrastructures. NTNU is currently a member of, or affiliated with 8 European research infrastructures which are either an ERIC or an ESFRI.
5. NTNU is connected to 3 out of 10 Joint Programming Initiatives. The overall aim of the Joint Programming process is to focus research on several key areas for Europe. Participation in JPIs is committed at the national level, not at the institutional level.

6. Partnerships is a way to pool Europe's resources and encourage private investment in research and innovation. The most relevant for NTNU is the Public-Private Partnerships (PPP). NTNU or NTNU staff is currently active in 5 different PPPs.
7. COST funds pan-European, bottom-up networks of scientists and researchers across all science and technology fields (including Social Science and Humanities). COST aims to enable breakthrough scientific developments leading to new concepts and products. For instance, developing a new sub-genre of a research discipline. A secondary goal for COST is to «provide networking opportunities for Early Stage Researchers». COST can fund meetings, workshops, conferences, training schools and dissemination activities. It is possible to apply to join existing COST networks.
8. European Innovation Partnerships (EIP) are stakeholder platforms that bring together representatives from industry, public services, academia and NGOs. The goal is to provide a common platform for the entire value chain of a domain, and correspondingly these EIPs are highly influential in shaping the European research and innovation agenda.
9. The European Institute of Innovation & Technology (EIT) brings together leading higher education institutions, research labs and companies to form dynamic cross-border partnerships.
10. The European Commission out-source most of the policy advice across all sectors. To achieve this with a limited number of staff, the EU Commission has a high number Expert Groups consisting of researchers in all disciplines.
11. In addition, a set of relevant and influential networks have been included in the document. These are listed as «other» in chapter 11.
12. The Annex provide a list of European Platforms that could be of interest for NTNU researchers, where there are currently no active NTNU staff or membership. Please contact your local EU adviser or the Brussels Office if you would like to be involved in any of the listed platforms.

4. List of European platforms with shadow WGs

For the moment, three alliances have shadow working groups within NTNU. These are CESAER, EERA and ERCIM. More information about them is available in chapters 1.1-1.3. There are alliances with national shadow working groups, such as ECSO. In this version of the Handbook, alliances with national or regional shadow working groups are treated as other alliances.

5. List of European platforms, networks and initiatives

We hope that this Handbook can be an inspiration to get involved in one of the European platforms, alliances or initiatives. This also extends to all the European possibilities that is currently not listed in the document.

1.0 List of European Platforms with shadow WGs in NTNU

1.1 CESAER – Conference of European Schools for Advanced Engineering Education and Research

CESAER

conference of european schools
for advanced engineering education
and research

NTNU Contact Person: [Hilde Skeie](#)

URL: <http://www.cesaer.org>

Administrative Contact Person: [Hilde Skeie](#)

Administrative unit: [Rector's Office](#)

Short description: CESAER is the European association of doctorate-granting specialised and comprehensive universities of science & technology that champion excellence in higher education, training, research and innovation, influence debate, contribute to the realisation of open knowledge societies and deliver significant scientific, economic, social and societal impact.

CESAER Working Groups:

General Assembly – Institutional Liaison	Hilde Skeie
Task Force Research and Innovation Infrastructures	N/A
Task Force Innovation	Toril Hernes Sølvi Silset
General Assembly	Anne Borg
Task Force Competitive Funding	Massimo Busuoli Nina Sindre
Task Force Benchmarking	Mads Nygård
Task Force Ethics and Values	N/A
Task Force Open Science WG RDM	Ingrid Heggland
Task Force Mobility	N/A
Task Force Impact & Outreach	Benedicte Brubakken
Task Force on Costs of STEAM Education	N/A

1.2 EERA – European Energy Research Alliance



NTNU Contact Persons: [Massimo Busuoli](#) and [Johan Hustad](#)

URL: <https://www.eera-set.eu/>

Administrative Contact Person: [Eleni Patanou](#)

Administrative unit: [Energy](#)

Short description: The European Energy Research Alliance (EERA) is an alliance of European public research centres and universities. It is one of the cornerstones of the European Strategic Energy Technology Plan (SET-Plan).

EERA brings together more than 170 research centres and universities. Actively working together on 17 joint research programmes, they build on national research initiatives. In a Joint Programme a research organisation joins institutions in other European countries to work on shared priorities and research projects. The EERA Joint Programmes are aligned with the priorities for low carbon technologies defined in the SET-Plan.

EERA Working Groups

Bioenergy	Edd Anders Blekkan
Bioenergy Subprogramme 5 (Sustainability, Techno-Economic Analysis, Public Acceptance)	Raquel Santos Jorge
Carbon Capture Storage (CCS)	Liyuan Deng
Economic, Environmental and Social Impacts of Energy Policies and Technologies (E3S)	Asgeir Tomasgard
Energy Efficiency in Industrial Processes	Armin Hafner
Energy Storage	Pål-Tore Selbo
Energy Systems Integration	Magnus Korpås
Fuel Cells and Hydrogen	Svein Sunde
Hydropower	Ole Gunnar Dahlhaug
Ocean Energy	Ingrid Schjølborg
Photovoltaic Solar Energy	Marisa Di Sabatino Lundberg
Smart Cities	Annemie Wyckmans
Smart Grids	Irina Oleinikova

[Wind Energy](#)
[Michael Muskulus](#)

1.3 EMIRI – Energy Materials Industrial Research Initiative



NTNU Contact Persons: [Ann Mari Svensson](#) and [Sotirios Grammatikos](#)

URL: <http://emiri.eu/>

Administrative Contact Person: [Øyvind Sæther](#)

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Materials Science and Engineering](#) (IMA)

Short description:

In 2012, following the development of the Strategy Energy Technologies (SET) plan and its associated SET Plan Materials Roadmap, key industrial actors and leading research organizations felt the need to associate under the Energy Materials Industrial Research Initiative (EMIRI) ... an industry-oriented grouping complementary to established actors, uniquely positioned to span the innovation cycle and focusing solely on advanced materials for low carbon energy & energy efficiency technologies.

Today, EMIRI has more than 50 members across Europe, of which more than twenty are leading industries sharing a similar vision on driving forward research and innovation and building on a strong industrial sector in Europe on advanced materials for low carbon energy and energy efficiency technologies. Therefore, EMIRI's mission is to ensure that such long-term objective is translated into actions through different policies.

EMIRI's strategy encompasses the full Europe-based value chain from the lab (R&I on advanced material) to the end-market development of various low carbon energy & energy efficiency technologies through the development of strategic elements for the competitive manufacturing of advanced materials and derived products.

EMIRI Working Groups (continues next page)

Technology WG 1	Advanced materials for PV (photovoltaics will include c-Si, thin film PV, OPV, BIPV)	<ul style="list-style-type: none"> • Marisa Di Sabatino Lundberg • Guri Krigsvoll
Technology WG 2	Advanced materials for CSP	N/A
Technology WG 3	Advanced materials for wind (offshore & onshore)	<ul style="list-style-type: none"> • Jianying He • Zhiliang Zhang • Sotirios Grammatikos

Technology WG 4	Advanced materials for marine energy	N/A
Technology WG 5	Advanced materials for the energy performance of buildings (excl. BIPV)	<ul style="list-style-type: none"> • Sotirios Grammatikos • Guri Krigsvoll
Technology WG 6	Advanced materials for batteries for mobility (focus will be mostly on Li-ion tech)	<ul style="list-style-type: none"> • Fride Vullum-Bruer • Ann-Mari Svensson • Odne S. Burheim
Technology WG 7	Advanced materials for batteries for stationary energy storage	<ul style="list-style-type: none"> • Ann-Mari Svensson • Odne S. Burheim
Technology WG 8	Advanced materials for the production of H2 (used for stationary energy storage, for mobility, for chemical conversion)	<ul style="list-style-type: none"> • Jia Yang • Bruno G. Pollet • Svein Sunde • Titus van Erp
Technology WG 9	Advanced materials for the utilization of H2 in mobility	<ul style="list-style-type: none"> • Jia Yang • Jianying He • Zhiliang Zhang • Bruno G. Pollet • Magnus Rønning • Frode Seland • Titus van Erp
Technology WG 10	Advanced materials to reduce the weight of vehicles (focus in on cars)	<ul style="list-style-type: none"> • Sotirios Grammatikos • Hans Jørgen Roven • Bjørn Holmedal • Knut Marthinsen • Randi Holmestad
Technology WG 11	Advanced materials to enable CCS	<ul style="list-style-type: none"> • Jianying He • Zhiliang Zhang
Technology WG 12	Advanced materials to enable CCU	<ul style="list-style-type: none"> • Jia Yang • Jianying He • Zhiliang Zhang
Technology WG 13	Advanced materials to enable higher efficiency in conventional power generation	N/A

1.4 ERCIM – European Research Consortium for Informatics and Mathematics



NTNU Contact Person: [Lena Haugen](#)

URL: <https://www.ercim.eu/>

Administrative Contact Person: [Lena Haugen](#)

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

The main objective of ERCIM is to contribute to a leading role of Europe in ICT:

- by building a European-wide, open network of centres of excellence in ICT;
- by excelling in research and by acting as a bridge to applications;
- by being internationally recognized as a major representative organisation in its field;
- by acting as an interface for the non-EU member institutions within the European Community and other international organisations;
- by cooperating with other international organisations in its field;
- by promoting cooperation in research, technology transfer, innovation and training.

ERCIM Working Groups:

Board of Directors	Geir Øien
Editor	Poul Heegaard
Executive Committee	Finn Arve Aagesen
Fellowship Programme	Lena Haugen
Human Capital Task Group	Harald Lenschow
PhD Education	Harald Lenschow

2.0 European Technology Platforms (ETP)

European Technology Platforms (ETPs) are industry-led stakeholder fora recognised by the European Commission as key actors in driving innovation, knowledge transfer and European competitiveness.

ETPs develop research and innovation agendas and roadmaps for action at EU and national level to be supported by both private and public funding. They mobilise stakeholders to deliver on agreed priorities, share information across the EU and help deliver solutions to major challenges of key concern to citizens.

2.1 ARTEMIS – Actors in Embedded Intelligent Systems



NTNU Contact Person: TBC

URL: <https://artemis-ia.eu>

Administrative Contact Person: [Sina Therese Blix Prestmo](#)

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

ARTEMIS Industry Association is the association for actors in Embedded Intelligent Systems within Europe. As private partner, the association represents its members - industry, SMEs, universities and research institutes - in ECSEL Joint Undertaking.

ARTEMIS Industry Association continuously promotes the R&I interests of its members to the European Commission and the Public Authorities of the participating states.

The association strongly believes that the continued success of the Embedded Intelligent Systems sector in Europe depends on one coordinated, pan-European strategy. Forming this strategy is a part of the ARTEMIS European Technology Platform, which is developed & executed by the ARTEMIS Industry Association, and results in 4 core values: European Competitiveness, Innovation, Global impact, Improve day-to-day life.

2.2 EATIP – European Aquaculture Technology and Innovation Platform



NTNU Contact Persons: [Alexandra Neyts](#) and [Yngvar Olsen](#)

URL: <http://eatip.eu/>

Administrative Contact Person: [Maria Azucena Gutierrez Gonzalez](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

EATIP is an international non-profit association dedicated to developing, supporting and promoting aquaculture and, especially and specifically, technology and innovation in aquaculture in Europe so as to:

- Establish a strong relationship between aquaculture and the consumer
- Assure a sustainable aquaculture industry
- Consolidate the role of aquaculture in society

EATIP has been designed to include all members of the European aquaculture value chain, from suppliers through producers to processors within the profession, accompanied by leading research groups and key representative organisations.

2.3 ECTP – European Construction Technology Platform



NTNU Contact Person: [Arild Gustavsen](#)

URL: <http://www.ectp.org/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

The main mission of ECTP and its committees is to develop new R&D&I strategies to improve competitiveness, meet societal needs & take up environmental challenges through an Innovative Built Environment.

ECTP recognises the need for research to make strategic decisions today and to future proof industry for tomorrow. We use our strategic research agenda to determine the challenges and issues facing the Built Environment in Europe, helping to lead the way to industry growth and a more sustainable future.

Through major programmes launched in partnership with the European Commission and/or other sectors, we are able to tackle the societal challenges and industrial leadership ambitions of the European Union and meet the Horizon 2020 agenda.

2.3.1 ECTP – ECTP Committee for Energy efficient Buildings



ENERGY EFFICIENT BUILDINGS
AN ECTP COMMITTEE FOR INNOVATIVE BUILT ENVIRONMENT

NTNU Contact Person: [Sotirios Grammatikos](#)

URL: <http://e2b.ectp.org/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Manufacturing and Civil Engineering \(IVB\)](#)

Short description:

The Energy Efficient Building Committee of ECTP promotes industry driven research, demonstration and innovation within the framework of the EeB PPP, as a response to the 2020 Energy targets of the EC.

The E2B Committee gathers together large companies, SMEs, research centres, academic institutions and relevant stakeholders interested in RTD in energy efficient buildings and districts. E2B also liaises with Member States and with other related national initiatives.

E2B's vision is to drive the creation of a knowledge-based building industry which turns energy efficiency into sustainable business, within the PPP EeB under Horizon 2020.

The general objectives of E2B are:

- Develop technologies and solutions enabling to speed up the reduction in energy use and GHG emission in line with the 2020 goals, e.g. through a higher renovation rate of the building stock at lower cost and to meet regulatory needs;
- Develop energy efficiency solutions to turn the building industry into a knowledge-driven sustainable business, with higher productivity and higher skilled employees;
- Develop innovative and smart systemic approaches for green buildings and districts, helping to improve the competitiveness of EU building industry by providing cost-effective, user-friendly, healthy and safe products for smart cities.

This would ultimately create a solid foundation for continuous innovation in the building sector through sustainable partnerships, fostering an innovative eco-system across value chains which is not project based with episodic innovation activities as current practices.

Using Horizon 2020 to realise our vision and produce innovative solutions

Under the new EU framework programme Horizon 2020, a contractual PPP on Energy-efficient Buildings aims to develop cost effective innovative solutions for buildings and districts.

During Horizon 2020 the E2B Committee is looking forward to realising the vision of creating a high-tech building industry that turns energy efficiency into sustainable business.

2.3.2 ECTP – ECTP Committee for Infrastructure & Mobility



INFRASTRUCTURE & MOBILITY
AN ECTP COMMITTEE FOR INNOVATIVE BUILT ENVIRONMENT

NTNU Contact Person: [Sotirios Grammatikos](#)

URL: <http://infrastructure.ectp.org/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Manufacturing and Civil Engineering \(IVB\)](#)

Short description:

The Infrastructure & Mobility Committee of ECTP is a networking forum within ECTP for all stakeholders that see the need to comprehensively tackle the challenges infrastructures are facing. Construction constitutes an integrating environment for a multitude of trades and crafts that shapes our daily and immediate environment. ECTP provides the grounds to facilitate innovative approaches for the needs of European society. The Committee targets a European-wide infrastructure initiative aiming to develop RDI-programme dedicated to infrastructure topics.

2.3.3 ECTP – ECTP Committee for Materials & Sustainability



MATERIALS & SUSTAINABILITY
AN ECTP COMMITTEE FOR INNOVATIVE BUILT ENVIRONMENT

NTNU Contact Person: [Sotirios Grammatikos](#)

URL: <http://materials.ectp.org>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Manufacturing and Civil Engineering \(IVB\)](#)

Short description:

As part of the European Construction, built environment and energy efficient building Technology Platform ECTP, the **Materials & Sustainability Committee** brings together ECTP stakeholders interested in “Materials and Sustainability”. The committee provides an efficient platform for its members to develop and pursue construction material and sustainability related RDI topics which help fostering sustainable construction in urban environments.

Materials form the basis of any kind of construction. They determine the foundation, the structural strength and aesthetic expression of constructions and thus provide safety and comfort for all members of society. Due to the volumes needed, the construction sector is the largest raw material consuming industry. In Europe, the volume of construction materials used exceeds two billion tons per year. At the same time, the properties and combinations of materials also determine the properties of the building or the infrastructure for which they are used. An example is the energy demand of buildings that can be largely improved if materials with insulating properties are used. Even small improvements in the environmental performance of construction materials provide huge overall beneficial impacts. Improvements in functional durability constitute an example of significant economical relevance.

As part of its key activities the Material and Sustainability Committee developed and regularly updates a common Vision and Strategic Research Agenda for all construction material stakeholders. The vision builds on key societal challenges which clearly need to be addressed over the next decade and where innovations in construction materials will make a difference: Climate change, circular economy and resource preservation, competitiveness and economic viability, health and safety, and user comfort as recently summarized in a Position Paper to provide insight into current and upcoming construction material related key-challenges that deserve to be addressed within Horizon Europe (FP9).

2.4 ETIP Batteries



NTNU Contact Persons: [Ann Mari Svensson](#) and [Ragnhild Aune](#)

URL: <https://www.eera-set.eu/eu-projects/batteries-europe/>

Administrative Contact Person: [Eleni Patanou](#)

Short description:

Batteries Europe is the forum bringing together all relevant stakeholders in the European batteries research and innovation ecosystem in order to develop and support a competitive battery value chain in Europe.

Batteries Europe will create a bridge between the different actions related to the battery industry, especially in relation to research and innovation (R&I), and ensure that the relevant stakeholders have the possibility to discuss, and agree upon common R&I priorities.

Batteries Europe will attract public and private partners involved in battery R&I, coordinate their efforts, and mobilise resources so to implement R&I activities in the battery field.

In line with the European Commission's priority to accelerate the establishment of a competitive European battery industry, the forum will also empower the Implementation Plan of the SET-Plan Action 7 and act as coordinator of several initiatives already in place, such as: European Battery Alliance, ETIP SNET, EIT Raw Materials, EARPA (European Automotive Research Partners Association), ALISTORE, BATSTORM, and NAMEC.

The forum is financed by the European Commission and gathers a wide range of European and international partners, which will allow for the full involvement of the batteries community in Europe and beyond.

2.5 ETPIS – European Technology Platform on Industrial Safety



NTNU Contact Person: [Magnus Langseth](#)

URL: <http://www.industrialsafety-tp.org/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department Structural Engineering \(KT\)](#)

Short description:

ETPIS is an open cross ETP initiative focusing on industrial safety. It facilitates cooperation and enables constructive exchanges between industry, regulators in charge of health, safety and environmental protection, NGOs, trade unions and other social partners, and the research and innovation community. In the case of industrial safety, the research and innovation community come from various disciplines ranging from engineering sciences, human sciences, law, economics. It is active in various fields of application such as manufacturing, chemicals, energy, construction, materials, mines, and transport.

With its SafeFuture initiative “Safety for sustainable and competitive future”, ETPIS has adapted its operational structure to better address the societal challenges. With SafeFuture, ETPIS intends to develop the solutions (technological and non-technological – regulatory, public acceptance, cultural) that the industry needs to operate a sustainable business based on innovation (new products, new technologies with adequate management of residual risks).

2.6 Food for Life – Food for Life



NTNU Contact Person: [Turid Rustad](#)

URL: <http://etp.fooddrinkeurope.eu/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Biotechnology and Food Science](#) (IBT)

TSO/ET: [Biotechnology](#)

Short description:

The Vision: Step-change the innovation power and impact of the European food industry to the benefit of a sustainable society.

The Mission: Deliver a pre-competitive research strategy and ensure a collaborative approach in the execution of the implementation agenda for the European food industry, targeted towards:

- A sustainable food supply, including food processing, new technologies, and consumer acceptance through a food chain approach
- The prevention of the rise in non-communicable diseases, focusing on nutrition and behaviour changes

ETP 'Food for Life': Deliverables

The ETP 'Food for Life' aims to deliver:

- A platform for quicker and more effective, consumer-oriented food innovation, by enabling the appropriate environment for pre-competitive research and competitive consortium establishment;
- A forum for ensuring an effective multidisciplinary/integrating approach and exchange of best practices;
- An effective means of generating and leveraging funding;
- Better education and training of persons in various disciplines;
- Durable career opportunities within the European food and drink sector.

2.7 Manufuture – Manufuture



NTNU Contact Person: [Kristian Martinsen](#)

URL: <http://www.manufuture.org/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Manufacturing and Civil Engineering \(IVB\)](#)

Short description:

The mission of the European Technology Platform Manufuture is to propose, develop and implement a strategy based on Research and Innovation, capable of speeding up the rate of industrial transformation to high-added-value products, processes and services, securing high-skills employment and winning a major share of world Manufacturing output in the future knowledge-driven economy.

The ManuFuture National/Regional Technological Platforms (NRTPs) are created in EU member states and adopt the main strategic and development goals defined by the EPT in its main documents: ManuFuture Vision 2020 and Manufuture Strategic Research Agenda.

2.8 Nanofutures – Nanofutures



NTNU Contact Persons: [Kay Gastinger](#), [John de Mello](#)

URL: <http://nanofutures.eu/> and <https://twitter.com/nanofutures>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV)

TSO/ET: [Nano](#)

Short description:

Nanofutures consists of 11 working groups:

- Communication
- Critical Raw Materials
- Industrialisation/Nanomanufacturing
- Networking
- Regulation
- Research/Technology
- Safety
- Skills and Education
- Societal Engagement
- Standardization
- Technology Transfer and Innovation Financing

2.9 Nanomedicine – Nanomedicine



NTNU Contact Persons: [Toril Hernes](#), [Catharina Davies](#), [Hanna Gautun](#), [Olav Haraldseth](#)

URL: <https://www.etp-nanomedicine.eu/public>

Administrative Contact Person: TBC

Administrative unit: TBC

Short description:

The ETP Nanomedicine, an initiative led by industry and set up together with the European Commission is addressing the application of nanotechnology to achieve breakthroughs in healthcare.

