

PhD CONFERENCE NTNU, Trondheim 30. mars 2017

Tom Baade-Mathiesen, EVP Water Division at Norconsult and Chairman of the Board in RIF



What qualities characterize a PhD?

Personality

- Introvert – extrovert?
- Competent
- Digging into details
- Hyperintelligent
- Friendly
- Does not care about money
- Charismatic
- Or perhaps the average personality of a PhD simply does not exist?



NTNU – PhD Conference 2017

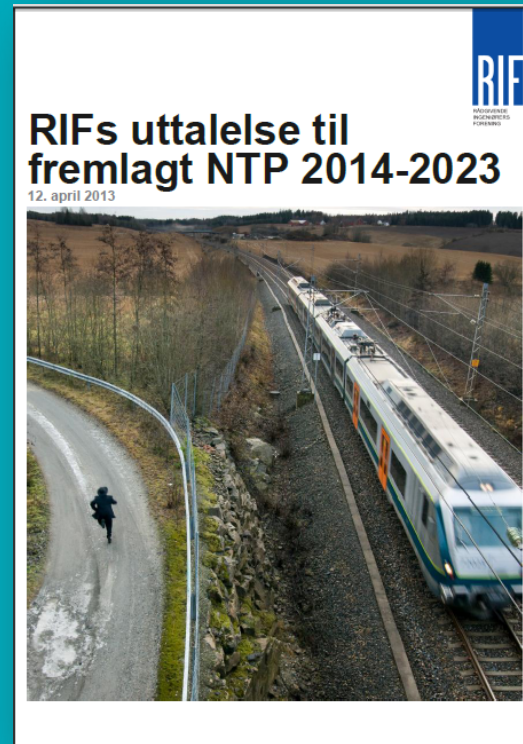
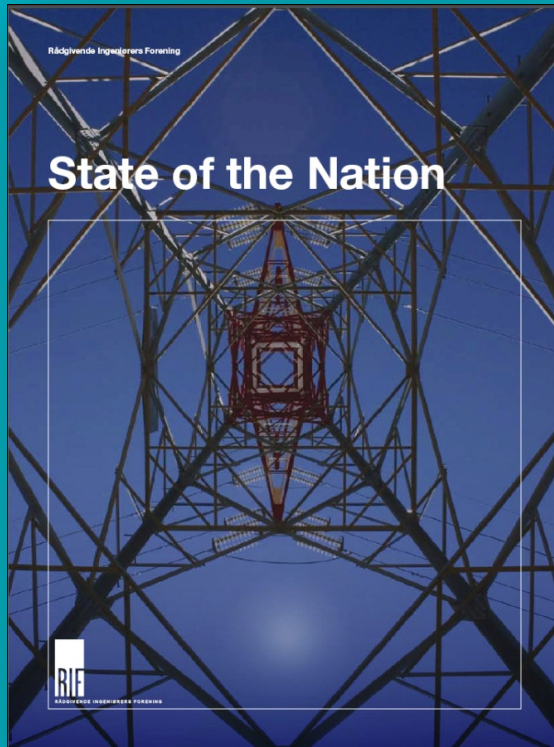
Agenda

- Næringslivsringen – The Business Network: Contribution and Collaboration from NTNU to the Industry
- Solving the problems in State of the Nation 2015 report and the Government Transportation plan
- The Norwegian Association of Consulting Engineers - RIF – building a network and its benefits
- PhDs and The Norwegian Association of Consulting Engineers – RIF
- PhD in Norconsult
- The future possibilities –
- Added value of PhD competence at work - Norconsult: We create solutions for the most challenging projects
- Norconsult policy: two new PhD degrees to be started every year
- The business area: Water and Sanitation

Næringslivsringen – The Business Network

- The Industry hires:
 - Bachelor's degree
 - Master's degree
 - PhD degree
 - Adjunct Associate Professor
 - Adjunct Professor
- NTNU have well-developed collaboration involving partners in business, industry and government administration in fruitful cooperation to strengthen the educational activities at the university.

Solving the problems in State of the Nation 2015 report and the Government Transportation plan



State of the Nation 2015 report: 12 areas

OMRÅDE	ESTIMERT VERDI (gjenskaffelsesverdi eks. kjøp av eiendom)	TILSTANDS-KARAKTER (1-5 der 5 er best)	FREMTIDS-SIKRING	ESTIMERT KOSTNAD, OPPGRADERING TIL KARAKTER 4 (Dagens anlegg eks. kjøp av eiendom)
	mrd. NOK			mrd. NOK
Kommunale bygg	1060	3	↘	140
Helsebygg (statlige)	330	3	↘	40
Andre statlige bygg	310	3	→	10
Jernbane	400-600	2	↗	500
Lufthavner	80-120	4	↗	0
Riksveier	500	3	↗	800-1000
Fylkesveier	700	2	↘	500-600
Kommunale veier	400	3	↘	250-300
Vannforsyningsanlegg	520	3	↘	100
Avløpsanlegg	590	2	↘	110
Energiproduksjon	400-500	4	→	0
Energidistribusjon	300-470	4	↗	0
Sum	5800	3	→	2600

The Norwegian Association of Consulting Engineers - RIF – building a network and its benefits

Workshop for employees with PhD in Water and Sanitation last January at Norconsult
(comment from Spain)



Byggeindustrien
bygg.no

Siste 30

Bygg Anlegg Eiendom Arkitekter Rådgivere Byggevarer Øvrige » A til Å

Divisjonsdirektør Tom Baade-Mathiesen (foran til høyre) og medarbeidere fra AsplanViak, Cowi, Norconsult, Multiconsult, Sureco, Næringslivsringen, NTNU, NMBU, Norsk vann, Siem kommune og RIF samlet til felles faglig bransjeløft knyttet til doktorgrad (PhD)-kompetanse innen vann og avløp.

