



FROM VISION TO DECISION

NEWSLETTER

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Dear MedViz Supporter

Happy New Year! We are glad to announce that the new Medical Visualization Centre now is established with PhD Renate Grüner as manager, at Department of Radiology, HUH. We will come back to this in another issue. The MedViz network is still alive, however, we have to reduce our activities due to zero basic funding, a destiny we share with the Medim PhD Research School in Trondheim. On the other hand, MedViz has got funded a new research project, entitled Flow based interpretation of dynamic contrast imaging data, from FRINATEK, NFR, and to be managed by Professor Antonella Zanna Munthe-Kaas, Dept. of Mathematics, UiB. IRIS AS, CMR AS and NordicNeuroLab AS will be close cooperative partners in the project. We will also come back to this later. The main focus in the present issue is an interview with the MedViz gründer, Professor Odd Helge Gilja. You will also find information from the final MedIm PhD Conference that took place in Trondheim in November and some upcoming events.

Interview with Professor Odd Helge Gilja

Background

Odd Helge Gilja became interested in photography, imaging and technology already in his childhood. Inspired by the pioneering nature photographer Sverre M. Fjelstad, who had very popular weekly programs at the only Norwegian TV channel at that time, Odd Helge purchased his first single-lens reflex camera (Konica T3) as a confirmation gift. Later, when he was a pupil at Fana highschool, Odd Helge joined the photography club "Spektrum". Already in secondary school, he chose electronics as optional topic, demonstrating also an emerging interest in technology.

-So, these early interests in technology and photography have also inspired you in your professional career as medical doctor?

-Yes, I believe there is a link between my joy of observations in nature, where you have to use both your eyes and ears actively, and my observations of patients in the clinic. We do not only depend on instruments in the clinic, but are also aware of visible symptoms, e.g. skin spots or lesions, and the patient's behavior and state. However, the ultrasound (US) scanner is a wonderful supplementary technology and gives the physicists many opportunities in both diagnosis and treatment. Actually, I had an early aspiration for studying at NTH in Trondheim before I decided to start my medical studies in Bergen. After my internship at SSSF in Førde in 1989 and following an initial resident period at Dept. of Medicine at HUS, I worked as research fellow at Christian Michelsen Research AS in 1993, financed by a fellowship from NTNE, to focus on the development of 3D US. This was indeed, a true combination of medicine and technology, and gave me further motivation for convergence and trans-disciplinary research between different areas of competence, Odd Helge tells.

[Read more about Odd Helge](#)

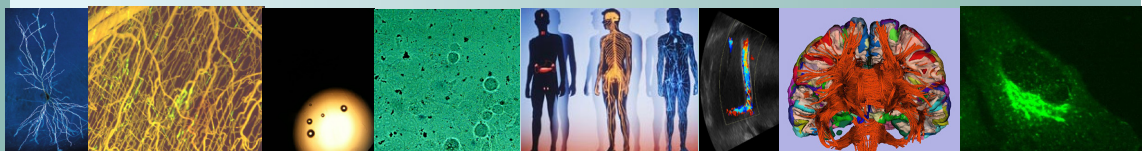


Professor Odd Helge Gilja in action in the gastroenterology clinic at HUH.

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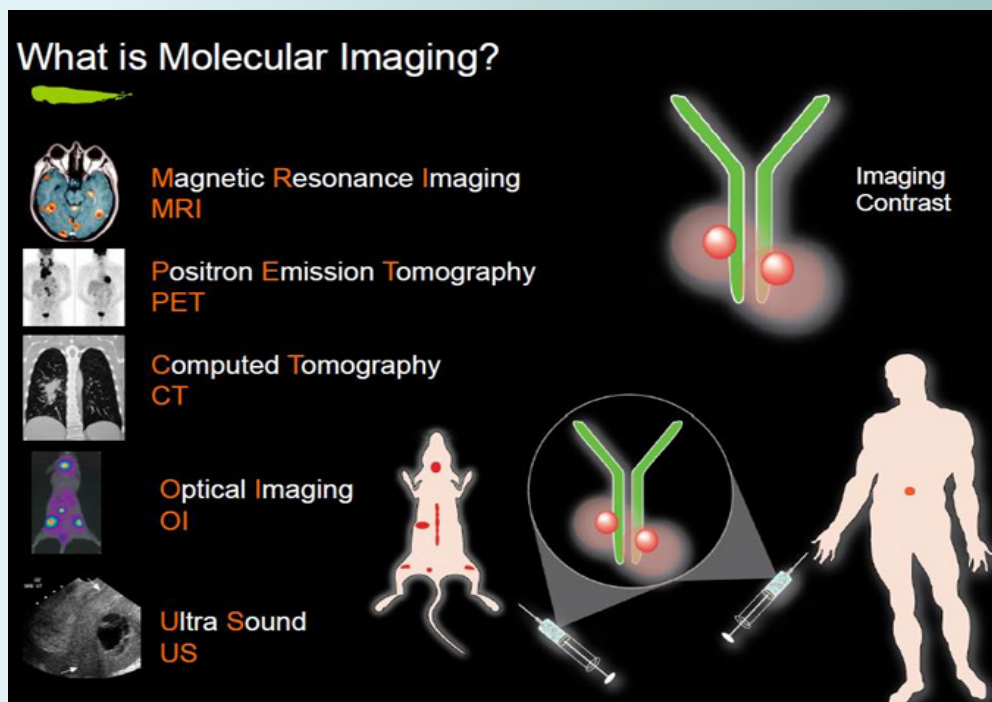