Nanomedicine exploits the improved and often novel physical, chemical and biological properties of materials at the nanometer scale. Nanomedicine has the potential to enable early detection and prevention, and to essentially improve diagnosis, treatment and follow-up of diseases.

The ETP supports its members in coordinating their joint research efforts and improving communication amongst the members as well as towards the European Commission and the European Member States.

2.10 NEM – New Electronic Media



NTNU Contact Person: [Andrew Perkis](#)

URL: <https://nem-initiative.org/>

Administrative Contact Person: [Filip Jessen](#)

Administrative unit: [Faculty of Informational Technology and Electrical Engineering \(IE\)](#), [Department of Electrical Systems \(IES\)](#)

Short description:

The NEM Initiative (New European Media Initiative) was established as one of the European Technology Platform under the Seventh Framework Programme, aiming at fostering the convergence between consumer electronics, broadcasting and telecoms in order to develop the emerging business sector of networked and electronic media. In order to respond to new need and requirements of the Horizon 2020 programme, the NEM initiative enlarged its focus towards creative industries and changed its name from Networked an Electronic Media Initiative to New European Media, dealing with Connected, Converging and Interactive Media & Creative Industries, driving the future of digital experience.

The NEM constituency includes all major European organisations working in the networked and electronic media area, including content providers, creative industries, broadcasters, network equipment manufacturers, network operators and service providers, academia, standardisation bodies and government institutions. Those actors share a common Vision and have been producing a Strategic Research and Innovation Agenda (SRIA) as well as position papers, in order to accelerate the innovative development of the new sector in a harmonised and fruitful way and to place European industry at the forefront of the information era.

2.11 Networld2020 – Networld2020



NTNU Contact Persons: Odd Myklebust (SINTEF) (and [Ilangko Balasingham](#) via Oslo University Hospital)

URL: <https://www.networld2020.eu/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

NetWorld2020 is the European Technology Platform for communications networks and services. Communications networks enable interaction between users of various types of equipment, either mobile or fixed. They are the foundation of the Internet. The NetWorld2020 European Technology Platform gathers players of the communications networks sector: industry leaders, innovative SMEs, and leading academic institutions.

On 29 October 2013 the new ETP NetWorld2020 has been founded by the former Net!Works and ISI ETPs. The launch event took place in Brussels and was attended by 160 participants. In the morning of the day, directly before the launch event, the last GAs of Net!Works and ISI took place, after which both ETPs were closed down. The membership of all Net!Works and ISI members has been transferred and they became automatically member of the new ETP. At the launch event also the 30 members of the Steering Board of NetWorld2020 for the period 2014-15 have been successfully elected.

2.12 Photonics21 – Photonics21



NTNU Contact Persons: [Mikael Lindgren](#), [Irina Sorokina](#), [Steinar Bjørnstad](#), [Morten Kildemo](#), [Kay Gastinger](#)

URL: <https://www.photonics21.org/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Physics](#) (Fysikk)

Short description:

Photonics21 aims to establish Europe as a leader in the development and deployment of photonics technologies within the various applications fields such as ICT, lighting, industrial manufacturing, life science, safety as well as in education and training.

The ETP Photonics21 coordinates photonics research and innovation priorities and provides input to the European research framework programme Horizon 2020.

The entry into the "photon century" requires a shared European initiative that enables industry and research to uphold their outstanding initiatives to explore the nearly limitless future applications of light and to reap the expected benefits in terms of creating both jobs and wealth. Many important European industries, from chip manufacturing and lighting, health care and life sciences, to space, defence and the transport and automotive sectors rely on the same fundamental mastery of light. Without strong European leadership in photonics technologies, these industries will be left vulnerable to strong competition from the USA and Asia.

To achieve this leadership for the benefit of Europe and our citizens, an ambitious programme is required to:

- Supply the necessary research environment capable of supporting the visionary and industrially relevant R&D activities for photonics components, systems and their application over a broad range of industry sectors;
- Establish strategic links between mainly SME-based photonics industries and principal user industries to share their long-term vision and to mobilise a critical mass resources;
- Foster co-operation and smooth out the current fragmentation of national and European R&D activities.

2.13 SMR - European Technology Platform on Sustainable Mineral Resources



NTNU Contact Person: [Maria Thornhill](#)

URL: <http://www.etpsmr.org/>

Administrative Contact Person: [Kristoffer Lund Vik-Langlie](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Geoscience and Petroleum](#) (IGP)

Short description:

The European Technology Platform on Sustainable Mineral Resources (ETP SMR) is an Association of subjects operating in the Mineral Resources Industry at a wide scale (coal, metal ores, industrial minerals, ornamental stones, aggregates, smelters as well as technology suppliers and engineering companies) **in different sectors along the value chain, from exploration to extraction, processing, recycling**. ETP SMR is covering the entire range of mineral resources production in Europe. However, the production and tailored provision of mineral raw materials needs more than exploitation and/or recycling. **Technology and knowledge are the key to success**. Therefore, ETP SMR has also integrated many of Europe's very strong equipment and technology providers. Those organisations are usually part of every development process and necessary to be successful.

The ETP SMR was launched on March 2005 and officially recognized by the European Commission in September 2008. In 2013 the ETP SMR was born as a legal entity International Association without lucrative purpose.

The ETP SMR focuses its activities on **creating sustainable resources potential, access to, and supply of, essential and critical raw materials through research, development and innovation**, perfectly in line with the European Innovation Partnership on Raw Materials proposed by EU, based on three pillars: fostering sustainable supply within the EU, boosting resource efficiency and recycling as well as international collaboration.

The ETP SMR has become over the years a **reliable interlocutor of European Institutions**, a process that has brought the ETP SMR members to contribute to the SIP for EIP on Raw Materials, develop a Strategic Agenda and commit with the European Commission on the raw materials.

Today the ETP SMR members are 40 located in 16 countries in Europe and beyond. The ETP SMR members are major players from Industry, Research Institutes, Geological Surveys, Academia, and National and European Associations. They are united to address the future technological and societal challenges of the mineral sector, in order to jointly act towards a common vision.

2.14 SusChem - European Technology Platform for Sustainable Chemistry



NTNU Contact Person: [Øyvind Mikkelsen](#) (TBC)

URL: <http://www.suschem.org/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Chemistry](#) (Kjemi)

Short description:

SusChem's **vision** is for a competitive and innovative Europe where sustainable chemistry and biotechnology together provide solutions for future generations.

SusChem's **mission** is to initiate and inspire European chemical and biochemical innovation to respond effectively to societal challenges by providing sustainable solutions.

SusChem was officially launched in 2004 as a European Commission supported initiative to revitalise and inspire European chemistry and industrial biotechnology research, development and innovation in a sustainable way.

At SusChem we believe that sustainable chemistry can inspire a change of pace and the new mind-set that society needs in order to become (more) sustainable, smart and inclusive.

In partnership with European and national public authorities, SusChem contributes to initiatives that aim to provide sustainable solutions to society's big challenges. Together we develop and lead large-scale, integrated research and innovation programmes with chemical sciences at their core. These public private initiatives link research and partners along the value chain to real world markets through accelerated innovations.

SusChem is also a network of [national platforms](#) as the European vision needs to be firmly rooted in the national strategies.

SusChem depends vitally on the partnerships with member states to provide information on national strategies and priorities. The national platforms work on initiatives within their own countries and in joint NTP initiatives through the network organisation.

2.15 TP OCEAN – Ocean Energy Europe



NTNU Contact Person: [Ingrid Schjøberg](#)

URL: <https://www.etipocean.eu/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

TSO/ET: [Oceans](#)

Theme/research area: [Energy](#)

Short description:

ETIP Ocean is a recognised advisory body to the European Commission, part of the EU's main Research and Innovation policy the Strategic Energy Technology Plan (SET-Plan).

ETIP Ocean brings together around 250 experts from 150 organisations covering the entire European ocean energy sector.

In November 2016, ETIP Ocean published a first Strategic Research Agenda for the Ocean Energy sector. This document prioritises research topics and is the industry's main input into European and national research programmes.

ETIP Ocean was also entrusted by the European Commission to work on the technological aspects of its Ocean Energy Forum. Its main output is a Roadmap to commercialisation with concrete recommendations for policy makers and industry.

Building on its work and on the Ocean Energy Forum Roadmap, ETIP Ocean continues to bring together knowledge and expertise. Proposing solutions to accelerate the development of the ocean energy sector and set it along the pathway to commercialisation.

2.16 WssTP – Water Supply and Sanitation Technology Platform



The European Water Platform

NTNU Contact Persons: [Sveinung Sægrov](#), [Tone Merete Muthanna](#)

URL: <http://wsstp.eu/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

As the officially recognized European Technology Platform for Water by the EC, WssTP has substantially contributed to the development and improvement of the water sector in Europe through its key activities and its members' presence as active players of the water sector.

Additionally to WssTP's success in projects, WssTP has developed a [Water Vision](#), a [Strategic Research Agenda](#) and an Implementation Document, by many reports on specific challenges and technologies, describing the state of the art, technological challenges, the barriers to innovations, and making suggestions on how to address these. [WssTP's reports](#) have served amongst others as input for the definition of the research priorities under the Research Framework Programme.

WssTP has also acted as an initiating catalyst for many EU projects among them E4Water, TRUST, Prepared, ChemWater and ZELDA and is involved in communication at policy, regulation, strategy and technical detail levels such as: Inputs on the Strategic Implementation Plan for the [EIP on water](#), Barriers to innovation and examples of solutions including the role of standardisation, financing innovation in the European water sector etc.

Bringing together a broad range of actors from the water industry, universities, RTO's and water users, WssTP has been the 'spokesperson' for those organizations when it comes to liaison with different DGs of the European Commission (DG Environment, DG Research & Technology Development, DG Regio, DG Connect, DG Development), the European Parliament and other European stakeholder organizations.

WssTP also liaises with the DG's / Parliament to ensure the state-of-the-art views on and possibilities of water innovation are taken up in processes as the Blue Print on EU's water, the implementation of Horizon2020, the Cohesion Package, the EIP Water, EIP Raw materials, the EIP SMART Cities and Communities and other relevant policy dossiers.

2.17 ZEP – Zero Emissions Platform



NTNU Contact Persons: [Christian Skar](#) and [Asgeir Tomasgard](#)

URL: <http://www.zeroemissionsplatform.eu>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management \(ØK\)](#), [Department of Industrial Economics and Technology Management \(IØT\)](#)

Short description:

Founded in 2005, the European Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP) is a unique coalition of stakeholders united in their support for CO₂ Capture and Storage (CCS) as a key technology for combating climate change. ZEP serves as advisor to the European Commission on the research, demonstration and deployment of CCS.

The European utilities, petroleum companies, equipment suppliers, scientists, academics and environmental NGOs that together form ZEP have three main goals:

1. Enable CCS as a key technology for combating climate change.
2. Make CCS technology commercially viable by 2020 via an EU-backed demonstration programme.

Accelerate R&D into next-generation CCS technology and its wide deployment post-2020.

ZEP was born out of the EU's recognition of CCS as a key component of any future sustainable energy system. Its mission: to identify and remove the barriers to creating highly efficient power plants – with near-zero emissions.

The first research initiative on CCS can be found as far back as the EU's Third Framework Programme (FP3), 1990-1994 – its main financial tool for supporting Research and Development activities for almost all scientific disciplines. Subsequent programmes – which in 2006 became seven-year programmes – have given increasing weight to CCS-related projects.

As the EU moves closer towards the deployment of CCS, ZEP will continue to serve as:

- CCS Advisor and Facilitator - expert advice on all technical, policy, commercial and other related issues.

-
- CCS Technology Contributor - input on all technology issues, including recommendations for next-generation CCS technologies, taking into account experience gained from the EU CCS Demonstration Programme.
 - Respected Communicator - educator and source of information, including engaging internationally on CCS.

In the autumn of 2005, the ZEP Advisory Council and Coordination Group – along with four Working Groups and a Mirror Group – were established and ZEP published a Vision Paper the following May. The Working Groups were later renamed Taskforces, while the Mirror Group became the Government Group.

3.0 Alliances

NTNU is a member of (at least) 16 University alliances that has a specific European focus. The criteria to be listed is an NTNU institutional membership.

3.1 ATHENS – Athens Network



ATHENS NETWORK
ADVANCED TECHNOLOGY
HIGHER EDUCATION NETWORK

NTNU Contact Person: [Wolfgang Laschet](#)

URL: <http://www.athensnetwork.eu/>

Administrative unit: [International Relations](#)

Short description:

Created in 1997, the ATHENS Network (Advanced Technology Higher Education Network / SOCRATES) is made up of 14 European technological universities and nine ParisTech Graduate Schools of Engineering, which coordinates the programme.

The principal goal of the Network is to facilitate the exchange of students, teachers and researchers from major European technological universities and to participate together under European technological development and training programmes.

One of the Network's first and most particular actions concerns the organisation of an intensive programme of coursework taught at each member institution during one or two sessions in November and March. This activity is called the ATHENS week.

3.2 COPERNICUS – Copernicus Academy



NTNU Contact Person: [Francesca Verones](#)

URL: <http://copernicus.eu/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Energy and Process Engineering \(EPT\)](#)

Short description:

Copernicus is the European Union's Earth Observation Programme, looking at our planet and its environment for the ultimate benefit of all European citizens. It offers information services based on **satellite Earth Observation and in situ (non-space) data**.

The Programme is coordinated and managed by the European Commission. It is implemented in partnership with the Member States, the European Space Agency (ESA), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the European Centre for Medium-Range Weather Forecasts (ECMWF), EU Agencies and Mercator Océan.

Vast amounts of global data from satellites and from ground-based, airborne and seaborne measurement systems are being used to provide information to help service providers, public authorities and other international organisations improve the quality of life for the citizens of Europe. The information services provided are **freely and openly** accessible to its users.

3.3 EARMA – European Association for Research Managers and Administrators



NTNU Contact Person: [Øyvind Sæther](#)

URL: <https://www.earma.org/>

Administrative unit: [Rector's Office](#)

EARMA Professional Development and Recognition Committee: [Astrid Vigtil](#)

EARMA Annual Conference Program Committee: [Massimo Busuoli](#)

Short description:

EARMA represents the community of Research Managers and Administrators (RM&As) in Europe. Our members work in industry, academia, the public and private sectors. We work with the EU Commission, national and international funding agencies. EARMA provides a networking forum, a learning platform, and a place to share experiences and best practice among RM&As throughout EARMA and in the wider RM&A community.

EARMA is an active member of the wider international RM&A community and is a founding member of the International Network of Research Management Societies (INORMS).

Our members work at the forefront of building the European Research Area. We form the interface between research funding organisations and the scientific community, bridging cultural and legal differences between countries, and between academia and industry, contributing to policy consultations, and managing the smooth running of research projects.

3.4 EASSH – European Alliance of Social Science and Humanities



NTNU Contact Person: [Marit Reitan](#)

URL: <http://www.eassh.eu/>

Administrative Contact Person: [Bård Li](#)

Administrative unit: [Faculty of Social and Educational Sciences](#) (SU)

Short description:

The “European Alliance for the Social Sciences and Humanities” promotes the importance and value of the social sciences and humanities (SSH) at all pertinent levels and through all relevant actions in Europe and beyond.

The aims are:

- to promote European social sciences and humanities as a resource for Europe and the world;
- to provide a contact point for national, European and international SSH organisations, and pertinent policy- and decision-makers;
- to provide a forum for the discussion of matters of common interest;
- to further the interests of its members with respect to the institutions of the European Union and other European and international bodies in all fields relevant to SSH;
- to promote ethically justified and responsible SSH research at all levels;
- to ensure that proper attention is paid to SSH at all levels of education.

3.5 EBA250 – European Battery Alliance



NTNU Contact Person: [Ann Mari Svensson](#)

URL: <https://www.eba250.com/>

Administrative Contact Person: [Eleni Patanou](#)

Short description:

The European Battery Alliance (EBA) was launched in October 2017 by European Commission Vice President Maroš Šefčovič. The purpose is to ensure that all Europeans benefit from safer traffic, cleaner vehicles and more sustainable technological solutions. All this will be achieved by creating a competitive and sustainable battery cell manufacturing value chain in Europe.

The economic upside is clear: the market will have an estimated annual value of up to €250 billion by 2025. By combining European cutting-edge competences, financial strength and a cross-industrial approach, a competitive and sustainable production capacity is clearly within reach.

The industrial development programme of the European Battery Alliance is driven by EIT InnoEnergy. Thanks to its experience in supporting battery and storage innovations, EIT InnoEnergy was asked by VP Šefčovič in October 2017 “to continue its groundwork in partnership with the EU industry, academia, and financial sectors, with a view to delivering first recommendations on enabling framework conditions” by March 2018.

EIT InnoEnergy took the lead in this work, bringing together more than 120 European and non-European stakeholders representing the entire battery value chain. The result is a definition of 43 necessary actions to set up a dynamic and efficient European Battery Alliance and to capture a significant share of the rapidly expanding global battery market.

These actions were agreed upon at two high-level workshops organised by EIT InnoEnergy in December 2017 and January 2018. Among them, 18 are regarded as high-priority areas. They form a basis for defining concrete and focused projects.

Since these initial meetings the network has grown into an open ecosystem of more than 500 stakeholders actively collaborating to build a strong and competitive European battery industry.

3.6 ECSO - European Cyber Security Organisation



NTNU Contact Person: [Nils Kalstad Svendsen](#)

URL: <https://www.ecs-org.eu/>

Administrative Contact Person: [Sina Therese Blix Prestmo](#)

Administrative unit: [Faculty of Informatics and Electronics](#) (IE), [Department of Information Security and Communication Technology](#) (IIK)

Short description:

NTNU is together with SINTEF and SIMULA member of a Norwegian ECSO shadow organisation.

The European Cyber Security Organisation (ECSO) ASBL is a fully self-financed non-for-profit organisation under the Belgian law, established in June 2016.

ECSO represents the industry-led contractual counterpart to the European Commission for the implementation of the Cyber Security contractual Public-Private Partnership (cPPP). ECSO members include a wide variety of stakeholders such as large companies, SMEs and Start-ups, research centres, universities, end-users, operators, clusters and association as well as European Member State's local, regional and national administrations, countries part of the European Economic Area (EEA) and the European Free Trade Association (EFTA) and H2020 associated countries.

The main objective of ECSO is to support all types of initiatives or projects that aim to develop, promote, encourage European cybersecurity, and in particular to:

Foster and protect from cyber threats the growth of the European Digital Single Market;

Develop the cybersecurity market in Europe and the growth of a competitive cybersecurity and ICT industry, with an increased market position;

Develop and implement cybersecurity solutions for the critical steps of trusted supply chains, in sectoral applications where Europe is a leader.

ECSO is engaged in taking concrete actions to achieve these objectives by:

Collaborate with the European Commission and national public administrations to promote Research and Innovation (R&I) in cybersecurity;

Propose a Strategic Research and Innovation Agenda (SRIA) and a Multiannual Roadmap with its regular updates;

Foster market development and investments in demonstration projects and pilots to facilitate bringing innovation to cybersecurity market;

Foster competitiveness and growth of the cybersecurity industry in Europe (large companies and SME) as well as end users / operators through innovative cybersecurity technologies, applications, services, solutions;

Support the widest and best market uptake of innovative cybersecurity technologies and services for professional and private use;

Promote and assist in the definition and implementation of a European cybersecurity industrial policy to encourage the use of cybersecurity solutions as well as secure and trustworthy ICT solutions to increase digital autonomy;

Support the development and the interests of the entire cybersecurity and ICT security ecosystem (including education, training awareness, etc.);

Areas of interest

- ICT Infrastructure (including cloud, mobile, networks, etc.)
- Smart Grids (Energy)
- Transportation (including Automotive / Electrical Vehicles)
- Smart Buildings and Smart Cities
- Industrial Control Systems (Industry 4.0)
- Public Administration and Open Government
- Healthcare
- Finance and Insurance

3.7 EFFRA - European Factories of the Future Research Association



NTNU Contact Person: [Olav Egeland](#)

URL: <https://www.effra.eu/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Mechanical and Industrial Engineering \(MTP\)](#)

Short description:

The European Factories of the Future Research Association (EFFRA) is a non-for-profit, industry-driven association promoting the development of new and innovative production technologies. It is the official representative of the private side in the 'Factories of the Future' public-private partnership.

The key objective of EFFRA is to promote pre-competitive research on production technologies within the European Research Area by engaging in a public-private partnership with the European Union called 'Factories of the Future'.

EFFRA was established jointly by the MANUFUTURE technology platform and key industrial associations to shape, promote and support the implementation of the 'Factories of the Future' public-private partnership.

The partnership aims to bring together private and public resources to create an industry-led programme in research and innovation with the aim of launching hundreds of market-oriented cross-border projects throughout the European Union. Such projects will produce demonstrators and models to be applied in a wide range of manufacturing sectors.