Norconsult ønsker å styrke PhD-kompetansen i bransjen

Norconsult har tatt et initiativ og samlet konkurrentene til et felles faglig bransjeløft knyttet til doktorgrad (PhD)-kompetanse innen ulike fagområder.

Byggeindustrien

Publisert: 03.02.2016 11:18.

annons

Jika AT Connection

BUILDING TRUST

Jika

PhDs and The Norwegian Association of Consulting Engineers – RIF

- Establish a network for PhDs working in consulting engineering companies (members of RIF) within Water and Sanitation (VA)
- Why?
 - focus on engineers with PhD degree in engineering companies:
 - more visible, increase reputation, create identity
 - focus on specific knowledge and skills
 - how can engineering companies make use of PhD's expertise
 - market neutral, no competition but cooperation
- First meeting was held in January 2016:
 - 20 participants
 - Universities, municipalities and five consulting engineering companies

PhDs and The Norwegian Association of Consulting Engineers – RIF (cont.)

- Outcome:
 - Working group established
 - Annual network meetings
 - Strategy
 - strengthen PhD positions within Water and Sanitation
 - cooperation
 - Be a part of RIF
 - Competency database established

Business Concept, Vision and Mission

Norconsult ensures the quality of client's infrastructure and building projects by providing value-enhancing consulting expertise

We create solutions for the most challenging projects

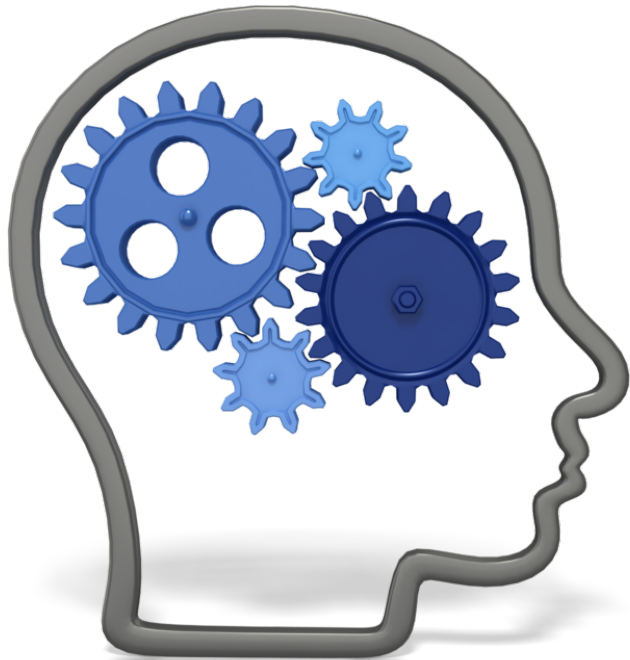
We use our know-how to enhance the world around us



PhD in Norconsult

- Norconsult has 30 PhDs (NTNU/NMBU) and several in progression
- We are seeing the value of increasing our competence-level regarding
 - doing more innovation in projects
 - more effective work to secure quality and results for the Company
 - effective training of our employees
 - cooperation with competitors companies, universities and research firms
 - developing the society and covering the demands through climate change and change of population
- How can we use our PhD competence in a better way and develop more self-confidence for them

PhD in Norconsult (cont.)



Facilitating for disciplinary growth provides Norconsult with a competitive edge

Industrial Ph.D.

- Norconsult cooperates with The Research Council of Norway and facilitates for employees to pursue and complete an ordinary doctoral degree.
- The doctoral research project must be of clear relevance to Norconsult's clients and activities.
- Norconsult aims to financially support two employees annually to complete their doctoral degree.
- Four employees pursued their doctoral degree with financial support and facilitation from Norconsult during 2016.

30 Norconsult employees have completed a doctoral degree

Water Division in Norconsult

- 80 employees, 6 PhD
- On the next slides a description of some of them

Håkon Reksten

MSc – Water and Environmental Engineering & PhD candidate

- Previous & current job description:
 - Planning & design for large infrastructure projects.
 - Master planning.
 - Coordinator of underground infrastructure topics and activities in Norconsult.
 - Asset management and risk assessments.
 - Project manager of interdisciplinary projects.
 - Member of the Norconsult R&D forum/committee in the water department.
- PhD topic:
 - Improved economic and financial methods for long term rehabilitation planning in the water sector.
 - Specialist in: Economy in the water industry, LCA & LCC, asset management, strategic planning.
- Industrial PhD in collaboration with NTNU, Norwegian Research Council and Norconsult. Jointly financed from NFR (research council) and Norconsult.



