Monday 21 November

09:00-10:00   Registration and coffee

10:00-10:15   **Opening session**

10:15-12:30   **Session I: Heart**

    10:15-11:00   *We are our history: Cardiac adaptations to childhood disease and implications for adult life.* Luc Mertens, The Hospital for Sick Children, Toronto, CAN

    11:00-11:30   *Myocardial fibrosis - imaging of a hidden risk factor in heart disease.* Asbjørn Støylen, NTNU

    11:30-11:45   Break

    11:45-12:30   Heart PhD session

12:30-13:30   Lunch

13:30-14:15   **Speed poster session I: Heart – Emerging technologies – Other topics**

14:15-15:15   **Poster session I: Heart - Emerging technologies – Other topics**

15:15-17:30   **Session II: Emerging Technologies**

    15:15-16:00   *MRI-guided interventional oncology.* Peter Seevinck, University Medical Center Utrecht, NL

    16:00-16:30   *High resolution mass spectrometry imaging – how to see all the molecules at once (really!).* Sven Even Borgos, SINTEF, Trondheim

    16:30-16:45   Break and refreshments

    16:45-17:30   Emerging technologies PhD session

17:30-18:30   Break

18:30   Aperitif and dinner at the hotel

Tuesday 22 November

07:30-08:15   Registration and coffee

08:15-10:30   **Session III: Brain**

  08:15-09:00   *Biased to remember: On the neural correlates of declarative memory function and its relation to emotional memory schemas.* Indira Tendolkar, Donders Institute for Brain, Cognition and Behavior, Nijmegen, NL

  09:00-09:30   *From early blobs to recent networks.* Kenneth Hugdahl, University of Bergen

  09:30-09:45   Break

  09:45-10:30   Brain PhD session

10:30-10:45   Break

10:45-11:30   **Speed poster session II: Brain and cancer**
11:30-12:30   **Poster session II: Brain and cancer**

12:30-13:30   Lunch

13:30-15:45   **Session IV: Cancer**

  13:30-14:15   Cancer PhD session

  14:15-14:45   *Optical imaging of cancer.* Emmet McCormack, University of Bergen

  14:45-15:05   Break

  15:05-15:50   *Cancer imaging with nanoparticles.* Thomas Andresen, Technical University of Denmark, Lyngby, DK

15:50-16:15   **Closing and awards session**

Session I: Heart

21st November 10:15-12:30

Invited speakers:

10:15	**Luc Mertens**	SickKids	*We are our history: Cardiac adaptations to childhood disease and implications for adult life*
11:00	**Asbjørn Støylen**	NTNU	*Myocardial fibrosis - imaging of a hidden risk factor in heart disease*

11:30-11:45   Break

Heart PhD Session:

Chairs: Siri Ann Nyrnes (NTNU) and Ingvild Kinn Ekroll (NTNU)

11:45	**Ali Fatemi**	NTNU	*Increased clutter level in echocardiography due to specular reflection*
11:55	**Terje Kolstad**	OUH/UiO	*Direct stochastic reconstruction microscopy reveals dispersion of calcium release units in heart failure*
12:05	**Gary McGinley**	OUH/UiO	*Accelerated myocardial velocity and strain estimation with phase contrast magnetic resonance imaging using compressed sensing with adaptive thresholding*
12:15	**Rafael Palomar**	NTNU	*Intra-operative modeling of the left atrium: A simulation approach using poisson surface reconstruction*

Session II: Emerging Technologies
21st November 15:15-17:30

Invited speakers:

15:15 **Peter Seevinck** UMCU *MRI-guided interventional oncology*

16:00 **Sven Even Borgos** SINTEF *High resolution mass spectrometry imaging – How to see all the molecules at once (really!)*

16:30-16:45 Break

Emerging technologies PhD Session:

Chairs: Mattijs Elschot (NTNU) and Einar Sulheim (NTNU)

16:45 **Jacob R. Bauer** NTNU *Skin assessment using spectral estimation and Monte Carlo simulation*

16:55 **Vishesh K. Dubey** UiT *Multi-modality imaging of biological cells using chip-based TIRF microscopy and stain-free quantitative phase microscopy*

17:05 **Andreas Finnøy** NTNU *Non-linear optical microscopy of vascular failure in epiphyseal cartilage*

17:15 **Anesa Mulabecirovic** NTNU *Quantification of tissue elasticity in vitro using three clinical shear wave elastography platforms on liver fibrosis phantoms*

Session III: Brain

22ⁿᵈ November 08:15-10:30

Invited speakers:

08:15	**Indira Tendolkar**	Donders Institute	*Biased to remember: On the neural correlates of declarative memory function and its relation to emotional memory schemas*
09:00	**Kenneth Hugdahl**	UiB	*From early blobs to recent networks*

09:30-09:45   Break

Brain PhD Session:

Chairs: Asta K. Håberg (NTNU) and Jian Xu (NTNU)

09:45	**Till Schellhorn**	OUH	*An MRI reliability study of the Norwegian cognitive impairment after stroke (Nor-COAST) study*
09:55	**Kam Sripada**	NTNU	*Effects of preterm birth and very low birth weight on cortical development in childhood: A longitudinal MRI study*
10:05	**Anne L. Stensjøen**	NTNU	*Slower tumor growth is associated with increased two-year survival in glioblastoma patients*
10:15	**Siren Tønnesen**	UiO	*Brain white matter microstructure across the psychosis spectrum*

Session IV: Cancer

22nd November 13:30-15:45

Invited speakers:

15:05	**Thomas Andresen**	DTU	*Cancer imaging with nanoparticles*
14:15	**Emmet McCormack**	UiB	*Optical imaging of cancer*

14:45-15:05   Break

Cancer PhD Session:

Chairs: Sofie Snipstad (NTNU) and Jana Kim (NTNU)

13:30	**Habib Baghirov**	NTNU	*Ultrasound-mediated delivery and distribution of polymeric nanoparticles in the normal brain parenchyma and melanoma metastases*
13:40	**Kine M. Bakke**	AUH	*Tumour perfusion estimated from diffusion-weighted MRI of rectal cancer – an indirect marker of tumour hypoxia?*
13:50	**Ahmed Mohammed**	NTNU	*Stochastic Capsule Endoscopy Image Enhancement*
16:00	**Anna Wirsing**	UiT	*The immune landscape in oral cancer: getting the picture*

Poster Session I:

Heart - Emerging technologies – Other topics

21st November 14:15-15:15

Heart

Author	Poster	Title
Bård Andre Bendiksen	13	*Cardiac diffusion tensor imaging of the rodent heart utilizing an optimized gradient configuration with multiple encoding strengths*
Kaja Kvåle	28	*Visualization and quantification of scar tissue in the myocardium using echocardiography*
Michael Stylidis	30	*Variability in echocardiographic measurements of the left ventricle and their reproducibility in population-based studies (Tromsø study)*
Mingshu Shi	32	*Effect of exercise training on cardiac metabolism in heart failure rats*
Solveig Fadnes	48	*Detailed flow visualization in fetal and neonatal hearts using ultrasound speckle tracking*
Sigmund Rolfsjord	51	*A Deep-Learning for Ultrasound-Probe Pose Estimation*

Emerging technologies

Author	Poster	Title
Alfonso Rodriguez-Molares	3	*Sequential CPWC: From ultrafast to ultralight*
Cameron Palmer	15	*Realtime plane wave software beamforming with an iPhone*
David André Coucheron	20	*Planar waveguide-based high resolution optical microscopy for high-throughput imaging*
Elisabeth Grønn Ramsdal	22	*Elastography - combining ultrasound imaging methods with models for wave propagation and mechanical stress in poroviscoelastic media*
Petros T. Yemane	38	*Simulation of ultrasound radiation force: for transport of drugs and nanoparticles in tumors.*
Stine Hverven	50	*Adaptive beamforming on muscle fiber features*
Thomas Sjøberg	52	*Thermography in the search for subcutaneous "volcanoes"*

Other topics

Author	Poster	Title
Ana Oteiza	5	*The preclinical PET/SPECT/CT imaging core facility in Tromsø*
Congcong Wang	17	*Stereo video analysis for instrument tracking in image-guided surgery*
Erik Smistad	24	*Finding blood vessels in ultrasound images with deep neural networks*
Ioanna Chronaiou	26	*Pixel-based morphometry of the spine in patients with psoriatic arthritis*
Oskar Angenete	36	*MRI-based normal standards for temporo-mandibular joints in children*
S. Esmaeil Dorraji	40	*PET imaging of tertiary lymphoid structures in development of Lupus nephritis*
Selenia Ternullo	42	*Isolated perfused human skin flap model: a novel tool to evaluate drug penetration through the skin*
Sjoerd Hak	46	*A fluorescence resonance energy transfer method to study payload release kinetics from lipid-based nanoparticles*

Poster Session II:

Brain - Cancer

22nd November 11:30-12:30

Brain

Author	Poster	Title
Alicja Molska	4	*Lipid-based nanoparticles as a platform for drug delivery – melatonin treatment of hypoxic-ischemic brain injury*
Anna Karlberg	6	*Case study: Multimodal 18F-fluciclovine PET/MRI and ultrasound-guided neurosurgery of anaplastic oligodendroglioma*
Annemieke van Wamel	7	*Acoustic cluster therapy – A novel approach for ultrasound mediated targeted drug delivery: Technology basics and proof of concept.*
Geneviève Richard	16	*Assessing treatment-induced post-stroke neuroplasticity using multimodal MRI*
Jacob Bellmund	21	*Grid-cell representations in mental simulation*
Marieke Olsman	53	*Comparison of motion artefact correction methods for functional near-infrared spectroscopy in simulated automated driving*
Stephanie Balters	45	*Ultrasound-mediated delivery of novel bio-responsive nanoparticles*

Cancer

Author	Poster	Title
Alexandros M. Sofias	2	*Elucidating targeting kinetics towards integrins: A quantitative study*
Azadeh Abravan	8	*Normal tissue 18F-FDG uptake in patients with non-small cell lung cancer receiving thoracic radiotherapy and targeted therapy*
Deborah Hill	10	*Exploring the relationship between MR-derived apparent diffusion coefficient and cellularity in a transgenic mouse model of prostate cancer*
Einar Sulheim	11	*Physical characterization of vasculature and nanoparticle accumulation in five tumor xenografts.*
Elise Sandsmark	12	*A novel non-canonical wnt signature associated with Gleason score, recurrence, metastases and metabolic alterations in prostate cancer*
Eugene Kim	14	*Anti-angiogenic therapy affects the relationship between tumor vascular structure and function*
Hanna Maja Tunset	18	*Anti-vascular effects of the cytosolic phospholipase A2 inhibitor AVX235 in a patient-derived basal-like breast cancer model*
Igor Vidic	19	*Comparison of relative enhanced diffusivity and intravoxel incoherent motion as a marker for breast tumor differentiation*
Johannes Kvam	23	*Tissue characterization with SURF imaging*
Karen Mauland	25	*High proportion of visceral fat is linked to poor outcome in endometrial cancer*
Leslie R. Euceda Wood	27	*Metabolic response to Everolimus in patient-derived xenografts of triple negative breast cancer*

Author	Poster	Title
Maria K. Andersen	29	*Reactive stroma is associated with metabolic alterations in prostate cancer specimens*
Markus Dietrich	31	*Protein kinase C regulates endosomal sorting of the receptor tyrosine kinase ErbB3*
Neil Jerome	33	*Rapid estimation of IVIM pseudo-diffusion fraction with correction of TE dependence*
Noeska Smit	35	*Atlas-based surgical planning for oncological pelvic surgery*
Ole-Johan Skrede	37	*Cell nuclei segmentation in bright-field microscopy images of histological sections*
Ragnhild Haugse	39	*Induction of ER-stress in cell treated with ultrasound and microbubbles*
Silje Kjærnes Øen	41	*Reproducibility of MR-based attenuation correction maps for PET/MRI: Variations with free breathing and breath-hold protocols*
Sri N. Chandrasekaran	43	*Feasibility of ultrasound induced mechanotransduction for cancer therapy at diagnostic levels*
Sigmund Ytre-Hauge	44	*In vivo MR spectroscopy predicts high tumor grade in endometrial cancer*
Tomas Majtner	47	*Skin lesion classification via combination of deep learning and hand-crafted features*
Tonje Haukaas	49	*Prediction of clinical prognostic markers in breast cancer using MR-based metabolic profiles*

Speed Poster Session I:

Heart - Emerging technologies – Other topics

21st November 13:30-14:15

Presentations are arranged in order of appearance

Heart

Presenter	Title
Bård Andre Bendiksen	*Cardiac diffusion tensor imaging of the rodent heart utilizing an optimized gradient configuration with multiple encoding strengths*
Kaja Kvåle	*Visualization and quantification of scar tissue in the myocardium using echocardiography*
Michael Stylidis	*Variability in echocardiographic measurements of the left ventricle and their reproducibility in population-based studies (Tromsø study)*
Mingshu Shi	*Effect of exercise training on cardiac metabolism in heart failure rats*
Solveig Fadnes	*Detailed flow visualization in fetal and neonatal hearts using ultrasound speckle tracking*
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Selenia Ternullo	*Isolated perfused human skin flap model: a novel tool to evaluate drug penetration through the skin*
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Speed Poster Session II:

Brain - Cancer

22nd November 10:45-11:30

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