3.8 ELCA – European Lightweight Clusters Alliance



NTNU Contact Person: [Sotirios Grammatikos](#)

URL: <https://elcanetwork.eu/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

ELCA (European Lightweight Cluster Alliance) is a collaborative initiative that aims to accelerate the adoption of lightweight materials in strategic industries. Road transport is the initial target, but other lightweight-related industrial markets will be targeted as well. The alliance will establish a unique inclusive business framework which enable the main players from established industries and research institutions to explore lightweight-driven market opportunities collaboratively, and facilitate activities to put the lightweight technologies into practice. By accelerating mass adoption of lightweight advanced materials, we can contribute to a sustainable, less-polluted society.

3.9 ENHANCE



NTNU Contact Persons: [Patrick Reurink](#), [Hilde Skeie](#)

URL: <https://enhanceuniversity.eu/>

Chair of Board of Directors: [Anne Borg](#)

Steering committee member: [Marit Reitan](#)

Short description:

ENHANCE is an alliance of seven leading European Universities with a focus on science and engineering. The ENHANCE alliance have applied for the pilot call by the European Commission under Erasmus+ funding programme for European Universities, which aims to create a new type of close European networks, enabling student and staff mobility, innovative forms of learning and close engagement with society on all levels.

The aim of ENHANCE is to create a new European academic space for the interaction between innovative technological progress, society and the natural environment. The alliance is committed to socially inclusive and sustainable research and education in science and technology by employing inter- and transdisciplinary approaches and co-creation methods (knowledge exchange) tackling the most pressing global challenges. Consequently, the boundaries between our member institutions and society will become permeable. ENHANCE will ensure that education and research have a social, economic and environmental impact, but it will also form a joint European sphere of knowledge, underpinning sustainable development, adhering to the highest standards of good practice in teaching and research, inclusivity and diversity.

3.10 EUA – European University Association



NTNU Contact Person: [Nina Sindre](#)

URL: <https://www.eua.eu/>

Short description:

Who we are

The European University Association (EUA) represents more than 800 universities and national rectors' conferences in 48 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Through continuous interaction with a range of other European and international organisations, EUA ensures that the independent voice of European universities is heard.

What we do

EUA provides unrivalled opportunities for members to share best practices by participating in projects, events and other mutual-learning activities involving a wide range of universities. The Association also provides members with unique opportunities to shape European policies and initiatives affecting higher education and research.

3.10.1 EUA-EPUE - European Platform of Universities in Energy Research & Education



NTNU Contact Person: TBC

URL: N/A

Administrative Contact Person: N/A

Administrative unit: N/A

Short description:

EUA-EPUE aims at being a central forum in Europe for universities to share ideas for new research and education projects and find interested partners in the field of energy. It intends to strengthen the voice of the university sector in European policymaking in energy by reinforcing the dialogue with its universities and by providing an interface between European universities and European institutions.

EUA-EPUE, therefore, seeks to:

- Pool the richness and diversity of university expertise to direct efforts towards addressing the EU challenge for the transition to a low-carbon society.
- Make visible the substantial contribution of European universities in the implementation of the SET-Plan and EU energy strategies.
- Give to universities the opportunity to have a collective voice in consultations on European energy matters.
- Act as a sustainable open platform that facilitates the creation of synergies between universities and fosters intra-European and multi-disciplinary collaboration.

3.11 Eurecom



NTNU Contact Person: [Katina Krlevska](#)

URL: <http://www.eurecom.fr/en/partners>

Administrative Contact Person:

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE), [Department of Information Security and Communication Technology](#) (IIK)

Short description:

EURECOM is a Graduate school and Research Centre in digital sciences located in the Sophia Antipolis technology park (French Riviera), a major European place for telecommunications activities.

It was founded in 1991 in a consortium form [GIE] that allowed EURECOM to build a large network of renowned academic and industrial partners. The "Institut Mines Telecom" is a founding member of EURECOM consortium. EURECOM research teams are made up of international experts, recruited at the highest level, whose work is regularly honoured and has earned international recognition.

Current members of EURECOM consortium:

Orange, BMW Group Research & Technology, Symantec, Monaco Telecom, SAP, IABG.

Institut Mines-Telecom, Aalto University (Helsinki), Chalmers University of Technology, Politecnico di Torino, Technische Universität München (TUM), Norwegian University of Science and Technology (NTNU), Czech Technical University (CTU) in Prague.

Principality of Monaco

3.12 EuroHealthNet



NTNU Contact Person: [Bård Li](#)

URL: <https://eurohealthnet.eu/>

Administrative unit: [Faculty of Social and Educational Sciences](#) (SU)

Short description:

Based in the heart of Brussels' European quarter, EuroHealthNet brings together partners operating at EU, national, regional, and local levels. This partnership model strengthens the voice of and approaches to health promotion and prevention in the EU, and stimulates action at all levels of government.

The office monitors, influences, analyses, and explains EU policy and action related to health inequalities and determinants. The expertise and experience of the partners is amplified and shared, helping to influence change at European, National, and sub-national levels.

EuroHealthNet also has an important role in facilitating information exchange between partners through study visits, capacity building actions and technical working groups. This helps them to build capacity and knowledge, so they can build on the best that Europe has to offer in the field of public health and health promotion.

STRUCTURE

EuroHealthNet seeks to find links and synergies between fields of expertise and sectors, and to stimulate interaction between policy makers, researchers and practitioners.

Many EuroHealthNet activities take place across three platforms covering policy, practice, and research. Close interaction between the platforms, and unification through a core team and activities, ensures that each field builds on the work of the others, and that actions are aligned.

3.13 European Clean Hydrogen Alliance



NTNU Contact Person: [Bruno Pollet](#)

URL: <https://www.ech2a.eu/>

Administrative unit: [Faculty of Engineering \(IV\)](#)

Short description:

The European Clean Hydrogen Alliance (ECH2A) was announced as part of the New Industrial Strategy for Europe and it was launched on 8 July 2020 in the context of the hydrogen strategy for a climate-neutral Europe.

The European Clean Hydrogen Alliance aims at an ambitious deployment of hydrogen technologies by 2030, bringing together renewable and low-carbon hydrogen production, demand in industry, mobility and other sectors, and hydrogen transmission and distribution. With the alliance, the EU wants to build its global leadership in this domain, to support the EU's commitment to reach carbon neutrality by 2050.

The objectives of the European Green Deal and Europe's clean energy transition require a deep transformation of the production, storage and consumption of energy, with carbon-free power generation, increased energy efficiency, and the deep decarbonisation of transport, buildings and industry. Hydrogen is a key priority to achieve these goals. It is the missing link in the puzzle to a fully decarbonised economy by 2050.

Hydrogen can support the transition towards an energy system relying on renewable energy by balancing variable renewable energy. It offers a solution to decarbonise heavily-emitting industry and transport sectors relying on fossil fuels, where conversion to electricity is not an option.

At the same time hydrogen opens up business opportunities for the European industry to steer the transition towards a carbon neutral future, based on EU leadership in a number of key clean hydrogen manufacturing related technologies. The emergence of a hydrogen value chain is expected to bring also major benefits in terms of jobs and European energy mix.

In order to launch the scale up of hydrogen production, distribution and use, the European Hydrogen Strategy sets a strategic approach to install at least 6 GW by 2024 and 40 GW of renewable hydrogen electrolyzers by 2030, adapt infrastructure needs and boost demand in end-use sectors.

However, full-scale industrial deployment requires systemic action along the whole value chain, from hydrogen production and transport to the industrial use as feedstock for energy-intensive industries or as fuel for transport or balancing the renewable electricity output. That is where the European Clean Hydrogen Alliance can support rapidly the up scaling of clean hydrogen production and use in Europe.

By bringing together industry, public authorities and civil society, the European Clean Hydrogen Alliance will play a crucial role in facilitating the implementation of the European Hydrogen Strategy vision. The alliance will maximize the impact by engaging all stakeholders in the hydrogen value chain and by mobilising resources to develop an investment agenda to stimulate the roll out of production and use of renewable and low-carbon hydrogen, and to build a concrete pipeline of projects. This will create the base for a sustainable and competitive industrial hydrogen ecosystem in the EU.

3.14 HiPEAC – European Network on High Performance and Embedded Architecture and Compilation



NTNU Contact Person: [Magnus Sjölander](#)

URL: <https://www.hipeac.net/>

Administrative Contact Person: [Filip Jessen](#)

Administrative unit: [Faculty of Information Technology and Electrical Engineering \(IE\)](#), [Department of Computer Science \(IDI\)](#)

Short description:

HiPEAC's mission is to steer and increase the European research in high-performance and embedded computing systems, and stimulate cooperation between a) academia and industry and b) computer architects and tool builders.

As part of the research coordination program, HiPEAC includes a new instrument, called Thematic Sessions. A Thematic Session is a natural evolution of the clusters and task forces in HiPEAC2, but more reactive and self-organized. In HiPEAC, any partner or member can propose a thematic session, on condition that it is related to the HiPEAC vision. A thematic session is comparable to an informal workshop. As an organizer, you will have to solicit contributions, but there should be no formal call for papers, neither a formal reviewing of the contributions. Proposers of a thematic session are encouraged to involve the FP7 projects and HiPEAC companies in the session they propose.

Collaboration and networking between member institutions and across the different disciplines: computer architects, design tool builders, compiler builders, system designers, between researchers from academia and industry, between European and non-European institutions. This collaboration between best of breed must lead to more European excellence in the HiPEAC domain. Collaboration and networking is stimulated by means of the various networking events, and the small collaboration incentives like collaboration grants, mini-sabbaticals, internships, etc.

HiPEAC is an open network. This means that all activities are open to the public. Active professionals in the domain of high-performance and embedded computing systems can apply for HiPEAC membership. HiPEAC members can enjoy the membership benefits, such as networking, newsletters, and mobility support, without any legal obligations. However, HiPEAC does expect that members actively contribute to the community, e.g. by participation in meetings, joint publications, etc.

Valorisation of research results in the form of highly visible publications and commercialization of research results by existing companies or by newly created companies. The goal is to help companies

to achieve world-leading positions in the computing systems and computing products, and to further increase Europe's worldwide visibility in the HiPEAC domain via the HiPEAC conference, the ACACES summer school, the HiPEAC journal, a newsletter, a website, seminars, technical reports, workshops, and awards.

3.15 Informatics Europe



NTNU Contact Person: [Mina Haghshenas](#)

URL: <https://www.informatics-europe.org/>

Administrative Contact Person:

Administrative unit: [Faculty of Information Technology and Electrical Engineering \(IE\)](#), [Department of Computer Science \(IDI\)](#)

Short description:

The European Computer Science Summit has been organised annually by Informatics Europe since 2005. In fact, the origins of Informatics Europe date back to the first ECSS held at ETH Zurich in 2005, when for the first time, heads of Informatics departments throughout Europe met to discuss critical issues and common concerns related to their discipline.

Since then, ECSS continues to gather deans, department chairs and senior faculty of leading European Computer Science and Informatics faculties, departments, research institutes and laboratories.

The Summit is devoted to all aspects of Informatics: education, research, funding, entrepreneurship, management, career development, and policies.

The high calibre of the speakers, since the very first Summit in 2005, has established the ECSS as one of the most prominent meetings of the European Informatics community.

Purpose of ECSS

Debate the future of the discipline, its role and influence in both academy and society.

Expand the international network of deans, heads of departments, and research directors in Informatics.

Provide a forum for discussion and exchange of solutions and best practices on common issues.

Examine ways in which deans, department heads, and research directors in Informatics can work together to improve teaching and research, implement the Bologna process, can influence the policies of their universities, governments and the EU, and take joint initiatives on common issues.

Provide opportunities for liaisons with other groups pursuing common interests.

3.16 Magalhães network



NTNU Contact Person: [Nina Moxnes](#)

URL: <https://www.magalhaes-network.org/>

Administrative unit: [International Relations](#)

Short description:

NTNU's membership in the Magalhães Network is active from 19.11.2018. It is a network consisting of 20 European and 15 Latin American universities. The network focus on student exchanges in the field of engineering and architecture.

3.17 N5T – Nordic Five Tech

NORDIC FIVE TECH



NTNU Contact Person: [Hilde Skeie](#)

URL: N/A

Administrative unit: [Rector's office](#)

Short description:

Nordic Five Tech (N5T) is a strategic alliance of five Nordic polytechnic universities.

NTNU participate in three N5T groups.

N5T Secretariat	Kristin Wergeland Brekke
N5T Committee	Marit Reitan
N5T Rectors Meeting	Anne Borg

3.18 NORDTEK



NTNU Contact Person: [Nina Moxnes](#)

URL: <http://nordtek.net/>

Short description:

The leader of FUS (Executive Committee of Engineering Education, see Innsida for more information) usually represent NTNU at NORDTEK meetings.

NORDTEK is a network of the Rectors and Deans of the Technical Universities in the five Nordic countries. Membership requires that you must have a background in advanced engineering up to the Master's level and PhD in a technical research field. The members represent 27 universities, more than 120,000 students, teachers and researchers.

NORDTEK shall through exchange of *experience, collaboration and cooperation*:

- Develop the comparative strengths of the member schools
- Maintain and strengthen the international position of Nordic advanced engineering education
- Maintain and strengthen the international position of Nordic engineering research and research training
- Enforce youth interest in studying advanced engineering
- Be a potential **Pressure Group** – nationally, in the Nordic context, and internationally
- Represent the **Nordic perspective** in relevant European and International forums.

NORDTEK's prime activities are the *Mobility program for students and teachers, the annual Rectors' Conference, Projects, incl. Annual Benchmarking of the member schools.*

3.19 S Group – European Universities Network



NTNU Contact Person: TBC

URL: <http://sgroup.be/>

Administrative unit: [International Relations](#)

S Group Liaison Officer	Wolfgang Laschet
S Group General Assembly	Anja Valberg

Short description:

Vision

The SGroup European Universities' Network aims to strengthen the institutional capacities of its member universities to reinforce their international visibility, to expand their collaboration opportunities in education and research and to improve the quality of their governance, teaching, research and administrative practices. It seeks to achieve this through the transfer of knowledge, the development of strategic alliances and the improvement of intercultural understanding.

Mission

The SGroup Network is a dynamic platform for university collaboration among European and non-EU institutions to develop the internationalisation of its members, to foster university excellence in education and research and to promote continuous adaptation to educational and societal needs in a creative and innovative way.

3.20 TIME Association – Top Industrial Managers Europe Association



NTNU Contact Person: [Wolfgang Laschet](#)

URL: <http://www.time-association.org/double-degrees/>

Administrative unit: [International Relations](#)

Short description:

T.I.M.E. Double Degrees

T.I.M.E. Double Degrees are organised under bilateral agreements between two of the Association's members.

In principle, voluntary bilateral agreements may be signed between any two T.I.M.E. members.

However, to support our goal of cultural and linguistic diversity, the two signatories may not be from the same country.

What are the main characteristics?

During your study period abroad as a T.I.M.E. student, you will experience:

- High-level education in a different cultural context, educational system and (usually) language.
- Projects in research laboratories.
- International team-working.
- Development of interpersonal and intercultural skills.
- Language learning.
- In-depth cultural and international exposure.
- Opportunities of Internships in companies.

3.21 WEGEMT – European Association of Universities in Maritime Technology and Related Sciences (West European Graduate Education in Marine Technology)



WEGEMT

EU MARINE UNIVERSITY ASSOCIATION

NTNU Contact Person: [Bjørn Egil Asbjørnslett](#)

URL: <http://www.wegemt.com/>

Administrative Contact Person: [Andreas Møllerløykken](#)

Administrative unit: [Faculty of Engineering](#) (IV), [Department of Marine Technology](#) (IMT)

Short description:

WEGEMT is a European Association of 40 Universities in 17 countries. It was formed in 1978 with the aim of increasing the knowledge base, and updating and extending the skills and competence of practicing engineers and postgraduate students working at an advanced level in marine technology and related sciences.

It was established as a “stichting” under Dutch law with its registered office in Delft. At present, the Associates are drawn from universities in Europe, including Scandinavia, the former Eastern Europe and the CIS. They have in common, a capability, expertise and experience to teach and carry out research in marine technology and related sciences.

Status, Structure and Management

WEGEMT is a not for profit organisation which is contribution based. Each University Associate is invited to make a contribution once a year. In addition to this, the organisation is supported by miscellaneous sales of publications and by work under contracts. Any contracts must however, further the aim of the Association. The Association is governed by an Executive Committee made up of fourteen elected representatives from within the Associates. Representatives are permitted to have a seat on the Executive Committee for a period of three years. They are re-electable once, for a period of a further three years. No individual university is permitted to be represented on the Executive Committee for a period of more than six years consecutively. The Executive Committee governs the organisation by setting policy and identifying priorities, usually looking 3 – 5 years in advance. They have the power to establish ad-hoc Working Groups to look at special areas of interest and to invite further representation from within the Associates. Day to day running of WEGEMT activities is carried out through its Secretariat which is based at 10 Upper Belgrave Street London at the offices of The Royal Institution of Naval Architects.

The Associates have at least one general assembly each year, usually hosted by one of the Universities. The Secretariat's role is key to the organisation, providing information to the Associates about WEGEMT activities, and encouraging and supporting their involvement in new initiatives. The Secretariat also undertakes the management of many of WEGEMT's activities, it supports the Executive Committee and acts as a first port of call for customers.

It should go without saying that WEGEMT openly collaborates with organisations outside its Association. It is keen to work with industry, professional bodies, classification societies, and other organisations and societies who are involved with marine technology. In a similar vein, WEGEMT is particularly keen to support and encourage the programmes of Research and Development (R&D), Education and Training (E&T), and Information Exchange and Dissemination, of the European Commission where they target marine technology.

4.0 ERIC and ESFRI

4.1 BBMRI – Biobanking and Biomolecular resources research infrastructure



NTNU Contact Person: [Kristian Hveem](#)

URL: <http://www.bbmri-eric.eu/>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH), [Department of Public Health and Nursing](#) (ISM)

Short description:

BBMRI-ERIC shall establish, operate and develop a pan-European distributed research infrastructure of biobanks and biomolecular resources in order to facilitate the access to resources as well as facilities and to support high quality biomolecular and medical research. BBMRI-ERIC operates on a non-economic basis.

The activities of BBMRI-ERIC shall be politically neutral and guided by the following values: pan-European in scope, combined with scientific excellence, transparency, openness, responsiveness, ethical awareness, legal compliance and human values.

BBMRI-ERIC is set up as a distributed research infrastructure in most, if not all European Member States. BBMRI-ERIC consists of 19 Member States and one International Organisation, making it one of the largest research infrastructures in Europe.

Members: Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Malta, the Netherlands, Norway, Poland, Sweden, and the United Kingdom.

Observer: Cyprus, Switzerland, Turkey, IARC/WHO

The Preparatory Phase of BBMRI: In 2008, BBMRI was one of the first projects entering the European Research Infrastructure Preparatory Phase of the ESFRI roadmap funded by the European Commission (GA 212111), lasting for 3 years until January 2011. At this time, BBMRI has grown into a 54-member consortium with more than 225 associated organisations (largely biobanks) from over 30 countries

Awarded ERIC Legal Status on 3 December 2013: This specific legal form is designed to facilitate the joint establishment and operation of research infrastructures of European interest and allows pulling together biobanks and biomolecular resources into a pan-European facility and providing access to collections of partner biobanks and biomolecular resources, their expertise and services on a non-economic basis.

4.2 CLARIN (CLARINO) – Common Language Resources and Technology Infrastructure Norway



NTNU Contact Person: [Björn Gambäck](#)

URL: <https://clarin.w.uib.no/>

Administrative Contact Person: [Sina Therese Blix Prestmo](#)

Administrative unit: [Faculty of Information Technology and Electrical Engineering \(IE\)](#)

Short description:

CLARINO is a Norwegian infrastructure project jointly funded by the Research Council of Norway (2012–2019 under contract 208375) and by a consortium of Norwegian universities and research institutions. It is operating the Norwegian part of CLARIN ERIC. The aim is to make existing and future language resources easily accessible for researchers and to bring eScience to humanities disciplines.

Any researcher can, through federated authentication, gain access to a vast body of language resources, including e.g. speech recordings, literary and historic archives, linguistic corpora, etc. In addition, CLARIN offers services for depositing, citing, searching and processing language data.

4.3 DARIAH – Digital Research Infrastructures for the Arts and Humanities



NTNU Contact Person: [Andrew Perkis](#)

URL: <https://www.dariah.eu/>

Administrative Contact Person: [Thomas Aarnseth](#)

Administrative unit: [Faculty of Humanities](#) (HF)

Short description:

DARIAH is a pan-European infrastructure for arts and humanities scholars working with computational methods. It supports digital research as well as the teaching of digital research methods.

People in DARIAH provide digital tools and share data as well as know-how. They organize learning opportunities for digital research methods, like workshops and summer schools, and offer training materials for Digital Humanities.

DARIAH aims at providing what you need. No matter if you are an experienced digital researcher, a scholar seeking to apply digital methods for the first time, or a citizen interested in modern Arts and Humanities research.

4.4 EATRIS – European Infrastructure for Translational Medicine



European infrastructure
for translational medicine

NTNU Contact Person: [Olav Haraldseth](#) and [Kristian Hveem](#)

URL: <https://eatris.eu/>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH)

TSO/ET: [Health](#)

Short description:

EATRIS helps you de-risk and add value to your drug, vaccine or diagnostic development programme. We do this by providing fast, tailored access to cutting-edge enabling technologies in translational research.

INFRASTRUCTURE

Via our central hub, you can access the vast array of clinical expertise and high-end facilities that are available within the 80+ top-tier academic centres across Europe.