Vegard Nilsen



- Roles:
Currently assistant professor at NMBU involved in teaching, supervision and research.
Small part-time position in Norconsult with a goal to contribute to R&D activities and foster cooperation between NMBU and Norconsult. PhD-studies were university-funded, but with part-time position in Norconsult.
- Cooperation:
Mostly internally at NMBU. Fruitful cooperation with veterinary faculty and fellow Norconsult PhD-student Ekaterina.
- Norconsult R&D projects:
Involved in DiVA for a short while.
- PhD-skills in ordinary projects:
I have been asked to do "unusual" modeling/calculations from time to time, maybe not so much for the PhD-skills itself, but for my general interest in such tasks (which is what motivated me to do a PhD in the first place...)

Ekaterina Christensen

- Position today and current roles you've had.
Industrial PhD-student, at the finishing stage. PhD topic relates to comparison of conventional and alternative coagulants for drinking water production in terms of removal of usual and microbial contaminants
- Cooperation with research institutions and universities.
Mostly unofficial collaboration within the VA-network at the university I belong to.
- Working in research/innovation projects in Norconsult context, any remote where we are participating.
Mini-research projects for the customs need: various bench tests, full-scale experiments.
- Use of PhD expertise in Norconsult assignments
Continuously, almost all my Norconsult assignments are directly related relate to my PhD expertise - drinking and waste water treatment, process optimization (primarily chemical water treatment and filtration)
But this is mostly small projects with 2-3 persons involved. So, in the future I hope to find application to my knowledge in the bigger and underdisciplined assignments. We try to sell my PhD-expertise like a bonus in an assignment offer, but I am not sure if the degree is critical factor that helps to win assignment.
- Assistance to training of our people
Not directly, mostly by sharing knowledge with the colleges, solving the problems together.



Tor Håkonsen



- Position today and current roles you've had.
Head of department. Member of Norconsult's PhD forum.
- Cooperation with research institutions and universities.
Supervisor for 2 PhD students with support from the Norwegian Research Council.
- Working in research/innovation projects in Norconsult context, any remote where we are participating.
Project manager for an Industrial PhD on a new method for chemical water treatment
Specialist advisor for the implementation of zirconium for water treatment in the city of Haugesund. Project manager for trials aiming at finding a biopolymer-alternative to synthetic polymers in sludge treatment.
- Use of PhD expertise in Norconsult assignments
Use the PhD experience in the everyday life in Norconsult, especially for assignments for improving treatment processes, such as optimization of chemical treatment, evaluation of hygienic barriers, assessment of disinfection of water and to create courses in water treatment for water treatment professionals. The PhD is also useful a marketing tool- proof of skill.
- Assistance to training of our people
The PhD skill is sometimes used as a base for training or assisting others when needed, or to train the young professionals within my responsibility, but there is no formal use of PhD or any other specialists in Norconsult apart from the assignments you create yourself.

Anne-Marie Bomo



- PhD research
Treatment of wastewater in natural treatment systems. Focus on removal and persistence of pathogenic microorganisms in wastewater.
- Specialities
Water quality, microbiology, disinfection, water treatment.
- Position today:
 - Dr. Scient and advisor in department for VA Prosess in Norconsult,
 - Deputy manager for department of VA prosess
 - FoU coordinator for VA division in Norconsult
- Board member in VAnnforsk (an organization/union with aim to promote and put focus on R&D and innovation in the water industry)
- Referee for evaluation of R&D applications in the Norwegian Research Council
- Sensor for master students at NMBU (University at Ås)
- Use of PhD competence in “normal” Norconsult projects:
 - QA of reports and specific topics
 - more projects with the need of early phase studies and evaluations
 - desk top studies

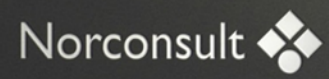
PhD in Norconsult (cont.)

Goals for PhD in a company like Norconsult

- Getting more value for the PhDs themselves and for the company
 - Increasing rates
 - More innovation in projects
 - Increasing firm competence in specific fields
 - Being more efficient
 - Adding value to our clients
 - Better training programs for all our employees
 - Winning projects and receiving higher score in the competence evaluation in competitions
- Cooperation with Universities
 - Develop Adjunct Associate Professor in the company
 - Helping the schools to find the right education and preparation for the industry/business
 - Starting 2 PhDs every year partly funded by Norconsult
 - Participating in research projects

How could you succeed in the future?

- Participate in a Network
- Look upon possibilities in the fields that will have a growth and are highlighted by the government like transportation and water
- Take personal initiatives, don't wait for someone to discover you
 - Who is responsible for your success? The answer is yourself!
- I believe it is a «undiscovered potential» for PhD competence in the Industry
- Believe in yourself and get better paid from the clients than those who have fewer years education
 - Today the rates for you are not reflecting the value you give clients
 - Increasing this rates will make you more popular
- Use your skills to see new trends and focus on your capability to take part in fast changes in structures and methods of working together



Thank you