HELSE BERGEN
Haukeland University Hospital



MedIm Conference in Trondheim

The final and 8th MedIm PhD Conference was arranged in Trondheim 21-22 November 2016. The program included sessions on *Heart, Brain, Cancer and Emerging Technologies*, with top international and national based speakers, in addition to all the nice presentations by the PhD students. A few highlights are briefly presented here. **Dr. Peter Seevinck** from **UMC Utrecht** presented how MRI-guided interventional oncology could be applied to treat what you see. Real-time temperature visualization is e.g. possible and can be applied to see the needle for precise local drug administration. **Dr. Indira Tendolkar** from **Donders Institute for Brain, Cognition and Behaviour, Nijmegen** showed that memory retrieval from different brain regions can be mapped by fMRI, e.g. the *Rhinal cortex* which deals with familiarity and memory formation. It is a “gate keeper” to the memory system. She stated that sleep is important for our learning and memory retrieval system and that we learn better after positive feedback notes than after negative feedback notes. **Tendolkar** concluded that enhanced memories for emotional events have an obvious adaptive value in evolutionary terms, because it can favour our ability to remember bad or good things, and reflects the neuromodulatory effects of *amygdala* (two almond-shaped groups of nuclei located deep and medially within the temporal lobes of the brain in complex vertebrates). **Professor Kenneth Hugdahl** and **Professor Emmet McCormack** represented **UiB** at the conference. **Kenneth** stated that there is nothing such as a “memory molecule”. He also said that there probably is a perceptual network and a cognitive salience network with both intra- and interconnectivity. He explained that there is a decoupling in interconnectivity in schizophrenia patients, explaining why schizophrenia impairs global learning ability. **Emmet** presented optical imaging of cancer by a battery of different techniques. Patient derived tumor material (PDX) is introduced into the mouse models by his research group. They use NIR (near infrared) imaging of PDX stem cells. They also use imaging in looking into the tumor microenvironment. They cannot see very deep into the tissues with the optical imaging, however, the methods can be used to look at e.g. metastatic spread. Optical tomography is also possible when looking at HbO₂ in e.g. breast cancer.



Professor Emmet McCormack gave a presentation of optical imaging of cancer at the MedIm PhD Conference in Trondheim.

Upcoming events

27. January: Medviz Seminar at Cardiology Department, Meeting room at 1st floor in the Central building, North, HUH, from 12:00 – 13:00.
Stig Urheim: Are there opportunities for image aided diagnostics and treatment planning in cardiovascular disease?
Mai Tone Lønnebakken: Multimodal imaging in non-obstructive coronary artery disease

15.-17. February: NEUBIAS Conference in Lisbon: <http://eubias.org/NEUBIAS/neubias2020-conference/symposium2017-lisbon/symposium-lisbon-15-17-feb/>

5.-6. April: KlinIKT 2017. Fremtidens helse - teknologi som mulighet, in Scandic Flesland Airport, Bergen: <http://konferanser.hil.no/klinikt17/>

5.-7. April: 12th European Molecular Imaging Meeting, in Cologne: www.emim.eu

8.-9. June: MedViz & Western Norway University of Applied Sciences Workshop in Bikuben, HUH, Bergen: Convergence between Life Science and Engineering

12.-14. June: Scandinavian Conference on Image Analysis in Tromsø: <http://scia2017.org/index.html>

New job opportunities:

- <https://www.jobbnorge.no/en/available-jobs/job/132026/postdoctoral-fellow-in-informatics>
- <https://www.jobbnorge.no/en/available-jobs/job/131983/research-fellow-phd-candidates-in-informatics-computer-science-3-positions>

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