PRODUCT PLATFORMS

EATRIS focuses on preclinical and early clinical development of drugs, vaccines and diagnostics. Solutions are provided in the fields of advanced therapy medicinal products, biomarkers, imaging and tracing, small molecules and vaccines.

The wide-ranging services portfolio focuses on supporting early decision-making and de-risking of projects. Examples include validation and development of in vitro and in vivo biomarkers for patient stratification, molecular imaging tracers for drug development programmes, GMP manufacturing of cellular therapy products, patient-derived xenograft models, and many more highly specialised capabilities.

4.5 ECCSEL – European Carbon dioxide Capture and Storage Laboratory Infrastructure



NTNU Contact Person: [Sverre Quale](#)

URL: <http://www.eccsel.org/>

Administrative Contact Person: [Volker Röhling](#)

Administrative unit: [Faculty of Engineering, \(IV\)](#), [Department of Energy and Process Engineering](#) (EPT)

Short description:

The mission of ECCSEL is opening access for researchers to a top-quality European research infrastructure devoted to second and third generation CCS technologies in an efficient and structured way to help **enabling low to zero CO₂ emissions from industry and power generation** to combat global climate change.

The ECCSEL consortium teams up selected Centres of Excellence on Carbon Capture and Storage research (CCS) from 9 countries across Europe. The mission is to implement and operate a European distributed, integrated Research Infrastructure (RI) initially based on a selection of the best research facilities in Europe for CO₂ capture, storage and transport research. A number of those facilities are planned to be upgraded in the future and later new facilities are planned to be constructed in order to:

- Provide a scientific foundation to respond systematically to the urgent R&D needs in CCS at a Pan-European level, in a short- and long-term perspective
- Maintain Europe at the forefront of the international CCS scientific community
- Make the European Research Area more attractive for both European and international scientists, reinforce cooperative connections between research institutions and attain greater insight into the social and economic impact of European science.
- Optimize the value of the European Communities financial support through better utilisation of new and existing research infrastructure.

4.6 ECRIN – European Clinical Research Infrastructure Network



NTNU Contact Person: [Valentina Cabral Iversen](#)

URL: <http://www.ecrin.org/>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH), [Department of Mental Health](#) (IPH)

TSO/ET: [Health](#)

Short description:

The European Clinical Research Infrastructure Network (ECRIN) is a not-for-profit intergovernmental organisation that supports the conduct of multinational clinical trials in Europe. As of 2013, ECRIN has the legal status of a European Research Infrastructure Consortium (ERIC).

Based in Paris, we work with European Correspondents across Europe, national networks of clinical trial units (CTUs), as well as numerous European and international stakeholders involved in clinical research.

4.7 ELIXIR – ELIXIR



NTNU Contact Person: [Finn Drabløs](#) and [Stig Omholt](#)

URL: <https://www.elixir-europe.org/>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH), [Department of Clinical and Molecular Medicine](#) (IKOM)

TSO/ET: [Health](#)

Short description:

ELIXIR is an intergovernmental organisation that brings together life science resources from across Europe. These resources include databases, software tools, training materials, cloud storage and supercomputers.

The goal of ELIXIR is to coordinate these resources so that they form a single infrastructure. This infrastructure makes it easier for scientists to find and share data, exchange expertise, and agree on best practices. Ultimately, it will help them gain new insights into how living organisms work.

[TeSS](#) is an example of an ELIXIR resource. TeSS is online training portal that gathers life science training materials and training courses from across Europe, and allows you to search it in one website. This makes it easier for scientists to find the training they need, and gives the training courses wider publicity.

ELIXIR includes 21 members and over 180 research organisations. It was founded in 2014, and is currently implementing its first five-year scientific programme.

4.8 EuBI – Euro-Bioimaging



European Research Infrastructure for Imaging Technologies
in Biological and Biomedical Sciences

NTNU Contact Person: [Olav Haraldseth](#)

URL: <http://www.eurobioimaging.eu/>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH), [Department of circulation and medical imaging](#) (ISB)

Short description:

The European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences (Euro-BioImaging, EuBI or EuBI ERIC) provides open physical user access to a broad range of state-of-the-art technologies in biological and biomedical imaging for life scientists. In addition, EuBI will offer image data support and training for infrastructure users and providers.

The EuBI consists of a set of 29 geographically distributed Node Candidates (specialised imaging facilities) that can grant access to scientists from all European countries and beyond. Currently, researchers can apply to use some of 36 imaging technologies offered through Euro-BioImaging.

EuBI started interim operation in May 2016 and all information about the Interim operation can be found here www.eurobioimaging-interim.eu

The whole infrastructure is supported by the EuBI Hub Candidate, which is the management and coordination part of Euro-BioImaging. EuBI Hub Candidate is composed of three parties: Finland, Italy and EMBL. Finland is managing the User Access to EuBI and will host the ERIC seat and take on the issues of quality control, delivery of service, user satisfaction, and scientific excellence. EMBL will support biological imaging community and provide image data services, while Italy will support biomedical imaging community.

EuBI will continuously evaluate and acquire new imaging technologies to ensure the sustained delivery of cutting-edge services.

Since it started its EC-funded Preparatory Phase I in December 2010, EuBI has been broadly supported by the European research community consisting of national BioImaging chapters in 25 European countries, with over 3000 stakeholders affiliated with major European research organizations and by the official Euro-BioImaging Industry Board.

Currently, the Euro-BioImaging Interim Board (IB) federates 15 member countries and the EMBL, and has created a common European budget from voluntary national contributions to launch the EuBI European Research Infrastructure Consortium (ERIC).

This intergovernmental effort has been boosted by the award of the EC H2020 Preparatory Phase II project, which will deliver turn-key procedures and rules for the operation of the EuBI ERIC. In addition to launching operations in Europe, EuBI is initiating a global research infrastructure collaboration, facilitated by the EC H2020 project Global BioImaging (GBI), designed to integrate with partner research infrastructures for imaging technologies worldwide.

EuBI will initially work together with imaging infrastructure experts from Australia, Argentina, South Africa, India, Japan and the United States of America, to further open and improve the provision of imaging services to biological and medical researchers worldwide.

4.9 METROFOOD



NTNU Contact Person: [Turid Rustad](#)

URL: <https://www.metrofood.eu/>

Administrative Contact Person:

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Biotechnology and Food Science](#) (IBT)

Short description:

METROFOOD-RI - *Infrastructure for promoting Metrology in Food and Nutrition* is a new distributed Research Infrastructure aimed to promote scientific excellence in the field of food quality and safety.

It provides high-quality metrology services in food and nutrition, comprising an important cross-section of highly interdisciplinary and interconnected fields throughout the food value chain, including agrifood, sustainable development, food safety, quality, traceability and authenticity, environmental safety, and human health.

METROFOOD-RI mission is to enhance quality and reliability of measurement results and make available and share data, information and metrological tools, in order to enhance scientific excellence in the field of food quality and safety and strengthen scientific knowledge, also promoting scientific cooperation and to integration. The general objective is to enhance scientific cooperation and encourage interaction between the various stakeholders, as well as the creation of a common and shared base of data, information and knowledge.

METROFOOD-RI, in full harmony with the Responsible Research and Innovation (RRI) principles, is intended to provide distributed services, acting on the real plan of measurement reliability and procedure harmonization and adopting the FAIR (*Findable, Accessible, Interoperable, and Re-usable*) principles on data management and service provision.

The scientific offer is addressed to a broad set of users and stakeholders, such as: public and private labs and groups engaged in research activities for food data collection and measurement reliability and basic frontier research in food and nutrition; Food Business Operators and producer associations; policy makers, food inspection and control agencies; consumers/consumer associations and citizens.

5.0 JPI (Joint Programming Initiatives)

NTNU is connected to 3 out of 10 Joint Programming Initiatives. The overall aim of the Joint Programming process is to focus research on several key areas for Europe. Participation in JPIs is committed at the national level, not at the institutional level.

In addition to the 3 JPIs NTNU is involved in, there are:

- Neurodegenerative Disease Research ([JPND](#))
- Agriculture, Food Security and Climate Change ([FACCE JPI](#))
- Cultural Heritage and Global Change: a New Challenge for Europe ([JPI Cultural Heritage](#))
- The Microbial Challenge - An Emerging Threat to Human Health ([JPI AMR](#))
- Connecting Climate Knowledge for Europe ([JPI Climate](#))
- More Years, Better Lives - The Potential and Challenges of Demographic Change ([JPI MYBL](#))
- Water Challenges for a Changing World ([JPI Water](#))

5.1 HDHL – Healthy Diet Healthy Life



NTNU Contact Person: [Eva Falch](#)

URL: <http://www.healthydietforhealthylife.eu/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Theme/research area: Health and Food

Short description:

Joint programming of research in the field of nutrition, food and health will provide for coordination of research on the impact of diet and lifestyles on health, contribute significantly to the construction of a fully operational European Research Area on prevention of diet-related diseases and strengthening leadership and competitiveness on the research activities in this field. The ambitious major goals of JPI HDHL are as follows:

-
1. The coordination of the scope of research programmes across Europe and reducing duplication of efforts.
 2. The allowance for easier to address common challenges developing suitable solutions with the same objective concerning food, nutrition and active life policy in the international arena while taking into consideration cultural diversities among countries.
 3. The promotion of scientific excellence through joint activities with common funding and peer-review processes to minimise fragmentation of research activities and to use public resources more efficiently and effectively improving the accountability and transparency of public research programmes.
 4. The support of cross-border collaboration and facilitation of data pooling and their collection in a uniform and standardised way.
 5. The sharing of expertise scattered across countries or throughout Europe as a whole promoting creation of a critical mass, cross-border mobility and training to facilitate timely dissemination and translation of research results to inform public health practice and policy.
 6. The increase of the scientific, technological and innovative impacts of public investments in research by strengthening the coordination with other related policies through greater programme visibility and promotion of cross-border policy learning.

5.2 JPI Oceans – Healthy and Productive Seas and Oceans



NTNU Contact Person: [Anastasios Lekkas](#)

URL: <http://www.jpi-oceans.eu/>

Administrative Contact Person: [Maria Azucena Gutierrez Gonzalez](#)

Administrative unit:

TSO/ET: [Oceans](#)

Theme/research area: Oceans

Short description:

The Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans) is an intergovernmental platform, open to all EU Member States and Associated Countries and with the participation of international partners on actions of mutual interest.

In its role as a coordination platform, JPI Oceans focuses on making better and more efficient use of national research budgets, which represent 88% of the research funding within Europe. One of JPI Oceans' goals is to develop joint research programmes in which countries can be involved on a voluntary basis (variable geometry). Participating countries also decide what contribution to make: this may include institutional, project-related or new funding.

JPI Oceans aims to add value by:

1. avoiding fragmentation and unnecessary duplication,
2. planning common and flexible initiatives,
3. facilitating cooperation and foresight, and
4. establishing efficient mechanisms for interaction and knowledge transfer between the scientific community, industry & services, and policy makers at high level in order to solve the grand challenges more effectively.

JPI Oceans welcomes the opportunity and encourages working with non- EU Countries on research & policy initiatives in order to achieve its objectives and will actively seek out partnerships with non- EU Countries.

The goals and objectives of JPI Oceans address the intersections between the marine environment, climate change and the maritime economy enabled by observations, infrastructure, technologies and human capacities.

Goals:

- Enable the advent of a knowledge based maritime economy, maximizing its value in a sustainable way
- Ensure Good Environmental Status of the seas and optimize planning of activities in the marine space
- Optimize the response to climate change and mitigate human impacts on the marine environment

JPI Oceans Strategy

The strategy of JPI Oceans is defined by its Strategic Research and Innovation Agenda (SRIA) which was published in May 2015. The SRIA presents ten Strategic Areas, developed and agreed by JPI Oceans (with the support of CSA Oceans) as strategic priorities for marine and maritime research in Europe. The ten strategic areas are:

1. [Exploring Deep Sea Resources](#)
2. [Technology and Sensor Developments](#)
3. [Science Support to Coastal and Maritime Planning and Management](#)
4. [Linking Oceans, Human Health and Wellbeing](#)
5. [Interdisciplinary Research for Good Environmental Status](#)
6. [Observing, Modelling and Predicting Oceans State and Processes](#)
7. [Climate Change Impact on Physical and Biological Ocean Processes](#)
8. [Effects of Ocean Acidification on Marine Ecosystems](#)
9. [Food Security and Safety Driving Innovation in a Changing World](#)
10. [Use of Marine Biological Resources through Development and Application of Biotechnology](#)

In addition to the Strategic Areas, three cross-cutting issues have been identified where JPI Oceans can add value in the European landscape.

1. [Science-Policy Interface](#)
2. [Human Capacity Building](#)
3. [Infrastructures](#)

An overview of all actions and projects initiated by JPI Oceans can be found [here](#).

5.3 JPI Urban Europe and Urban Europe Research Alliance – Global Urban Challenges, Joint European Solutions



Urban Europe Research Alliance

NTNU Contact Persons: [Judith Borsboom-van Beurden](#) and [Annemie Wyckmans](#)

URL: <http://jpi-urbaneurope.eu/> and <https://jpi-urbaneurope.eu/stakeholders-partners/uera/>

Administrative Contact Person: [Tone Woie Alstadheim](#)

Administrative unit: [Faculty of Architecture and Design](#) (AD)

Theme/research area: Smart Cities

Short description:

JPI Urban Europe was created in 2010 to address the global urban challenges of today with the ambition to develop a European research and innovation hub on urban matters and create European solutions by means of coordinated research. Currently, JPI Urban Europe has 14 members: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Italy, Latvia, the Netherlands, Norway, Slovenia, Sweden and the United Kingdom. Poland, Portugal, Romania, Spain and Turkey are observers, as well as the European Commission. More countries are involved in specific JPI Urban Europe activities.

A first Strategic Research and Innovation Agenda (SRIA) was developed to identify and agree on research priorities and define joint implementation measures in 2015. The SRIA aims to consider the diversity of urban and regional research and innovation needs across Europe and opens the door for small and less RTDI intensive countries to work together in JPI Urban Europe's activities. In 2018, this SRIA was updated to reflect new research priorities and societal developments. To ensure the highest commitment and relevance for all JPI Urban Europe partners, a co-creative process was applied, involving representatives from all stakeholder groups and regions – scientists, funding agencies, cities, business, industry, and civil society. The updated Strategic Research and Innovation Agenda 2.0 of JPI of Urban Europe, to be presented February 2019, will describe the long-term strategy and current research priorities, and outlines the implementation plan for the timeframe 2019 – 2024. NTNU contributed actively to this process, both nationally and internationally.

A key partner for JPI Urban Europe is the Urban Europe Research Alliance (UERA). UERA brings together research organisations and aims to strengthen, expand and optimise coordination activities and research planning in Europe, in order to avoid fragmentation and optimise resources in the field of urban research and innovation capabilities. Currently UERA counts 47 European research organisations from fifteen different countries. UERA wants to build a community of researchers,

professors, and PhD students. Together, this community will be able to conduct work advancing scientific excellence in the field of urban research. Approaches that are integrated, systemic, environmental, and socio-economic in their consideration, are at the heart of UERA. Since 2016, UERA is chaired by NTNU (Judith Borsboom).

6.0 Public-Private Partnerships (PPP)

6.1 5G – 5G Infrastructure Public Private Partnership



The 5G Infrastructure Public Private Partnership

NTNU Contact Persons: [Torbjörn Ekman](#) (via COST IRACON) and [Ilangko Balasingham](#) (via Telenor)

URL: <https://5g-ppp.eu/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Information Technology and Electrical Engineering \(IE\)](#), [Department of Electronic Systems \(IES\)](#)

Short description:

The 5G Infrastructure Public Private Partnership (5G PPP) is a joint initiative between the European Commission and European ICT industry (ICT manufacturers, telecommunications operators, service providers, SMEs and researcher Institutions). The 5G-PPP is now in its second phase where 21 new projects were launched in Brussels in June 2017. The 5G PPP will deliver solutions, architectures, technologies and standards for the ubiquitous next generation communication infrastructures of the coming decade. The challenge for the 5G Public Private Partnership (5G PPP) is to secure Europe's leadership in the areas where Europe is strong or where there is potential for creating new markets such as smart cities, e-health, intelligent transport, education or entertainment & media. The 5G PPP initiative will reinforce the European industry to successfully compete on global markets and open new innovation opportunities. It will "open a platform that helps us reach our common goal to maintain and strengthen the global technological lead".

The key challenges for the 5G Infrastructure PPP are:

- Providing 1000 times higher wireless area capacity and more varied service capabilities compared to 2010
- Saving up to 90% of energy per service provided. The focus will be in mobile communication networks where the dominating energy consumption comes from the radio access network
- Reducing the average service creation time cycle from 90 hours to 90 minutes
- Creating a secure, reliable and dependable Internet with a "zero perceived" downtime for services provision
- Facilitating very dense deployments of wireless communication links to connect over 7 trillion wireless devices serving over 7 billion people
- Ensuring for everyone and everywhere the access to a wider panel of services and applications at lower cost

6.2 BIC – Bio-Based Industries Consortium



NTNU Contact Person: [Heinz Preisig](#)

URL: <https://www.bbi-europe.eu/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

The objectives of the Bio-Based Industries Joint Undertaking (BBI JU) are to contribute to a more resource efficient and sustainable low-carbon economy and to increasing economic growth and employment, in particular in rural areas, by developing sustainable and competitive bio-based industries in Europe, based on advanced biorefineries that source their biomass sustainably and in particular to:

- Demonstrate technologies that enable new chemical building blocks, new materials, and new consumer products from European biomass, which replace the need for fossil-based inputs;
- Develop business models that integrate economic actors along the value chain from supply of biomass to biorefinery plants to consumers of bio-based materials, chemicals and fuels, including through creating new cross-sector interconnections and supporting cross-industry clusters; and
- Set-up flagship biorefinery plants that deploy the technologies and business models for bio-based materials, chemicals and fuels and demonstrate cost and performance improvements to levels that are competitive with fossil-based alternatives.

6.3 PHOTONICS PPP



PHOTONICS PUBLIC PRIVATE PARTNERSHIP

NTNU Contact Person: TBC

URL: <https://www.photonics21.org/about-us/photonics-ppp/>

Administrative Contact Person: TBC

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

The Photonics PPP represents a long-term commitment between the European Commission and the photonics stakeholders to invest in Europe with the aim of securing Europe's industrial leadership and economic growth, a highly skilled workforce, and the capability to generate new jobs that attract young people. A seven years Multiannual Strategic Roadmap – Towards 2020 – Photonics Driving Economic Growth in Europe underpins the proposed activities of this Key Enabling Technology of growing photonics manufacturing and employment and act as a basis of the new Public Private Partnership.

Photonics21 President Michael Mertin, CEO Jenoptik, stressed that: "Boosting economic growth and the creation of jobs in Europe through strengthening its innovation capacity will be the major challenges of Horizon 2020. Through the establishment of a Public Private Partnership the photonics community fully commits to strive for photonics innovation in Europe and to reinforce the cooperation between public and private sectors. Our innovation capacity will substantially contribute to Europe's economy and thus benefit European citizens."

Since 2014 the Photonics21 Association acts as a "mouthpiece" of the European Technology Platform Photonics21 (and its more than 2000 members) towards the European Commission in the Photonics Public Private Partnership.

6.4 SPIRE – Sustainable Process Industry Through Resource and Energy Efficiency



Sustainable Process Industry through
Resource and Energy Efficiency

NTNU Contact Person: [Maria Wallin](#)

WG2 – Electrification	Sotirios Grammatikos
WG3 – H2	Bruno Pollet
WG4 – CCU-CO2	Filippo Berto
WG5 – Resource and Energy Efficiency	Maria Wallin
WG6 – Industrial Symbiosis	Johan Berg Pettersen
WG7 – Digital	Vasileios Gkioulos

URL: https://ec.europa.eu/research/industrial_technologies/sustainable-process-industry_en.html
and <https://www.spire2030.eu/intro>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

EU process industry is at the core of most industrial value chains and faces the key challenge of having a high dependence on resources (energy, materials and water). An alliance of eight sectors of the European process industry (cement, ceramics, chemicals, engineering, minerals and ore, non-ferrous metals, steel and water) launched a new initiative on Sustainable Process Industry through Resource and Energy Efficiency (SPIRE), which is now becoming a contractual public-private partnership (PPP) under the new EU framework programme Horizon 2020. The sectors united under SPIRE include more than 450.000 individual enterprises, provide jobs for 6,8 million employees and generate annually more than € 1.600 billion in turnover. As such they are vital for Europe, representing 20% of the total European industry, both in terms of employment and turnover.

The SPIRE community has set out a research and innovation strategy reflected in the multi-annual roadmap for 2014-2020, which has been the subject of an extensive public consultation. The research and innovation activities proposed are expected to lead to the breakthrough technologies needed to make the European process industry more sustainable and competitive, through improvements in resource and energy efficiency.

The SPIRE PPP follows a cross-sectorial holistic approach, looking into all the components of the industrial operations, which are clearly identified in the domains covered in the roadmap (Feed, Process, Applications and Waste2Resource), and also addresses the non-technological barriers identified in the horizontal and outreach components. The technologies developed should lead to a decrease of 30% in fossil energy intensity and a reduction of 20% in the use of non-renewable resources; the achievement of these targets will in turn lead to a 40% decrease in CO2 equivalent

footprints. With these ambitious objectives, the SPIRE PPP supports the achievement of the goals set out by the Europe 2020 strategy and will contribute to the knowledge-based re-industrialisation of Europe, leading to the creation of growth and jobs.

The realisation of the SPIRE objectives is considered essential in order to rejuvenate the European process industry, to make it more competitive and sustainable, and lead to European growth and jobs.

- [SPIRE at a glance](#)
- [Sustainable Process Industry Association](#) (representing the PPP Private Side)
- [SPIRE PPP Partnership Board Members](#) (PDF version, 185KB, Updated September 2015)

7.0 COST (European Cooperation in Science and Technology)

7.1 ALIEN-CSI – Increasing understanding of alien species through citizen science



NTNU Contact Person: [Anders G. Finstad](#)

URL: <https://alien-csi.eu/> and <https://www.cost.eu/actions/CA17122>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

There is no sign of saturation in accumulation of alien species (AS) introductions worldwide, additionally the rate of spread for some species has also been shown to be increasing. However, the challenges of gathering information on AS are recognized. Recent developments in citizen science (CS) provide an opportunity to improve data flow and knowledge on AS while ensuring effective and high-quality societal engagement with the issue of IAS. Advances in technology, particularly on-line recording and smartphone apps, along with the development of social media, have revolutionized CS and increased connectivity while new and innovative analysis techniques are emerging to ensure appropriate management, visualization, interpretation and use and sharing of the data.

The Action will address multidisciplinary research questions in relation to developing and implementing CS, advancing scientific understanding of AS dynamics while informing decision-making specifically implementation of technical requirements of relevant legislation such as the EU Regulation 1143/2014 on IAS, support of the EU biodiversity goals and embedding science within society. The Action will explore and document approaches to establishing a European-wide CS AS network. It will embrace relevant innovations for data gathering and reporting to support the implementation of monitoring and surveillance measures, while ensuring benefits for society and citizens, through an AS CS European network. The Action will, therefore, increase levels of participation and quality of engagement with current CS initiatives, ensuring and evaluating educational value, and improve the value outcomes for potential users including citizens, scientists, alien species managers, policymakers, local authorities, industry and other stakeholders.

7.2 BESTPRAC – building a network of administrative excellence



NTNU Contact Person: [Per Inge Andresen](#)

URL: <https://bestprac.eu> and <https://www.cost.eu/actions/TN1302/>

Administrative unit: [Financial Advisory Section](#)

Short description:

BESTPRAC is a COST Targeted Network that gathers administrative, financial and legal staff at universities and research-driven institutions who are carrying out different tasks to support transnational external competition based (in particular EU funded) research projects.

The network serves as a platform for exchanging experiences, sharing and developing best practices, encouraging knowledge sharing, knowledge transfer and increasing efficiency in these fields.

Working Groups:

[WG1: Administration](#)

Working group 1 (Administration) will cover issues relating to the overall management of externally funded research projects. Through meetings, training schools, and workplace exchange, the following key issues will be addressed: Project establishing (tools, methods and procedures); cross-cultural barriers; overall reporting, timesheets and closing of projects; audit.

[WG2: Finance](#)

Working group 2 (Finance) will cover issues relating to the financial aspects of preparing and running cross-European projects. Through meetings and summer schools, the following key issues will be addressed: accounting practices, VAT, overhead, exchange rates, audit.

[WG3: Legal](#)

Working group 3 (Legal) will cover issues relating to the legal framework of the projects. Through meetings, training events and workshops, the following issues will be covered: A new framework programme standard contract and consortium agreement, IPR, and IPR in working with third parties, patenting and technology transfer, international legal frameworks.

[Cross-cutting WGs](#)

7.3 Burden-eu - European Burden of Disease Network



NTNU Contact Person: [Terje Andreas Eikemo](#)

URL: <https://www.burden-eu.net/>

Administrative unit: [Faculty of Social and Educational Sciences](#) (SU)

Short description:

What are the most relevant diseases in a country? Which risk factors are the strongest contributors to disease and death? How is the impact of different diseases evolving over time, and how does it compare between countries and within subnational units? As the need for prioritising the use of available resources constantly increases, a timely, sound and comprehensive answer to these fundamental questions is more than ever needed to inform public health decision making. Driven by the impact of the Global Burden of Disease study, several researchers and national and international health institutes have adopted the burden of disease approach to address these questions.

The complexity of the burden of disease approach however resulted in major disparities in research capacity across Europe. The burden-eu COST Action will address current challenges by 1) stimulating interaction between existing efforts, 2) supporting technical capacity building at country level, 3) providing a platform to support methodological advances, and 4) addressing the need for an actionable understanding of the process underlying knowledge translation.

The Action will have an interwoven structure of 3 vertical and 2 horizontal pillars. The vertical pillars focus on specific burden of disease applications – i.e., non-communicable diseases and injuries (WG1), communicable diseases (WG2), and risk factors (WG3). The horizontal pillars focus on cross-cutting and holistic activities – i.e., burden of disease methodology (WG4) and knowledge translation (WG5). While the vertical pillars reflect the current fragmented nature of the burden of disease universe, the horizontal pillars provide the much needed bridge between these different worlds.

7.4 CardioRNA – Catalysing transcriptomics research in cardiovascular disease

NTNU Contact Person: [Morten Høydal](#)

URL: <https://www.cost.eu/actions/CA17129>

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH)

Short description:

This Action aims to create an interdisciplinary network to accelerate the understanding of transcriptomics in cardiovascular disease (CVD) and further the translation of experimental data into usable applications to improve personalized medicine in this field. CVD remains the leading cause of death worldwide and, despite continuous advances, better diagnostic and prognostic tools, as well as therapy, are needed. The human transcriptome, which is the set of all RNA produced in a cell, is much more complex than previously thought and the lack of dialogue between researchers and industrials and consensus on guidelines to generate data make it harder to compare and reproduce results. Currently, there is no network to address the complexity of transcriptomics in CVD, offering an advantage to this Action. It aims to provide opportunities for collaboration between stakeholders from complementary backgrounds, allowing the functions of different RNAs and their interactions to be more rapidly deciphered in the cardiovascular context for translation into the clinic. This Action will generate grant proposals to advance understanding of the transcriptome's role in CVD and to translate findings into clinical applications, thus fostering personalized medicine and meeting a current public health challenge. CardioRNA will refine guidelines for transcriptomics investigations in CVD to increase reproducibility of results, facilitating clinical product development. It will disseminate knowledge and allow capacity-building through different types of meetings, prioritizing students and early career investigators. Thus, this Action will advance studies on cardiovascular transcriptomics, generate innovative projects and consolidate the leadership of European research groups in the field.

7.5 CBrio – Chemobrionics

NTNU Contact Person: [Seniz Ucar](#)

URL: <https://www.cost.eu/actions/CA17120>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

Self-organizing precipitation processes, such as chemical gardens forming biomimetic micro- and nano-tubular forms, have the potential to drastically enhance future materials design, as well as allowing us to develop new methodologies to explore, quantify and understand non-equilibrium chemical systems, and might even shed light on the conditions for the origin of life. The physics and chemistry of these phenomena due to the assembly of material architectures under a flux of ions, and their exploitation in applications, has recently been termed chemobrionics. Advances in chemobrionics require a combination of expertise in physics, chemistry, mathematical modelling, biology and engineering, as well as in nonlinear and materials sciences, giving rise to a new synergistic discipline. Progress is currently limited due to the lack of an efficient combination of the talents of researchers from diverse fields, but Europe is uniquely placed to develop a unique and world leading activity. The aim of this CBrio Cost action is to link research groups throughout Europe to stimulate new, innovative and high-impact interdisciplinary scientific research on chemobrionics. Our objective is to build bridges between the various communities to allow understanding and controlling physical, chemical, and biological properties of self-organized precipitation processes. This integrated fundamental knowledge will be shared with research groups focusing on specific applications to boost new technological developments, as well as with groups involved in the popularization of science and those at the interface between science and the arts.

7.6 CHERN – China in Europe Research Network

NTNU Contact Person: [Lizhen Huang](#)

URL: <https://www.cost.eu/actions/CA18215/>

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

In spite of a recent slowdown foreign direct investment from rising China in to Europe has been growing exponentially over the past decade. It ranges from manufacturing, energy, utilities and transport, to financial services, real estate and sports and has been expanding from acquisitions of European firms to greenfield and portfolio investment. The perceived challenges posed by these investments has led to increasing political and media attention, including calls for EU vetting and regulation of acquisitions.

Academic research on the phenomenon is however lagging behind these developments. Existing studies moreover tend to have a mono-disciplinary, national or sectoral focus. Over-arching conceptions of the interconnections between investments in multiple sectors and the often cross-European nature and intent of Chinese investments, as well as their (geo)political implications, is almost entirely absent. This does not augur well for the formulation of appropriate policy responses direly needed to engage constructively with rising China.

In the light of these scientific gaps and policy needs and by bringing together the leading and pioneering researchers from across Europe and beyond (e.g. China, USA), the aim of this Action is to:(a) pool current and stimulate further research on China's deepening economic engagements with Europe (b) develop an interdisciplinary, holistic, cross-sectoral and pan-European understanding of the variegated impacts and strategies associated with these engagements; (c) comprehend the likely political and geo-political consequences of these; and (d) generate input on the policy implications of these issues involving relevant agencies from the EU, member countries, business, trade unions and other interested parties.

7.7 CLIMBATS – Climate change and bats: from science to conservation

NTNU Contact Person: [Clare Stawski](#)

URL: <https://www.cost.eu/actions/CA18107/>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

Climate change poses major threats to biological communities and the ecosystem services they provide. Bats are sensitive to human-driven habitat alteration, and changes in temperature and water availability induced by climate change may affect their eco-physiology, distribution and ultimately survival. Climate change is therefore likely to influence European bat populations and affect insect consumption by bats in farmland, forests and urban areas, implying serious consequences for the conservation of European biodiversity as well as economy. However, little scientific work has addressed this issue, so we lack the knowledge to devise mitigation strategies. The Action fills this gap by pursuing the following objectives:

- 1) *Define, predict and quantify the effects of climate change on bats across Europe*, establishing how bats react to different climatic conditions, assessing the current magnitude of this impact, forecasting its future effects and establishing the roles played by life history traits and environmental factors.
- 2) *Establish strategies to develop a network to monitor and predict changes in bat distribution and inform future management and policy*. This will be achieved by selecting the best monitoring approaches, identifying a set of responsive bat species acting as indicators, and facilitating cooperation between scientists and relevant stakeholders.
- 3) *Evaluate the effects of climate change on insectivory provided by bats in farmland* by: a) estimating the importance of this ecosystem service across Europe for agricultural economy and society and monetise its current value; and b) modelling scenarios of distributional mismatch between bats and their pest prey under future climate change, also evaluating the economic consequences.

7.8 ConstDeb – Constitution-making and deliberative democracy

NTNU Contact Person: [Arild Ohren](#)

URL: <https://www.cost.eu/actions/CA17135>

Administrative unit: [Faculty of Social and Educational Sciences](#) (SU)

Short description:

In Europe and across the world, several countries are turning to deliberative democracy to reform their constitutions, and in many others this question is high on the political agenda. Such transformation also shuffles quite radically the role of the citizenry regarding constitutional changes. Traditionally such changes are the sole responsibility of elected officials, in collaboration with experts. With the deliberative turn, many more actors may be involved in the designing of constitutions: citizens both individually and collectively in the forms of informal associations, social movements, civil society organisations, participatory consultants and research teams. The Main Aim of the Action is to bring together all these actors – who are usually not in contact – to discuss and reflect on this democratic challenge, not only in terms of normative ideals but also and above all on the empirical challenges raised by this complex and multi-faceted democratic transformation.

Because the focus of ConstDeb is on constitutions and deliberative democracy, the Action itself as a network is intended to work in a deliberative fashion.

This action has three research coordination objectives:

1. *To gather and organize information about all deliberative democracy experiments related to constitution-like issues, research and writing about constitutional deliberative democracy, and the actors involved in both;*
2. *To make this information widely available and widely used;*
3. *To promote interaction between actors involved in this area, and also interested actors who are not yet involved.*

The primary vehicle to achieve these objectives will be a deliberative portal.

7.9 Dig4Asp – Digital forensics: evidence analysis via intelligent systems and practices

NTNU Contact Person: [Andrii Shalaginov](#)

URL: <https://www.cost.eu/actions/CA17124>

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

Digital Forensics is a part of the Criminalistics Sciences which deals with digital evidence recovery and exploitation in the solution of criminal cases through the application of scientific principles. There are several and increasingly sophisticated methods for collecting digital evidence. As a matter of fact, the evolution of technology continuously pushes such kind of methods. Rough evidence must however be used to elicit hypotheses concerning events, actions and facts (or sequences of them) with the goal to obtain evidence to present in court. Evidence analysis involves examining fragmented incomplete knowledge, and reconstructing and aggregating complex scenarios involving time, uncertainty, causality, and alternative possibilities. No established methodology exists today for digital evidence analysis. The Scientific Investigation experts usually proceed by means of their experience and intuition.

The Challenge of the proposed COST Action consists in creating a Network for exploring the potential of the application of Artificial Intelligence and Automated Reasoning in the Digital Forensics field, and creating synergies between these fields. Specifically, the challenge is to address the Evidence Analysis phase, where evidence about possible crimes and crimes perpetrators collected from various electronic devices (by means of specialized software, and according to specific regulations) must be exploited so as to reconstruct possible events, event sequences and scenarios related to a crime. Evidence Analysis results are then made available to law enforcement, investigators, public prosecutors, lawyers and judges: it is therefore crucial that the adopted techniques guarantee reliability and verifiability, and that their result can be explained to the human actors.

7.10 DNAqua-Net – Developing new genetic tools for bioassessment of aquatic ecosystems in Europe



NTNU Contact Person: [Torbjørn Ekrem](#)

URL: <https://www.cost.eu/actions/CA15219>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

The protection, preservation and restoration of aquatic ecosystems and their functions is of global importance. For European states it became legally binding mainly through the EU-Water Framework Directive (WFD). In order to assess the ecological status of a given water body, aquatic biodiversity data are obtained and compared to a reference water body. The quantified mismatch thus obtained determines the extent of potential management actions. The current approach to biodiversity assessment is based on morpho-taxonomy. This approach has many drawbacks such as being time consuming, limited in temporal and spatial resolution, and error-prone due to variation of individual taxonomic expertise of the analysts. Novel genomic tools can overcome many of the aforesaid problems and could complement or even replace traditional bioassessment. Yet, a plethora of approaches are independently developed in different institutions, thereby hampering any concerted routine application. The goal of this Action is to nucleate a group of researchers across disciplines with the task to identify gold-standard genomic tools and novel eco-genomic indices for routine application for biodiversity assessments of European water bodies. Furthermore, DNAqua-Net will provide a platform for training of the next generation of European researchers preparing them for the new technologies. Jointly with water managers, politicians and other stakeholders, the group will develop a conceptual framework for the standard application of eco-genomic tools as part of legally binding assessments.

7.11 EFAP – European Forum for Advanced Practices

NTNU Contact Person: [Florian Schneider](#)

URL: <https://www.cost.eu/actions/CA18136>

Administrative Contact Person: [Tone Woie Alstadheim](#)

Administrative unit: [Faculty of Architecture and Design](#) (AD)

Short description:

Initially, the European Forum for Advanced Practices is an inclusive research network originating from universities, NGOs and community-based organisations, independent research entities, museums, and a wide range of arts academies. *EFAP's* broad goal is to establish a dialog across the boundaries that often separate these contexts and to promote exchange with a focus on emergent forms of artistic- and practice-based research.

EFAP proposes an open notion of Advanced Practices that deliberately combine methods and practices from numerous disciplines. The goal of *EFAP* is to respond to two sets of urgencies:

1. Ever-more complex societal challenges across Europe demand new forms of knowledge exchange and transfer, as new research forms gain ground and new modes of research output become increasingly prominent.
2. This requires multidisciplinary and comprehensive methods to capture and assess their quality and impact *in advance* rather than retrospectively.

The initial proposers of *EFAP* have actively shaped contemporary research in the fields of visual art, art history, philosophy, music, theatre, dance and performance studies, architecture, design, and engineering.

EFAP's mission is to broaden and deepen the range of settings, forms, and fields that can be identified or understood in terms of Advanced Practices.

7.12 ENTER – EU Foreign Policy Facing New Realities – Perceptions, Contestation, Communication and Relations



NTNU Contact Person: [Tor Georg Jakobsen](#)

URL: <https://foreignpolicynewrealities.eu/> and http://www.cost.eu/COST_Actions/ca/CA17119

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

EU foreign policy experiences unprecedented turbulences that put key achievements of the European integration project at risk. Externally, the EU's global environment is characterized by the reconfiguration of power, growing divisions, and the contestation of established liberal order. Simultaneously, the EU's neighbourhood is increasingly conflict prone and unstable, triggering migration flows and the proliferation of illiberal values. 'Domestically', the EU faces severe internal conflicts, marked by austerity, Brexit, growing nationalism, populism and new protectionism.

The Action ENTER aims to improve our understanding of central properties of EU foreign policy in light of these new realities, focusing on perceptions, communication, contestation. In today's world, the success of EU foreign policy depends on the EU's ability to instantaneously respond to stimuli and pressures originating from both the international and the intra-EU levels. Linking internal and external policy dynamics, the Action has a strong potential for breakthrough scientific developments. A central objective of the action is to derive theoretically informed, policy relevant advice for the EU's strategic approach to its international relations, its communication, and for dealing with the interaction between internal and external challenges. It will generate a step change in how the new realities of EU foreign policy are theorized and addressed. This will be achieved by establishing multi-national, multidisciplinary collaborations at the nexus of policy fields and research communities that have not sufficiently communicated in the past. Substantive efforts to bridge between the "academic-practitioner divide" are made, to synthesize knowledge, facilitate shared understandings, and inform EU foreign policy.

7.13 ETN – The European Aquatic Animal Tracking Network



NTNU Contact Person: [Jan Grimsrud Davidsen](#)

URL: <http://www.lifewatch.be/etn/> and <https://www.cost.eu/actions/CA18102/>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

Telemetry is a commonly applied method to investigate the ecology and movement behaviour of aquatic species in relation to their environment. It provides a scientific basis for management and conservation and has significantly improved our understanding of ecosystem functioning and dynamics. More specifically, telemetry provides valuable data that can be used in many policies and directives. As a result, large scale nationally and regionally managed initiatives were implemented around the globe in recent years. Although there is a large and growing number of researchers in Europe using biotelemetry to study aquatic animals and answer management-related questions, there is a stringent lack of in-field telemetry collaborations in Europe. This situation represents a substantial loss of opportunities for: scientific excellence, funding opportunities and competitiveness of European SME on the international biotelemetry market. With this COST Action, we want to close this gap and the overarching objective is to ensure a transition from a loosely coordinated set of existing regional telemetry initiatives to a sustainable, efficient, and integrated pan-European biotelemetry network embedded in the international context of already existing initiatives. This will be achieved through working group meetings, workshops, training courses and scientific missions focused on:

- 1) Implementing a centralised European database, requirements and policy mapped to the data standards of existing international biotelemetry data systems,
- 2) improve the usefulness and inter-applicability of currently available technology and foster technological advancements,
- 3) promoting the establishment of key telemetry infrastructure and research on key species, and
- 4) provide continuous training opportunities and disseminate knowledge to the stakeholders' community.

7.14 Eurofamnet – The European Family Support Network. A bottom-up, evidence-based and multidisciplinary approach

NTNU Contact Person: [Bente Heggem Kojan](#)

URL: <https://www.cost.eu/actions/CA18123/>

Administrative unit: [Faculty of Social and Educational Sciences](#) (SU)

Short description:

The best interest of children is placed at the forefront of social policies, giving the governments the responsibility to provide parent and family support. The recent crisis has placed parenting at a more difficult situation, accompanied by the existence of complex family realities that need new responses which require innovative approaches. Although recognised as central to a number of political priorities, at a European level the institutions have not yet addressed family support holistically.

The Action proposes the creation of a **Pan-European family support network, under which family support and parenting policies are included, combining both common goals across countries and the recognition of the specificities of cultural and families' contexts.**

This Action will build collaborative pathways between researchers, practitioners, policy-makers, children and families, public and private agencies, and general society to create the necessary framework that allows to inform family policies and practices with the underlying goal of ensuring children's rights and families' well-being. EuroFam-Net will: (1) Use a pluralistic and dialogic structure to co-create responses with all involved stakeholders in the field in close collaboration with the national policies; (2) Create an evidence-based framework that improves family support services, science and technology-driven policy and practice; (3) Use a multidisciplinary approach by gathering all the relevant scientific disciplines working in this field; (4) Disseminate research and make use of advice mechanisms to the professional and political arena to innovate in family support services; (5) Avoid the duplication of services and promote inter-sectorial coordination, increasing the efficiency of available resources.

7.15 ERBFacility – European Raptor Biomonitoring Facility



NTNU Contact Person: [Veerle Jaspers](#)

URL: <https://erbfacility.eu/>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

ERBFacility will underpin next generation biomonitoring in Europe by delivering: complementary frameworks for a **European Raptor Biomonitoring Scheme**, a distributed **European Raptor Specimen Bank** and a **European Raptor Sampling Programme**; a meta database of samples; harmonised standards and protocols for analyses and sampling; best practice guidance for sampling; proof of concept for pan-European assessments and harmonised sampling.

ERBFacility will help answer:

- Is EU chemicals legislation effective in reducing environmental exposure to contaminants in Europe?
- What are the environmental risks of specific chemicals? and
- Are there emerging contaminant problems needing remedial action?

In this way, ERBFacility will improve effectiveness evaluation, risk assessment and early warning in relation to regulation of priority substances, plant protection products, biocides, veterinary products and heavy metals.

ERBFacility is timely and relevant given the shift in chemicals regulation from national to EU level and EU policy for a non-toxic environment. ERBFacility fills a key gap in wildlife biomonitoring and complements [recent European developments in human biomonitoring](#).

See [Aim and Objectives](#) for further information.

7.16 EUTOPIA – European Topology Interdisciplinary Action

NTNU Contact Person: [Nils Baas](#)

URL: <https://www.cost.eu/actions/CA17139>

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

The physical properties of many systems, ranging from naturally occurring biopolymers to artificial materials, often crucially depend on those global features that cannot be ascribed to a particular geometry or arrangement, rather to a more abstract notion: topology. The latter manifests itself in the knotted state of proteins and artificial polymers, the intertwining among DNA rings, or the topologically distinct classes of defect lines that can be found in liquid crystals. A better understanding of the interplay between a system's topological state, its three-dimensional structure, and its overall characteristics paves the way to an improved control of relevant natural molecules or human-made materials, with remarkable impact on fundamental science as well as high-tech applications. These goals, however, can only be achieved through a multidisciplinary effort, involving a wide spectrum of expertise in a concerted manner.

The EUTOPIA COST Action will establish a collaborative platform to approach all those problems, in the study of biological and soft matter, that feature topological characteristics. In doing this, it will create a pan-European, synergistic network of researchers from different fields that will overcome geographical, economical and societal barriers, as well as those naturally surrounding traditional academic communities. The outcomes of the research carried out thanks to the EUTOPIA Action will push forward the boundaries of our current understanding of key systems, and foster the knowledge transfer of scientific findings to industry and, ultimately, to society as a whole.

7.17 GLYCO nano PROBES – Functional Glyconanomaterials for the Development of Diagnostics and Targeted Therapeutic Probes

NTNU Contact Person: [Bjørn Christensen](#)

URL: <https://www.cost.eu/actions/CA18132/>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

Carbohydrates, proteins, lipids and nucleic acids are the biomacromolecules that constitute the fundamental building blocks of life. Among those, carbohydrates are key players involved in a myriad of molecular recognition events from protein folding, cell-cell communication, bacterial and viral infections to fertilization. Cell-surface carbohydrates can differ considerably between cell lines and also between healthy and disease states. These differences can be exploited for the development of early diagnostic tools, prevention and/or treatment of diseases via for example molecules/probes that target the interactions between key glycans and their receptors.

However, despite their biological significance and therapeutic potential, these important biomolecules have been investigated to a much lesser extent compared to nucleic acids and proteins. The vast complexity of carbohydrate systems combined with the scarcity of glycan-based tools for study have been a major challenge in glycobiology. Thus, the production of tailored and structurally-defined glycan-based probes for biomedical applications represents a significant advancement in the field.

Nanotechnology provides a new array of techniques and platforms to study glycosystems. Recent developments in the field have provided access to an advanced toolkit of synthetic nanomaterials and the techniques to study such molecules at high resolution. In order to successfully develop new glycan-conjugated and carbohydrate-derived materials, interdisciplinary collaboration between material scientists, chemists, immunologists, microbiologists, molecular biologists and medics is crucial.

The aim of this action is to bring together experts in these different areas from all around Europe to develop the next generation of functional glyconanomaterials for the development of diagnostic tools and targeted therapeutics.

7.18 INDAIRPOLLNET – Indoor Air Pollution Network

NTNU Contact Person: [Alexandros Asimakopoulos](#)

URL: <https://www.cost.eu/actions/CA17136>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

In developed countries, we spend 80-90% of our time indoors, where we receive most of our exposure to air pollution. However, regulation for air pollution focuses mainly on outdoors and the indoor environment is much less well characterised. The concentrations of many air pollutants can be higher indoors than out, particularly following activities such as cleaning and cooking. With increasing climate change impacts, related energy efficiency measures are making buildings considerably more airtight. Such measures can increase indoor pollutant concentrations even further. Therefore, to reduce our exposure to air pollution, we must consider both the indoor and outdoor environments and the role of ventilation, in order to mitigate through appropriate building operation, use and design.

INDAIRPOLLNET (INDoor AIR POLLution NETwork) will improve our understanding of the cause of high concentrations of indoor air pollutants. It will assemble experts in laboratory and chamber experiments, modelling studies and measurements of relevance to indoor air quality (IAQ), including outdoor air chemists. Our network includes experts in chemistry, biology, standardisation, particulate matter characterisation, toxicology, exposure assessment, building materials (including those manufactured specifically to improve IAQ such as green materials), building physics and engineering (including ventilation and energy) and building design. This Action aims to significantly advance the field of indoor air pollution science, to highlight future research areas and to bridge the gap between research and business to identify appropriate mitigation strategies that optimise IAQ. The findings will be disseminated to relevant stakeholders such as architects, building engineers and instrument manufacturers.

7.19 INDCOR – Interactive Narrative Design for Complexity Representations

NTNU Contact Person: [Andrew Perkis](#)

URL: <https://www.cost.eu/actions/CA18230>

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

The aim of this COST action is to build a network for the interdisciplinary study of the potential interactive digital narrative has as a means to addressing complexity as a societal challenge by representing, experiencing and comprehending complex phenomena and thus also address the issue of "fake news". The challenge therefore is to change IDNs current status from 'singular achievement' of a small group of 'initiated' practitioners to 'general practice' of many media companies. The INDCOR project (Interactive Narrative Design for COmplexity Representations) addresses this challenge by means of a coordinated effort in analysing and generalising design and production methods of stand-out IDN works with a particular focus on the representation of complex issues.

7.20 IRACON – The Inclusive Radio Communications



NTNU Contact Person: [Torbjörn Ekman](#)

URL: <http://www.iracon.org/>

Administrative Contact Person: [Filip Jessen](#)

Administrative unit: [Faculty of Information and Electrical Engineering](#) (IE)

Short description:

The Inclusive Radio Communications (IRACON) concept defines those technologies aimed to support wireless connectivity at any rates, for any communicating units, and in any type of scenarios. The Wireless Internet of Things beyond 2020 will require revolutionary approaches in Radio Access technologies, networks and systems. Some theoretical foundations have to be revisited and breaking technologies are to be discovered during the coming decade.

This COST Action aims at scientific breakthroughs by introducing novel design and analysis methods for the 5th-generation (5G) and beyond-5G radio communication networks. Challenges include i) modelling the variety of radio channels that can be envisioned for future inclusive radio, ii) capacity, energy, mobility, latency, scalability at the physical layer and iii) network automation, moving nodes, cloud and virtualisation architectures at the network layer, as well as iv) experimental research addressing Over-the-Air testing, Internet of Things, localization and tracking and new radio access technologies.

The group of experts supporting this proposal comes from both academia and industry, from a wide spread of countries all over Europe, with the support of some non-COST institutions and R&D associations and standardisation bodies worldwide. The proposers have also long experience on COST Actions in the Radio communications field.

7.21 MAT-DYN-NET – Mathematical models for interacting dynamics on networks

NTNU Contact Person: [Helge Holden](#)

URL: <https://www.cost.eu/actions/CA18232>

Administrative unit: [Faculty of Information Technology and Electrical Engineering](#) (IE)

Short description:

Many physical, biological, chemical, financial or even social phenomena can be described by dynamical systems. It is quite common that the dynamics arises as a compound effect of the interaction between sub-systems in which case we speak about coupled systems. This Action shall study such interactions in particular cases from three points of view:

1. the abstract approach to the theory behind these systems,
2. applications of the abstract theory to coupled structures like networks, neighbouring domains divided by permeable membranes, possibly non-homogeneous simplicial complexes, etc.,
3. modelling real-life situations within this framework.

The purpose of this Action is to bring together leading groups in Europe working on a range of issues connected with modelling and analysing mathematical models for dynamical systems on networks. It aims to develop a semigroup approach to various (non-)linear dynamical systems on networks as well as numerical methods based on modern variational methods and applying them to road traffic, biological systems, and further real-life models. The Action also explores the possibility of estimating solutions and long time behaviour of these systems by collecting basic combinatorial information about underlying networks.

7.22 MD-GAS – Molecular Dynamics in the GAS phase

NTNU Contact Person: [Sondre Kvalvåg Schnell](#)

URL: <https://www.cost.eu/actions/CA18212/>

Administrative Contact Person

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

Emerging highly advanced ion-beam traps and storage rings combined with synchrotrons, X-ray facilities, and high performance computers offer completely new ways to study Molecular Dynamics in the GAS phase (MD-GAS). Cryogenic traps and rings will allow studies of decay and reaction processes involving molecular ions in well-defined conformations and in single or narrow ranges of quantum states. The MD-GAS COST Action aims to further develop and fully exploit the exceptional potential of the above range of tools to unravel the connection between the initial energy transfer in interactions between isolated molecules or clusters and photons, electrons, or heavy particles (ions, atoms, molecules) and the related molecular dynamics in unexplored time domains ranging from sub-femtoseconds to minutes and hours. Furthermore, the Action aims to identify reaction mechanisms and routes that lead to the growth of new molecular species, clusters and aerosols. The new knowledge will be important for fundamental atomic and molecular physics, chemical physics, and for applications in radiation therapy and -damage on the nanoscale, astrochemistry, astrobiology, atmospheric science, and climate research.

The MD-GAS COST Action is organized in three Working groups: 1) New high-performance instrumentation and experimental methods to study gas phase molecular dynamics at ion-beam storage rings and traps, at synchrotrons and X-ray facilities; 2) Survival and destruction of molecules following their processing by heavy particles, electrons, or photons; 3) Charge-, energy flow, and molecular growth processes in intermolecular and intracluster reactions.

7.23 MOBILISE – Mobilising Data, Policies and Experts in Scientific Collections



NTNU Contact Person: [Torkild Bakken](#)

URL: <https://www.mobilise-action.eu/> and <https://www.cost.eu/actions/CA17106>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

European Natural Science Collections host approximately 1.5 billion biological and geological collection objects, which represent about 80% of the known current and past biological and geological diversity on earth. The scope of this MOBILISE is to foster a cooperative network in Europe to support excellent research activities, and facilitate knowledge and technology transfer around natural science collections. This will prepare the ground for a future pan-European Distributed System of Scientific Collections.

Technical innovations like Next-Generation Sequencing and large-scale digitisation, including 3D imaging, increase the volume of research data rapidly. Strategies and protocols for sustainable data storage and availability have to be adjusted accordingly. Current changes in legislation (e.g. (EU) Nr. 511/2014) increase the need for traceability of genetic resources and for practical tools for documentation of specimens in collections.

Technical solutions to provide scientific collections as digital data have been developed, but need to scale up and evolve from isolated project-based solutions in individual institutes to pan-European industry solutions targeted to rapidly changing societal needs, embedded in long-term sustainable structures.

The COST Action MOBILISE will:

1. Facilitate the transfer of knowledge and technology between researchers, domain specialists, data aggregators and industry by networking activities, events, workshops and trainings (“Open to the world”)
2. Promote the development of innovative techniques and coordinated prioritisation to increase efficiency of large-scale collection digitisation and mobilisation (“Open innovation”)

Raise awareness about the need in science and society that, apart from physical access, sustainable data access infrastructures are an integral component of biodiversity research (“Open access”)

7.24 MultiComp – Multi-functional nano-carbon composite materials network

MultiComp

NTNU Contact Person: [Sotirios Grammatikos](#)

URL: <https://www.multicomp-ca15107.eu/en/> and <https://www.cost.eu/actions/CA15107>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

MultiComp is a COST Action designed to bring together theorists, experimentalists and industrialists in the field of nano-carbon materials technology. Although carbon nanotubes, graphene and Few-Layer Graphene (FLG) have been used to improve the properties of composite materials, two main problems remain to be solved before these composite materials can realize their full potential: (1) adequate dispersion of the nano-carbon reinforcement material, and (2) strong enough interfacial bonding between the nano-carbon reinforcement elements and the composite matrix. In addition to making modified MWNTs such as branched-MWNTs, the Action will explore other possibilities of strengthening composites by integrating FLG (using existing as well as unpublished methods); theoretical modelling of these nano-carbons and composites; due consideration and evaluation of the Health, Safety and Environmental implications; making and testing composites e.g. mechanical and electrical/thermal, HRTEM of interphases, voltage-contrast SEM of percolation networks, sensing and photocatalytic properties; development of new composite materials with Electronic and Multi-Functional properties.

This Action will provide an ideal platform, especially via STSM exchanges, for permanent established researchers, post-doctoral workers and ECIs to enhance their research-related skills as well as their innovation and enterprise skills in this international network involving both academic and business enterprises.

7.25 Ocean4Biotech – European transdisciplinary networking platform for marine biotechnology

NTNU Contact Person: [Atle Bones](#)

URL: <https://www.cost.eu/actions/CA18238/>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

Marine organisms produce a vast diversity of primary and secondary metabolites with antibacterial, antifungal, anticancer, analgesic, anti-inflammatory, nutritional, photoprotective activity or other beneficial properties. The exploitation of marine bioresources and the valorisation of their natural products are encompassed by the burgeoning field of marine biotechnology, which is a high priority for the successful implementation of **Blue Growth** and **Bioeconomy** strategies within the EU. Marine biotechnology contributes to achieving 14 out of 17 **UN sustainable development goals**.

While the demand for alternative sources of food, drugs and chemicals is increasing, the sea and its vast biota remain largely underexplored and unexploited. Despite the short history marine organisms delivered close to 30.000 natural products, many more awaiting to be discovered. This implies a strong need for enhanced transdisciplinary collaborations within scientific fields and multisectoral collaboration where citizens, researchers, policy makers, industrial and societal actors can work together.

The **overall aim of Ocean4Biotech** is to bring together experts in the field of marine biotechnology, to provide a platform for sharing experience, knowledge and technologies, and to design a roadmap for a more efficient and rapid development of marine biotechnology research in Europe and beyond. To best of our knowledge, such a large, diverse and geographically dispersed network of experts in marine biotechnology does not exist. Since **marine biotechnology is still in its infancy**, we believe this is the optimal timing to create this efficient, operational, motivated, inclusive and sustainable network with a serious and ambitious commitment for proactive dissemination and science communication activities.

7.26 PIMo – People in Motion: Entangled Histories of Displacement across the Mediterranean (1492-1923)

NTNU Contact Person: [Marius Warholm Haugen](#)

URL: <http://www.peopleinmotion-costaction.org/>

Administrative unit: [Faculty of Humanities](#) (HF)

Short description:

Cost Action 18140 **People in Motion: Entangled Histories of Displacement across the Mediterranean**, or **PIMo**, explores common forms of displacement and dispossession across the Mediterranean from the fifteenth century to the present. Charting similarities – and significant differences – in the experience and representation of human movement, our research seeks to understand the emotional drivers and significance of dislocation for individuals and communities during the period between the expulsion of Jews from Spain and the Lausanne Treaty.

With a focus on people – and the ideas, objects, and writing that accompanied them – our goals include evaluating the ways and degree to which these historical events and experiences continue to shape contemporary representation of migration and displacement in the modern world, and to build a functional and highly-creative interdisciplinary network of collaborators from around the world who will continue this conversation after the life of the grant.

7.27 PlantEd - Genome editing in plants - a technology with transformative potential

NTNU Contact Person: [Ralph Kissen](#)

URL: <https://www.cost.eu/actions/CA18111>

Administrative unit: [Faculty of Natural Sciences](#) (NV)

Short description:

A great challenge of this century is to provide adequate nutrition for an increasing global population while developing a more socially, economically and environmentally sustainable agriculture that counters climate change, biodiversity loss and degradation of arable land. Plant research and breeding are very important in meeting this challenge. Building on scientific progress, a number of genome editing techniques have been developed over the past two decades allowing an unprecedented level of precision in our control over genetic material and its corresponding traits.

This COST Action will bring together expertise from a range of disciplines to evaluate plant genome editing techniques and their resulting products from various perspectives. The findings will serve to design a roadmap for directing and facilitating applications of genome editing in plant research and breeding, which in turn will help setting R&D priorities and stimulating further cross-national and cross-disciplinary collaborations.

7.28 QUALINET – European Network on Quality of Experience in Multimedia Systems and Services



NTNU Contact Person: [Andrew Perkis](#)

URL: <http://www.qualinet.eu/>

Administrative unit: [Faculty of Information Technology and Electrical Engineering \(IE\)](#), [Department of Electronic Systems \(IES\)](#)

Short description:

The goal of this Action is to establish a strong network on Quality of Experience (QoE) with participation from both academia and industry. Its main objective will be to develop and to promote methodologies to subjectively and objectively measure the impact in terms of quality of future multimedia products and services. This network will leverage on QoMEX, an already established international conference on Quality of Multimedia Experience, for researchers and professionals to interact and to report their findings on QoE issues. Observing that there are currently no European networks focusing on the concept of QoE, this Action also aims at bringing a substantial scientific impact on fragmented efforts carried out in this field, by coordinating the research under the catalytic COST umbrella, and at setting up a European network of experts facilitating transfer of technology and know-how to industry, coordination in standardization, and certification of products and services.

7.29 SAGA – The Soil Science & Archaeo-Geophysics Alliance: going beyond prospection



NTNU Contact Person: [Carmen Cuenca-Garcia](#)

URL: <https://www.saga-cost.eu/> and <https://www.cost.eu/actions/CA17131/>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

Archaeological sites can be discovered and recorded in a high-resolution and non-invasive manner using geophysical methods. These measure the spatial variation of a range of physical properties of the soil which may be representative proxies of the subsurface archaeology. Less-invasive and cost-effective field procedures have become top-priority to mitigate the destructive effects on our cultural heritage from intensified land use, climate change and the current conflict panorama.

At a time when many organisations are investing in advanced geophysical equipment, a major problem is that our ability to fully interpret the information available from geophysical datasets is still very limited. This deficiency prevents geophysical survey moving beyond basic prospection and becoming a significant tool for answering nuanced questions about archaeology and their host landscapes. This limitation arises from an incomplete understanding of the relationship between soil properties and geophysical measurements. Bridging this gap requires multi-disciplinary teams, testing novel methods, plus scholarly discussion to collate the outcomes of projects on this topic. Overcoming these challenges is a prerequisite for maximising the cost-effectiveness of geophysical methods, realising the expected benefits of technological investment and allowing broader utility of geophysical methods in the cultural heritage sector.

SAGA will build an international network of geophysicists, archaeologists, soil scientists and other experts to develop our capability to interpret geophysical data and promote research collaborations. Our vision is that after four years, SAGA will have created an environment within which emerging field procedures, enhanced data interpretation and a broader understanding of integrated geophysical methods can flourish.

7.30 SEADDA – Saving European Archaeology from the Digital Dark Age

NTNU Contact Person: [Raymond Sauvage](#)

URL: <https://www.cost.eu/actions/CA18128/>

Administrative Contact Person: [Ingrid Salvesen](#)

Administrative unit: [University Museum](#) (VM)

Short description:

Making archaeological data open and freely accessible is a priority across Europe, but the domain lacks appropriate, persistent repositories. Due to the fragility of digital data and non-repeatable nature of most archaeological research, the domain is poised to lose a generation of research to the Digital Dark Age. The key to mitigating this crisis is to bring archaeologists and data management specialists together to share expertise, and create resources that allow them to address problems in the most appropriate way within their own countries. While important international standards exist and should be used, there is no single way to build a repository. To be successful, archaeologists must be at the decision-making heart of how their data is archived to ensure re-use is possible. SEADDA will be vital for establishing a priority research area in the archiving, dissemination and open access re-use of archaeological data, and includes proposers from 26 COST and four international partner countries. It will bring together an interdisciplinary network of archaeologists and computer scientists; experts in archaeological data management and open data dissemination and re-use. It will create publications and materials that will set out the state of the art for archaeological archiving across Europe and recommendations to mitigate the crisis. It will organise meetings and training that will allow archaeologists from countries with archiving expertise to work with archaeologists with few or no available options, so they may share knowledge and create dialogue within and between their countries, and move forward together.

7.31 WECANet – A pan-European Network for Marine Renewable Energy

NTNU Contact Person: [Mehdi Zadeh](#)

URL: <https://www.cost.eu/actions/CA17105>

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

The pressure of **climate change** and the growing energy demand has increased interest in marine renewable energy resources, such as wave energy which can be harvested through Wave Energy Converter (WECs) Arrays.

However, the wave energy industry is currently at a **significant juncture in its development**, facing a number of challenges which require that research re-focusses onto a **techno-economic perspective**, where the economics considers the full life-cycle costs of the technology. It also requires development of WECs suitable for **niche markets**, because in Europe there are inequalities regarding wave energy resources, wave energy companies, national programmes and investments. As a result, in Europe there are **leading** and **non-leading** countries in wave energy technology. The sector also needs to increase confidence of potential investors by **reducing (non-)technological risks**. This can be achieved through an **interdisciplinary approach** by involving engineers, economists, environmental scientists, legislation and policy experts etc. Consequently, the wave energy sector needs to receive the **necessary attention** compared to other more advanced and commercial ocean energy technologies (e.g. tidal and offshore wind).

The formation of the **first pan-European Network** on an interdisciplinary marine wave energy approach will contribute to large-scale **WEC Array** deployment by dealing with the current bottlenecks. The **WECANet** Action aims at a collaborative approach, as it provides a strong networking platform that also creates the space for dialogue between all stakeholders in wave energy. WECANet's main target is the equal research, collaboration and funding opportunities for all researchers and professionals, regardless of age, gender and location.

7.32 Writingplace – Writing Urban Places. New Narratives of the European City

NTNU Contact Person: [Hanna Musiol](#)

URL: <https://www.cost.eu/actions/CA18126>

Administrative Contact Person: [Thomas Aarnseth](#)

Administrative unit: [Faculty of Humanities](#) (HF), [Department of Language and Literature](#) (ISL)

Short description:

Writing Urban Places proposes an innovative investigation and implementation of a process for developing human understanding of communities, their society, and their situatedness, by narrative methods. It particularly focuses on the potential of narrative methods for urban development in European medium-sized cities.

By recognising the value of local urban narratives -stories rich in information regarding citizens socio-spatial practices, perceptions and expectations-, the Action aims to articulate a set of concrete literary devices within a host of spatial disciplines; bringing together scientific research in the fields of literary studies, urban planning and architecture; and positioning this knowledge vis-à-vis progressive redevelopment policies carried out in medium-sized cities in Europe.

The Action defines three thematic targets it wants to explore theoretically as well as in case studies.

1) meaningfulness: offering local communities and professionals the ability to improve their understanding of their built environment; 2). appropriation: empowering communities by improving their ability to project their feelings on their built environment. 3). integration: offering concrete tools and methods for the construction of common grounds among communities, based on relations of meaningfulness and appropriation of their built environment.

Based on a robust investigative tradition in these fields, the COST Action brings together solid experience in linking the literary and the built and offers the necessary scientific background for the assessment of the contemporary city, while cherishing and enhancing the specificity of local urban cultures in the European context.

8.0 EIP – European Innovation Platforms

8.1 Smart Cities Marketplace

NTNU Contact Persons: [Annemie Wyckmans](#) and [Dirk Ahlers](#)

URL: <https://smart-cities-marketplace.ec.europa.eu/>

Administrative Contact Person: [Håvard Wibe](#)

Administrative unit: [Faculty of Architecture and Design](#) (AD), [Department of Architecture and Planning](#) (IAP)

Short description:

The Smart Cities Marketplace is a new platform which was created from a merger of the Marketplace of the European Innovation Partnership on Smart Cities and Communities (EIP-SCC) and the Smart Cities Information System (SCIS). It is a major market-changing undertaking supported by the European Commission bringing together cities, industries, SMEs, investors, researchers and other smart city actors.

The [URBAN-EU-CHINA Innovation Platform](#) (H2020) cooperates with the formerly EIP-SCC, now Smart Cities Marketplace, on creating and managing a Strategic Cooperation Group, to facilitate international science and industry partnerships between China and the EU. This initiative targets EIP SCC members that are interested or experienced in sustainable urbanisation cooperation with China. EIP SCC members are invited to URBAN-EU-CHINA events, and URBAN-EU-CHINA participates in EIP SCC events with e.g. breakfast tables. This initiative will be linked to the SCC01 Smart City Lighthouse projects and their individual cooperations with China, in an effort to cluster European cities and their local innovation systems, and give them more targeted support in their cooperation with China. The EIP SCC members are also asked to give input to the Research and Innovation Agenda for EU-China Cooperation on Sustainable Urbanisation.

With the +CityxChange Smart City Lighthouse project (H2020 SCC01), NTNU has a third entry point into Smart Cities Marketplace. Within Smart Cities Marketplace, the coordinators, cities and industry partners of SCC01 Smart City Lighthouse projects interact to exchange experiences and learn from each other. This has become of particular importance with the launch of the new SET-Plan 3.2 strategy to create 100 Positive Energy Districts (PED) by 2025, as +CityxChange is one of the first SCC01 projects to demonstrate how to achieve a PED.

Furthermore, the new Initiative in SCM on Regulatory Frameworks within the Integrated Planning, Policy and Regulation Action Cluster is lead by Prof. Annemie Wyckmans with Trondheim municipality and Powel AS as co-lead.

8.2 EIP Water – European Innovation Partnership on Water



NTNU Contact Persons: [Sveinung Sægrov](#), [Tone Merete Muthanna](#), [Cynthia Hallé](#)

URL: <https://www.eip-water.eu/>

Administrative Contact Person: [Andreas Møllerløykken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Civil and Environmental Engineering \(IBM\)](#)

Short description:

European Innovation Partnerships (EIP) aim to speed up innovations that contribute to solving societal challenges, enhance Europe's competitiveness and contribute to job creation and economic growth. EIPs help to pool expertise and resources by bringing together public and private actors at EU, national and regional level, combining supply- and demand-side measures.

The European Innovation Partnership on Water - EIP Water in short - is an initiative within the EU 2020 Innovation Union. The EIP Water facilitates the development of innovative solutions to address major European and global water challenges. At the same time, the EIP Water supports the creation of market opportunities for these innovations, both inside and outside of Europe.

The EIP Water aims to remove barriers by advancing and leveraging existing solutions. Its implementation has started in May 2013 with the main objective to initiate and promote collaborative processes for change and innovation in the water sector across the public and private sector, non-governmental organisations and the general public. This is mainly done via the establishment of Action Groups.

9.0 EIT – European Institute of Innovation and Technology



The European Institute of Innovation & Technology (EIT) is an independent body of the European Union set up in 2008 to boost innovation and entrepreneurship across Europe. The EIT brings together leading higher education institutions, research labs and companies to form dynamic cross-border partnerships – Innovation Communities - that develop innovative products and services, start new companies, and train a new generation of entrepreneurs.

<https://twitter.com/EITeu>

<https://www.linkedin.com/company/european-institute-of-innovation-and-technology---eit>

<https://www.facebook.com/EITnews>

9.1 InnoEnergy



InnoEnergy

Knowledge Innovation Community

NTNU Contact Person: [Karl Klingsheim](#)

URL: <http://www.innoenergy.com/>

Administrative unit: [NTNU Energy](#)

Short description:

InnoEnergy is the innovation engine for sustainable energy across Europe supported by the [European Institute of Innovation and Technology](#).

We support and invest in innovation at every stage of the journey – from classroom to end-customer. With our network of partners, we build connections across Europe, bringing together inventors and industry, graduates and employers, researchers and entrepreneurs, businesses and markets.

We work in three essential areas of the innovation mix:

- Education to help create an informed and ambitious workforce that understands the demands of sustainability and the needs of industry.
- Innovation Projects to bring together ideas, inventors and industry to create commercially attractive technologies that deliver real results to customers.
- Business Creation Services to support entrepreneurs and start-ups who are expanding Europe's energy ecosystem with their innovative offerings.

Bringing these disciplines together maximizes the impact of each, accelerates the development of market-ready solutions and creates a fertile environment in which we can sell the innovative results of our work.

European Green Hydrogen Acceleration Center (EGHAC) contact for NTNU is Bruno Pollet.

9.2 Raw Materials



NTNU Contact Persons: [Daniel Beat Mueller](#) (IV-EPT), [Gabiella Tranel](#) (NV-IMA), [Steinar Løve Ellefmo](#) (IV-IGP)

URL: <https://eit.europa.eu/eit-community/eit-raw-materials>

Administrative Contact Person: [Maria Wallin](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

EIT Raw Materials was designated as an EIT Knowledge and Innovation Community (KIC) by the EIT Governing Board on 09 December 2014. The below provides some information on the challenges the KIC will address in the field of raw materials (sustainable exploration, extraction, processing, recycling and substitution) and the impact it will generate.

EIT Raw Materials has the ambitious vision of turning the challenge of raw materials dependence into a strategic strength for Europe. Its mission is to boost the competitiveness, growth and attractiveness of the European raw materials sector via radical innovation and entrepreneurship. This KIC will integrate multiple disciplines, diversity and complementarity along the three sides of the knowledge triangle (business, education and research) and across the whole raw materials value chain.

EIT Raw Materials will be the strongest consortium ever created in the world in the raw materials field. The approach will pay attention to systemic thinking and de-siloing across the value chain. Novel service offerings will be implemented to empower the EIT Raw Materials community and other stakeholders, including four customised tracks focusing on growth and job creation by boosting start-ups, SMEs, radical innovation and education.

EIT Raw Materials will generate significant impact on European competitiveness and employment. This will be realised through the introduction of innovative and sustainable products, processes and services and well-educated people that will deliver increased economic, environmental and social sustainability to European society.

9.3 Climate-KIC



NTNU Contact Persons: [Arild Smolan](#) and [Lars Gjølme](#)

URL: <https://www.climate-kic.org/programmes/research-innovation/>

Administrative unit: [Pro-Rector of Innovation](#)

Short description:

EIT Climate-KIC is the EU's largest public-private partnership addressing climate change through innovation to build a zero-carbon economy.

We are supported by the [European Institute of Innovation and Technology](#) (EIT), a body of the European Union that boosts innovation and entrepreneurship across Europe. The EIT has created numerous "Knowledge and Innovation Communities" (KICs) focused on different societal challenges, and EIT Climate-KIC is the innovation community addressing climate change mitigation and adaptation.

We have brought together a world-class network of partners – from businesses of every size, academia and the public sector – who share a common interest in tackling climate change. We create new partnerships to integrate research, business and technology in order to transform innovative ideas into new goods, services and jobs.

We offer services to entrepreneurs to help them create their businesses, and we train students to use their climate change knowledge in the business world.

The relevant Climate-KIC activities for NTNU are:

- Funding opportunities for bilateral research innovation and demonstrator projects with other Climate-KIC partners.
- Courses and summer school for PhD's.
- Funding and capacity building for entrepreneurs/start-ups.
- Entrepreneurship experience for students.

10.0 EC Expert Groups

The European Commission uses expert groups and similar entities to provide policy advice. A list of all expert groups is available on <http://ec.europa.eu/transparency/regexpert/>

10.1 FUTURIUM – European AI Alliance



NTNU Contact Person: [Torbjørn Svendsen](#)

URL: <https://ec.europa.eu/futurium/en>

Administrative Contact Person: [Sina Therese Blix Prestmo](#)

Administrative unit: [Digital](#)

TSO/ET: [Digital](#)

Theme/research area: Artificial Intelligence

Short description:

The [High-Level Expert Group](#) will make recommendations on how to address mid-and long-term challenges and opportunities related to artificial intelligence (AI). The recommendations will feed into the policy development process, the legislative evaluation process and the development of a next-generation digital strategy. The Group will also prepare draft ethics guidelines that will build on the work of the [European Group on Ethics in Science and New Technologies](#) and of the [European Union Agency for Fundamental Rights](#) in this area. The guidelines will cover issues such as fairness, safety, transparency, the future of work, and more broadly the impact on upholding fundamental rights, including privacy and personal data protection, dignity, consumer protection and non-discrimination. The draft guidelines will be finalised by the end of the year and presented to the Commission at the beginning of 2019.

11.0 Other

Several international networks, alliances, etc. did not fit any of the before-mentioned categories. However, due to their influence they have been added under the category “Other”. If you would like to add to the list, please contact [Thomas Aarnseth](#).

11.1 AIB – Academy of International Business



NTNU Contact Person: [Richard Glavee-Geo](#)

URL: <https://aib.msu.edu/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

The Academy of International Business (AIB) is the leading association of scholars and specialists in the field of international business. Established in 1959, today AIB is a 501(c)(3) non-profit US corporation. Its current headquarters is on the campus of Michigan State University in East Lansing, Michigan, United States.

AIB currently has 3388 members in 94 different countries around the world. Members include scholars from the leading academic institutions as well as consultants and researchers. We welcome members from developing countries, newly industrialized countries, as well as industrialized countries to join.

11.2 ARC – Aqua Research Collaboration



NTNU Contact Person: [Sveinung Sægvog](#), [Tone Merete Muthanna](#), [Cynthia Hallé](#)

URL: <https://www.arc-online.eu/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

ARC's vision

The vision of the founding members of ARC is to be the European scientific collaboration of reference in the creation and application of knowledge associated with the complete water cycle.

ARC's mission

The mission of ARC is to catalyse the transition towards enhanced and more sustainable watercycle system services in Europe by:

- Increasing the stock of knowledge through research in a European Collaborative Framework;
- Supporting, demonstrating and implementing new applications through action research with end users;
- Strengthening the European watercycle research system by utilizing synergies between Europe's leading watercycle research institutes and by capacity building in regions of Europe not yet connected to the European science system.

11.3 Battery2030+



NTNU Contact Person: [Ann-Mari Svensson](#)

URL: <https://battery2030.eu/>

Administrative Contact Person: [Eleni Patanou](#)

Short description:

BATTERY 2030+ is the large-scale and long-term European research initiative with the vision of inventing the sustainable batteries of the future, providing European industry with disruptive technologies and a competitive edge throughout the battery value chain and enabling Europe to reach the goals of a climate-neutral society envisaged in the European Green Deal.

The BATTERY 2030+ large-scale research initiative has just entered the next phase of creating a generic toolbox for transforming the way we develop and design batteries in Europe. With EUR 40,5 million support from the European Commission over three years, a family of projects will kick-start the implementation of the BATTERY 2030+ long-term research roadmap. Starting on 1 September 2020, the BATTERY 2030+ initiative will consist of seven projects, one coordination and support action (CSA) BATTERY 2030PLUS, which continues a previous 15-months CSA project, and six research and innovation projects: BIG-MAP, coordinated by DTU Denmark; INSTABAT, coordinated by CEA France; SENSIBAT, coordinated by IKERLAN Spain; SPARTACUS, coordinated by Fraunhofer Germany; HIDDEN, coordinated by VTT Finland; BAT4EVER, coordinated by VUB, Belgium.

The BATTERY 2030+ community works on concrete actions that support the implementation of the European Green Deal, the UN Sustainable Development Goals, the European Action Plan on Batteries and the SET Plan.

11.4 BioEcon Network – Biodiversity and Economics for Conservation



NTNU Contact Person: [Anne Borge Johannesen](#)

URL: <http://www.bioecon-network.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

BIOECON (BIODiversity and Economics for Conservation – BIOECON) is an interdisciplinary network aiming to advance economic theory and policy for biodiversity conservation. BIOECON assembles economists, lawyers and scientists from leading international academic and research institutions and main policy organisations working on design and implementation of cutting edge economic incentives for biodiversity conservation.

The network is the outgrowth of a project supported by the European Commission under the Fifth Framework Programme contributing to the implementation of Key Action 2: Global Change, Climate and Biodiversity within the Energy, Environment and Sustainable Development Programme. After its conclusion, the partners have continued to operate the conference in recognition of the large group of students and academics interested in working in this field, and in recognition of the need for a forum for their work. Over the past ten years, the network and conference has also served as a forum for policy organisations and government analysts to gather and to consider biodiversity and conservation issues as well.

In 2011 the Network has been institutionalised, enlarging its [partnership](#) to outstanding institutions and research centres all over the world, working on biodiversity issues under different perspectives, reaching thus the number of thirty members.

The principal aim of BIOECON is to investigate the economic and policy driven forces responsible for decline of biodiversity, and accordingly, to develop and implement tools, i.e. incentive mechanisms, that could halt if not reverse the effects of these forces.

BIOECON wants to encourage: (i) to utilise a multidisciplinary approach to assess the social forces behind biodiversity change; (ii) to assess the ecological and socio-economic consequences of this change, (iii) to comprehend the interplay of these consequences; and (iv) to provide concrete policy responses for addressing biodiversity change. These overarching aims are pursued via individual projects developed within the network partnership on all three levels of biodiversity, namely the genetic, species, and ecosystem level.

BIOECON serves as a catalyst to spread the main results of research and practices on these themes, through a series of activities, amongst which its annual meeting, that represents an opportunity for

networking, and sharing lessons and experiences with other researchers, environmental professionals, international organizations and policy makers.

11.5 EAERE – European Association of Environmental and Resource Economists



NTNU Contact Person: [Anne Borge Johannesen](#)

URL: <http://www.eaere.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK), [Department of Economics](#) (Econ)

Short description:

The European Association of Environmental and Resource Economists (EAERE) is an international scientific association whose aims are:

to contribute to the development and application of environmental, climate and resource economics as a science in Europe;

to encourage and improve collaboration and communication between scholars, researchers, policymakers, students in environmental, climate and resource economics in different European countries;

to develop and encourage the cooperation across universities and research institutions in Europe.

Founded in 1990, EAERE has approximately 1200 members in over 60 countries from Europe and beyond, from academic and research institutions, international organisations, the public sector, and the business world. Membership is open to individuals who by their profession, training and/or function are involved in environmental, climate and resource economics as a science, and to institutions operating in fields connected with the aims of the Association.

EAERE has two official Journals: Environmental and Resource Economics (ERE) and Review of Environmental Economics and Policy (REEP). The primary concern of ERE is the application of economic theory and methods to environmental issues and problems across a range of spatial and temporal scales up to the global dimension. REEP aims to fill the gap between traditional academic journals and the general interest press by providing a widely accessible yet scholarly source for the latest thinking on environmental and climate economics, and related policy analysis. REEP is published in cooperation with our sister association in North America (AERE).

Each summer, EAERE organises its Annual Conference, an invaluable opportunity for meeting, exchanging and debating current topics in environmental, climate and resource economics. With approximately 800 individual participants attending from all over the world, international researchers, scholars, economists and students convene to the EAERE Annual Conferences in the spirit of economic discovery, research, analysis and collaboration. Conferences are held in European

countries and unite European participants together with their national and international neighbours. Every four years since 1998, EAERE's Annual Conference is held within the World Congress of Environmental and Resource Economists, an international event organised together with AERE. From 2018, the event is co-organised by AERE, EAAERE and EAERE.

EAERE offers scholars, researchers and students a rich educational outreach portfolio comprised of its annual Summer and Winter Schools. The broader objective of this series of events is to provide advanced training for young researchers from all over Europe and beyond on environmental, climate and resource economics.

11.6 EARPA – European Automotive Research Partners Association



NTNU Contact Persons: [Magnus Langseth](#), [Anders Hammer Strømman](#)

URL: <https://www.earpa.eu/earpa/home>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering](#) (IV), [Department of Structural Engineering](#) (KT)

Short description:

Founded in 2002, EARPA is the association of automotive R&D organisations. It brings together the most prominent independent R&D providers in the automotive sector throughout Europe. Its membership counts at present 53 members ranging from large and small commercial organisations to national institutes and universities.

EARPA is the platform of automotive researchers and is actively contributing to the European Research Area and the future EU RTD funding programmes.

EARPA works in close cooperation with the automotive industry, the automotive suppliers, the oil industry as well as the European Institutions and the EU Member States.

EARPA is independent from any external body or institute and is only funded by its members' fees and is governed by an Executive Board and a General Assembly.

11.7 Ease-Storage



NTNU Contact Person: [Johan Hustad](#)

URL: <https://ease-storage.eu/>

Short description:

The European Association for Storage of Energy (EASE) located in Brussels, Belgium, is the leading member-supported association representing organisations active across the entire energy storage value chain. EASE supports the deployment of energy storage to support the cost-effective transition to a resilient, climate-neutral, and secure energy system.

EASE was established in 2011 and represents over 50 members including utilities, technology suppliers, research institutes, distribution system operators, and transmission system operators.

Together, EASE members have significant expertise across all major storage technologies and applications. This allows us to generate new ideas and policy recommendations that are essential to build a regulatory framework that is supportive of storage.

Our Mission

- ***Stimulate the development and deployment of innovative & cost-effective energy storage technologies***
- ***Promote a fair and future oriented energy market design that recognises storage as an indispensable element of the energy system***
- ***Establish a platform for information-sharing on energy storage technologies and applications***

11.8 EAWE – European Academy of Wind Energy



NTNU Contact Persons: [Michael Muskulus](#), [Tanja Bracchi](#)

EAWE Technical Working Group: [Amir Nejad](#)

“URL: <https://www.eawe.eu/>

Short description:

EAWE is a non-profit organization registered in [Oldenburg, Germany](#), and is governed by Europe’s leading [universities and research institutes](#) on wind energy. Main decisions in the organization are taken in the General Assembly in which all members have voting rights. Day to day operation is taken care of by the [Board](#) (president and vice-president) and the treasurer.

The work of EAWE is supported through several dedicated [committees](#), including, e.g., the Strategy committee, Young Wind Doctor Award Committee, Outreach Committee, Wind Energy Science Chief Editors, and several technical committees.

11.9 EGVI – European Green Vehicles Initiative Association



NTNU Contact Person: [Anders Hammer Strømman](#)

URL: <https://egvi.eu/>

Administrative Contact Person: [Andreas Møllerløgken](#)

Administrative unit: [Faculty of Engineering](#) (IV)

Short description:

The European Green Vehicles Initiative is a contractual public-private partnership dedicated to delivering green vehicles and mobility system solutions which match the major societal, environmental and economic challenges ahead. With a focus on the energy efficiency of vehicles and alternative powertrains, the EGVI PPP aims at accelerating research, development and demonstration of technologies allowing the efficient use of clean energies in road transport.

The Partnership involves all industry, research and associate members of the European Green Vehicles Initiative Association (EGVIA) and the various Directorates General of the European Commission engaged in the PPP. Public and private partners collaborate to identify research and innovation activities to be proposed for financial support under Horizon 2020 - the EU Framework Programme for Research and Innovation in the period 2014-2020. Three rounds of biennial calls for proposals are expected to be launched within the EGVI PPP.

The European Green Vehicles Initiative is established in the continuation of the European Green Cars Initiative (2009-2013). The latter was created in an ad-hoc manner in the 7th Framework Programme, in response to the global economic crisis of 2008, and led to the joint funding of more than 80 collaborative research projects. Although the scopes of the two Initiatives slightly differ – the EGVI PPP specifically focuses on the energy efficiency of vehicles and alternative powertrains and covers additional vehicle types – the approach and working methods developed are similar.

The Multiannual Roadmap for the EGVI Contractual Public-Private Partnership is the document of reference for the implementation of the PPP. It takes into account the roadmaps from the three European Technology Platforms involved - ERTRAC, EPoSS and SmartGrids, and outlines the vision, research and development strategy, as well as the expected impact and governance model of the European Green Vehicles Initiative.

11.10 EGPA – European Group of Public Administration



NTNU Contact Person: TBC

URL: <https://egpa.iias-iisa.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

The European Group for Public Administration is a regional group of the International Institute of Administrative Sciences (IIAS).

EGPA supports the development of the IIAS and provides a major contribution to the achievement of the mission of the institute: developing public administration and the public service worldwide.

EGPA aims at being the European Platform for Public Administration for academics and practitioners alike.

EGPA Strategy

The EGPA Strategy reflects the very nature of the discipline whose development it aims to serve:

- To public administration as science, EGPA contributes by providing platforms in most key areas of research and scholarly inquiry in the field of PA, through the twenty-two Permanent study Groups (PSGs) currently active and the annual conference as well as a range of major scientific events.
- To public administration as art and profession, EGPA contributes by providing a unique platform for actionable knowledge that may support the work of public administrators in Europe and beyond: EGPA Policy Papers on European Governance.

11.11 EIBA – European International Business Academy



NTNU Contact Persons: [Richard Glavee-Geo](#) and [Siv Marina Flø Grimstad](#)

URL: <http://www.eiba.org>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management \(ØK\)](#), [Department of International Business](#) (IIF)

Short description:

The **European International Business Academy (EIBA)** was founded in 1974 under the auspices of the European Foundation for Management Development (EFMD) and in close cooperation with the European Institute for Advanced Studies in Management (EIASM). The Academy is a professional society for academics and practitioners with an interest in the growing field of International Business. It is distinct from many other associations in that members come from a wide variety of disciplines and functional backgrounds and share the common purpose of using an international context to cross the intellectual boundaries that so typically divide institutions of higher education.

The aim of **EIBA** is to serve as the core communication network for disseminating information and promoting international exchange in the field of International Business. Membership is open to individuals from Europe and elsewhere. At present, the Academy has more than 500 members from about 50 different countries representing all five continents.

11.12 Euro-CASE



NTNU Contact Person: [Torbjørn Digernes](#)

URL: <https://www.euro-case.org/>

Short description:

ABOUT Euro-CASE

The European Council of Academies of Applied Sciences, Technologies and Engineering is an independent non-profit organisation of national academies of Engineering, Applied Sciences and Technology from 23 European countries. It was founded in 1992 upon French initiative by the members of CADAS (Conseil pour les Applications de l'Académie des Sciences). The Executive Committee meets four times a year. The Board meets once a year. Euro-CASE acts as a permanent forum for exchange and consultation between European Institutions, Industry and Research. Through its Member academies, Euro-CASE has access to top expertise (around 6,000 experts) and provides impartial, independent and balanced advice on technological issues with a clear European dimension to European Institutions, national Governments, companies and organisations.

MISSION STATEMENT

The mission of Euro-CASE is to pursue, encourage and maintain excellence in the fields of engineering, applied sciences and technology, and promote their science, art and practice for the benefit of the citizens of Europe.

In pursuit of this mission the objectives of Euro-CASE are:

- Maintain a leadership role in promoting attention to excellence in applied sciences and engineering and to related issues of key importance to Europe,
- Ensure that the societal impact of technological change is given proper attention with full consideration of environmental and sustainability aspects,
- Provide impartial, independent and balanced advice on engineering and applied science issues that affect Europe and its people to the European Commission and Parliament, and other European institutions,
- Promote the importance of applied sciences and engineering throughout Europe and to develop greater public understanding and interest,
- Attract young Europeans into careers in applied sciences and engineering in order to ensure future technological progress in Europe,

-
- Draw on the experience and best practices of the national academies of engineering and applied sciences in Europe, developing appropriate,
 - Information networks.

GOVERNANCE

Euro-CASE is governed by a Board consisting of senior representatives from each Member Academy.

An Executive Committee is elected from the Board.

The secretariat is based in Paris, hosted by the National Academy of Technologies of France in Immeuble Le Ponant / 19 rue Leblanc 75015 Paris, France.

11.13 ELRA – European Language Resources Association



NTNU Contact Person: [Dorothee Beermann](#) for ELRA Special Interest Group Under-Resourced Languages (SIGUL)

URL: <http://www.elra.info/en/sig/sigul/>

Short description:

Among ELRA's missions are the promotion of language resources for the Human Language Technology (HLT) sector, and the evaluation of language engineering technologies. To achieve these two major missions, a range of services are available.

They are listed in the [Services](#) section:

- Identification of language resources
- Promotion of the production of language resources
- Production of language resources
- Validation of language resources
- Evaluation of systems, products, tools, etc., related to language resources
- Distribution of language resources
- Standardisation

The promotion of the production of language resources also includes our support of the infrastructure for evaluation campaigns and our support in developing a scientific field of language resources and evaluation, among which the organization of the bi-annual international conference LREC.

Many of these tasks including distribution and evaluation are being carried out by ELRA's distribution agency, the Evaluations and Language resources Distribution Agency (ELDA).

ELRA also regularly conducts market studies and surveys in the field of HLT, and publishes a quarterly newsletter, distributed not only to its members but also to many people in the HLT community.

In doing so, ELRA participates in the development of HLT and promotes HLT among the players on national, European and international levels.

11.14 ENOLL – European Network of Living Labs



NTNU Contact Person: [John Krogstie](#)

URL: <https://enoll.org/>

Administrative Contact Person: TBC

Short description:

The European Network of Living Labs (ENoLL) is the international federation of benchmarked Living Labs in Europe and worldwide. Founded in November 2006 under the auspices of the Finnish European Presidency, the network has grown in ‘waves’ up to this day.

The European approach to Living Labs was created in the Unit “Collaborative working environments” of the DG INFSO (now DG CONNECT) in close collaboration with an industrial advisory group on Open Innovation (Open Innovation Strategy and Policy group – OISPG) which was founded by Bror Salmelin. The original concept was updated to open innovation environments attracting inwards investment, both intellectual and financial one.

ENoLL counts today over 130+ active Living Labs members worldwide (440+ historically recognised over 12 years), including active members in 20 of the 28 EU Member States, 2 of the candidates and it is present in 5 continents in addition to Europe. Directly, as well as through its active members, ENoLL provides co-creation, user engagement, test and experimentation facilities targeting innovation in many different domains such as energy, media, mobility, healthcare, agri-food, etc. As such, ENoLL is well placed to act as a platform for best practice exchange, learning and support, and Living Lab international project development.

11.15 EONERC – International Energy Cooperation Program



NTNU Contact Person: [Stein-Erik Fleten](#)

URL: <http://www.eonerc.rwth-aachen.de/cms/E-ON-ERC/Studium/~nnsz/IECP-NEU/?lidz=1>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics \(ØK\)](#), [Department of Industrial Economics and Technology Management \(IØT\)](#)

Short description:

In addition to interdisciplinary research, the E.ON Energy Research Center (E.ON ERC) is distinguished by its strong national and international links with other universities, research centers or similar scientific institutions. With its branch office in Aachen, the ERC represents a central position in the center of Europe.

The International Energy Cooperation Program (IECP) offers students, scientists and researchers the opportunity to participate in research projects, exchange ideas and learn from the experiences of the partners. The closed collaborations between the E.ON Energy Research Center of RWTH Aachen University and foreign universities or institutions are spread all over the world. In terms of content, the research focus is on a different field of energy with each closed collaboration.

11.16 EUniverCities Network



NTNU Contact Person: [Arild Smolan](#)

URL: <http://eunivercitiesnetwork.com/>

Administrative unit: [Pro-Rector of Innovation](#)

Short description:

EUniverCities is a European network, launched in 2012, in which medium sized cities as well as universities (working in tandems) work together in order to give knowledge cities more visibility within Europe. The network aims to exchange and spread the knowledge, expertise and experience about city-university cooperation across urban Europe.

Network members learn from each other how to shape co-operations in a fruitful way, apply the lessons, take next steps on the local level, and spread the lessons and ideas.

The network has been inspired by the EU2020 Strategy on Smart, Sustainable and Inclusive Growth attributes great importance to knowledge, innovation and technology.

EUniverCities' driving themes

The key themes and areas of interest for the network's operations can be found in the Flower model, linked with the UN Sustainable Development Goals that the world community has set itself, and in which cities & universities can play a major role together and assure very interesting contributions for their communities.

These topics are:

- Urban planning (transport, campus development, housing, smart cities etc.)
- Economy (labour market, entrepreneurship, university-business co-creation, marketing/branding etc.)
- Culture (heritage, events, sports, leisure, arts & design etc.)
- Society (immigration, inclusion/exclusion, gentrification, ageing, health & care, science & society)
- Sustainability (energy transition, climate change resilience)
- Life-long learning and teaching (learning for adults, primary & secondary education)

Cross-cutting topics (apply to all main topics):

- Effective governance of city-university co-operation (this includes the organisational setup of the collaboration, but also student/staff engagement, as well as facilities such as living labs, co-creation spaces etc)
- Regional co-operation
- Internationalisation
- Students

11.17 EURAM – European Academy of Management



A european based community of
engaged management scholars

NTNU Contact Person: [Trond Stiklestad](#)

URL: <http://www.euram-online.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK), [Business School](#) (HHS)

Short description:

The European Academy of Management is a learned society founded in 2001.

It aims at advancing the academic discipline of management in Europe. With members from 49 countries in Europe and beyond, EURAM has a high degree of diversity and provides its members with opportunities to enrich debates over a variety of research management themes and traditions.

11.18 EFF – European Food Forum



NTNU Contact Person: [Eva Falch](#)

URL: <https://europeanfoodforum.eu/>

Administrative Contact Person: [Thais Mothe-Diniz](#)

Administrative unit: [Faculty of Natural Sciences](#) (NV), [Department of Biotechnology and Food Science](#) (IBT)

Short description:

The European Food Forum (EFF) was founded in november 2019 by 5 Members by of the European Parliament (MEP) from 3 different political groups and 5 different Member States: Róża Thun (EPP – Poland), Clara Aguilera (S&D – Spain), Irene Tolleret (Renew Europe – France), Asim Ademov (EPP Bulgaria) and Brando Benifei (S&D – Italy).

Board of Management for European Food Forum:

Representatives from the Public Institution and Civil Society Members:

1. **Eva Falch:** Vice Dean Innovation Faculty of Natural Sciences - Norwegian University of Science and Technology (NTNU)
2. **Monique Goyens:** Director General - The European Consumer Organization (BEUC)
3. **Luca Moretti:** Head of Bruxelles office - International and European Relations - Consiglio Nazionale delle Ricerche (CNR)
4. **Vladislav Popov:** Director of the Agro-ecology Center - Professor of Agro-Ecology Agricultural University - Plovdiv

From the Business Members, 4 elected in alphabetical order are:

1. **David Coleman:** MARS - Vice President Public Affairs Europe
2. **Antje Gerstein:** German Retail Federation (HDE) - Managing Director Head Brussels Office
3. **Cristina Tinelli:** Confagricoltura - Head of Brussels
4. **Marta Zuluaga Zilbermann:** Cargill - Vice President Government Relations EMEA

Mission:

The European Food Forum is an independent, politically-led, non-partisan forum led and governed by our elected Members of the European Parliament that aims to promote open dialogue on sustainable food systems among policymakers, food supply chain actors, civil society organizations, research and academia, and other public institutions.

The European Food Forum key objectives are:

- follow up the development of appropriate public policies at European level, by integrating, anticipating and promoting key agri-food policy topics and emerging trends at European and global level, giving attention also to research related topics;
- promote the development of a common food policy by drawing on the collective intelligence of the actors in the food system also at local level;
- support the development of a common food policy designed to listen more carefully and respond more quickly to the concerns and aspirations of Europeans consumers;
- develop and maintain relations with other public and private institutions interested in these issues – the Association gives priority to problems and actions that fall within the framework of the European Union.

11.19 FCH2 – Fuel cells and hydrogen Joint Undertaking



FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

NTNU Contact Person: [Bruno G. Pollet](#)

URL: <https://www.fch.europa.eu/>

Administrative Contact Person: [Andreas Møllerløkken](#)

Administrative unit: [Faculty of Engineering \(IV\)](#), [Department of Energy and Process Engineering \(EPT\)](#)

TSO/ET: [Energy](#)

Short description:

The Fuel Cells and Hydrogen Joint Undertaking (FCH JU) is a unique public private partnership supporting research, technological development and demonstration (RTD) activities in fuel cell and hydrogen energy technologies in Europe. Its aim is to accelerate the market introduction of these technologies, realising their potential as an instrument in achieving a carbon-clean energy system.

Fuel cells, as an efficient conversion technology, and hydrogen, as a clean energy carrier, have a great potential to help fight carbon dioxide emissions, to reduce dependence on hydrocarbons and to contribute to economic growth. The objective of the FCH JU is to bring these benefits to Europeans through a concentrated effort from all sectors.

The three members of the FCH JU are the European Commission, fuel cell and hydrogen industries represented by Hydrogen Europe and the research community represented by Hydrogen Europe Research.

11.20 Healthy Measures



NTNU Contact Person: [Magnus Steigedal](#)

URL: <https://sciencebusiness.net/health>

Administrative Contact Person: [Yngve Sommervoll](#)

Administrative unit: [Faculty of Medicine and Health Sciences](#) (MH)

TSO/ET: [Health](#)

Short description:

Healthy Measures is a multi-stakeholder communications platform to mobilise support for better, equitable and effective health delivery across the EU.

The key to that is a sharper focus on patient outcomes – measuring what works, and doesn't work, in treating patients from one clinic, region and member-state to another. For that, we need more experts – in industry, policy and academia – who help this effort grow across the EU, from one capital to another. Stakeholder groups need mobilising, and interconnecting, across Europe. The old silos in healthcare across Europe need to be dismantled.

11.21 Hydrogen Europe Research (former N.ERGHY)



NTNU Contact Person: [Edd Anders Blekkan](#) and [Bruno G. Pollet](#)

URL: <https://hydrogeneurope.eu/research>

Administrative Contact Person:

Administrative unit:

Short description:

Hydrogen Europe Research (former N.ERGHY) is a research grouping of the [Fuel Cells and Hydrogen Joint Undertaking](#), a unique public private partnership supporting research, technological development and demonstration (RTD) activities in fuel cell and hydrogen energy technologies in Europe. Gathering more than 60 research institutions (universities and research centres), it supports and promotes research interests in the FCH JU and creates a framework for cooperation of science and industry in Europe.

On May 6th 2014, the Council of the European Union formally agreed to continue the Fuel Cells and Hydrogen Joint Technology Initiative under the EU Horizon 2020 Framework Program. The programme (2014-20) has a total budget of €1.33 billion provided on a matched basis between the EU represented by the European Commission, the European Industry and Research.

11.22 IAEE – International Association for Energy Economics



NTNU Contact Persons: [Ruud Egging](#) and [Frode Kjærland](#)

URL: <http://www.iaee.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

TSO/ET: [Energy](#)

Short description:

We are a worldwide non-profit professional organization based in the United States, which has members in over 100 nations, who strive to provide an interdisciplinary forum for the exchange of ideas, experience and issues among professionals interested in energy economics. We actively seek those who are interested in energy economics and those who shape opinions and prepare for events which effect the energy industry.

As our main objective we want to provide for the mutual association of persons interested in energy economics in order to create a forum for professional, multinational discussion and to provide a means of professional communication and exchange for these persons. To achieve this goal, we publish three periodicals. "The Energy Journal" is a quarterly, academic publication available to all members. The "Economics of Energy & Environmental Policy" is a semi-annual publication also available to all members. Both of these publications may be purchased by non-members through our site. The IAEE Energy Forum (newsletter) delivers the latest information on the association, and contains articles that appeal to a general audience interested in the energy field. Both of these publications can be reviewed in greater detail in our publications section.

In order to meet our association's objectives, we also hold an International Energy Conference each year. Past meetings have taken place in cities such as Rome, Quebec, New Delhi, Budapest, Washington D.C. and Copenhagen. These conferences attract delegates and speakers from around the world, and from some of the most influential government, corporate and academic circles.

Membership in IAEE is open to anyone who has an interest in the field of energy economics. You are encouraged to view our site for more information. If you are interested in joining, our membership section will provide answers and has an online application.

11.23 Informs – Institute for Operations Research and the Management Sciences



*Institute for Operations Research
and the Management Sciences*

NTNU Contact Person: [Ruud Egging](#)

URL: <https://www.informs.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management \(ØK\)](#), [Department of Industrial Economics and Technology Management \(IØT\)](#)

Short description:

INFORMS offers a broad umbrella of services and resources to individuals interested in applying scientific methods to improve operations, analytical decision making, and management. We have become the largest non-profit organization in the world for professionals in operations research, the management sciences, analytics, and related fields within engineering, information science, decision making, quantitative methods, and business intelligence.

11.24 IPSERA – Supply Education and Research Association



NTNU Contact Person: [Richard Glavee-Geo](#)

URL: <http://www.ipsera.com/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management \(ØK\)](#), [Department of International Business \(IIF\)](#)

Short description:

IPSERA acts as a reference platform for academics and practitioners to exchange ideas, stimulate discussions and reflect on concepts, theories and educational forms and methods in an open and friendly atmosphere. The topics discussed and issues raised should one way or another improve the professional quality of those, active in the field of purchasing and supply management.

Key values of the Association are the following:

- **leading edge research** in the field of purchasing and supply management;
- **innovation** in approaches and methodologies in both research and education;
- **practice oriented** activities having an impact on the purchasing and supply society;
- **environment and social responsibility** related to purchasing and supply fields;
- **transparency and friendliness** among all members.

11.25 NOFOMA – Nordic Logistics Research Association



NTNU Contact Person: [Richard Glavee-Geo](#)

URL: <http://www.nofoma.net/>

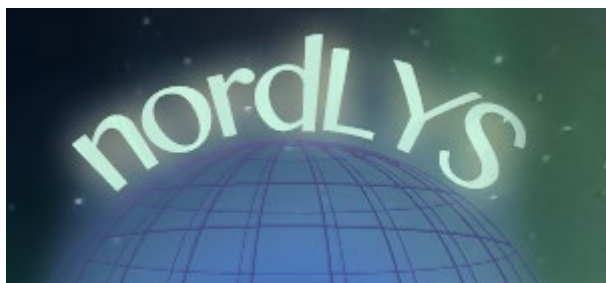
Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

NOFOMA is a society of Nordic researchers within the logistics field. Besides being a contact network of logistics scientists sharing similar interests, the main activity of the network is to carry out an annual conference where all researchers from the Nordic countries, including Denmark, Finland, Iceland, Norway, and Sweden meet as well as other colleagues from different countries around the world, particularly from USA and Central Europe. In association with the NOFOMA annual conference, the NORDLOG doctoral workshop takes place where Ph.D. Candidates from the Nordic countries get together and discuss their issues as well as to conduct some workshop activities within the field of logistics.

11.26 Nordlys



NTNU Contact Person: [Nina Moxnes](#)

URL: <https://www.nordlys.info/english/>

Administrative unit: [International Relations](#)

Short description:

With its 37 member universities, Nordlys is one of the biggest networks within the Nordplus programme. The main goal for Nordlys is to enable and increase student mobility in the Northern Countries.

What is Nordlys?

NORDLYS is an interdisciplinary network and forms part of NORDPLUS. It was founded in 1995 and currently has 37 members. The objective of the Nordlys network is to facilitate and strengthen the mobility of students within the Nordic countries.

What is Nordplus?

[Nordplus](#) programme is the Nordic Council of Ministers' most important programme for Lifelong Learning. More than 10,000 people in the Nordic and Baltic regions participate in the programme each year.

The objective of the Nordplus programme is to strengthen, develop, and maintain Nordic educational cooperation and the Nordic dimension. Nordplus also aims at promoting Nordic languages, culture, and a mutual Nordic-Baltic linguistic and cultural understanding.

More information:

Nordplus Higher Education

<http://www.nordplusonline.org/Who-can-apply/Nordplus-Higher-Education>

11.27 StoProg – Stochastic Programming Society



NTNU Contact Persons: [Ruud Egging](#)

URL: <https://stoprog.org/>

Administrative Contact Person: [Hilde Røysland](#)

Administrative unit: [Faculty of Economics and Management](#) (ØK)

Short description:

The Stochastic Programming Society (SPS) is a worldwide group of researchers who are developing models, methods, and theory for decisions under uncertainty.

SPS promotes the development and application of stochastic programming theory, models, methods, analysis, software tools and standards, and encourages the exchange of information among practitioners and scholars in the area of stochastic programming. The activities of SPS facilitate the advancement of knowledge through its triennial conferences, specialized workshops, and rapid (electronic) dissemination of research via the [Stochastic Programming E-Print Series](#) (SPEPS). SPS exists as a Technical Section of the [Mathematical Optimization Society](#)(MOS). Until 2012, the precursor of SPS was known as the "Committee on Stochastic Programming (COSP)".