

ITALIAN-SWEDISH FORUM ON RESEARCH AND INNOVATION

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Embassy of Italy
Djurgårdsvägen 174 - Stockholm

Speakers' Bios



Leif A. Eriksson



Professor @University of Gothenburg

“For chemists, the AI revolution has yet to happen’ (Nature, May 17, 2023).

I beg to differ. In fact, we are right in the middle of a huge transition that is revolutionizing how we think and work within chemistry and life sciences. The AI-based tools already at hand far outperform the commonly used approaches in both speed, accuracy and resource usage”.

Eriksson received his PhD in quantum chemistry from the renowned Department of quantum chemistry in Uppsala in 1992. Following a postdoctoral year at Dalhousie University, Canada, he has held different academic positions in Sweden and Ireland, and joined University of Gothenburg in 2011. With over 300 scientific publications, 25 book chapters and major review papers, and several patents and spin-out companies, Eriksson is one of the leading computational chemists in Sweden.

His research interests span from advanced quantum chemical approaches and DFT, QM/MM and QM/MM-MD simulations, to computer-based drug discovery, modeling of protein structures and interactions and development of novel AI-based methods for drug design and protein-protein interactions. Through his strong focus on applied research, he has long-standing and very fruitful collaborations with leading experimental groups. Eriksson is also a much-appreciated lecturer in first-year chemistry courses.

Eriksson pioneered the use of modern density functional theory for the study of biological radicals, photochemistry and EPR spectra. His research group has since pushed several boundaries in computational biochemistry, with a strong focus on applications. In recent years, the group has developed drugs for treatment of aggressive cancers such as glioblastoma and AML, and novel ground-breaking AI-based approaches for fast and accurate drug discovery leading to the startup company ANYO Labs.

Obtained a PhD in Physics from Pavia University in 2018 working on a SPECT imaging system for Boron Neutron Capture Therapy (BNCT). Principal Investigator of the INFN – Young Researchers Grant called AI_MIGHT dedicated to the application of Artificial Intelligence methods in BNCT. Currently part of the PNC-PNRR ANTHEM project and elected member of the Board of Councillors and Member of the communication and outreach program of the International Society of NCT (ISNCT).

Her areas of expertise are: Radiation protection Monte Carlo calculations for the BNCT clinical facility in the PNC- PNRR ANTHEM Project. Automatic segmentation (using Deep Learning models) of CT and MRI images of Glioblastoma and Head and Neck tumour to enhance and personalize BNCT Treatment Planning Systems.

Study of the Monte Carlo codes for BNCT application.

Characterization of a CZT gamma detector in a photon and neutron mixed field for BNCT for a SPECT imaging system to use in real time during treatment.

She contributed to furthering the field of the on-line, real time imaging of a patient in BNCT. She Conducted the AI_MIGHT project studying the possibility to use deep learning models to segment medical images to be used for treatment planning systems and introducing the dosimetric evaluation as a performance indicator of the segmentation. She contributed to the radiation protection studies to build the BNCT ANTHEM facility that will be located in Caserta (Italy). She has been involved since 2020 in the ISNCT outreach program to widen the knowledge of BNCT.

Setareh Fatemi



Technologist Researcher @INFN

“I believe in the research community and the opportunity that it offers. To be able to explore the universe from the smallest component to the more improbable theory we need to work together.”

Daniel Lundqvist

*Director of Centre for Imaging
Research*

@Karolinska Institute

*“We aim to image whatever
you imagine.”*

- Director of CIR – a Centre for Imaging Research in humans, non-human primates, large and small animals, run jointly by Karolinska Institutet, Karolinska University Hospital, and Region Stockholm.
- National node leader for TEF-Health – Testing and Experimentation Facilities for Health AI and Robotics.
- Associate Professor in clinical neuroscience, leading a research group of 16 team members at Karolinska Institutet.

His areas of expertise are:

- Brain imaging and in-vivo imaging methods (MEG, EEG, MRI, PET, CT) for humans, non-human primates, large and small animals. Next-generation imaging and diagnostic methods.
- AI and health data – infrastructure and eco-system that aims to improve the capacity and quality of health care delivery in Europe.
- Cognitive and clinical neuroscience: the use of multimodal brain imaging (MEG, EEG, MRI, PET) for research into the human brain and mind in healthy and in neurological disorders such as epilepsy and Parkinson’s disease.

Pioneered MEG brain imaging in Sweden, establishing academic and clinical MEG applications, and forming a national user base in Sweden.

Heading and/or founding strategical imaging-related centers such as the Centre for Imaging Research, the Centre for Quantum Life Science, and the Centre for AI & Innovation.

Fabio Tedoldi has a PhD in Physics and spent the early years of his career in fundamental research in quantum magnetism and superconductivity. He then moved into industry and participated in the development of novel magnetic resonance devices. He has been working at Bracco for over 16 years and has held various R&D roles of increasing responsibility, from Head of the Preclinical Imaging Lab to Head of Global R&D. He is also a member of the Board of Directors of some of the Group's subsidiaries.

Currently, his main area of expertise is everything related to contrast-enhanced imaging, including contrast agents, injectors and software, for all major in vivo diagnostic platforms, i.e. X-ray/CT, Magnetic Resonance, Nuclear Imaging and Ultrasound. In previous roles, Fabio has been extensively involved in studies of condensed matter physics, including magnetism and superconductivity, using a variety of experimental techniques such as nuclear and electronic magnetic resonance and neutron/muon scattering.

With around 50 scientific publications in high-impact peer-reviewed journals and more than 10 granted or pending patents, Fabio Tedoldi has contributed significantly to the advancement of knowledge in several scientific fields, ranging from the physics of highly correlated systems to medical imaging. He has led several strategic programs focused on the discovery and development of new contrast agents, devices, and software.

Fabio Tedoldi



Head of Global Research and Development @Bracco Imaging Spa

"In-vivo diagnostics are revolutionizing modern medicine by revealing health from within, enabling early detection, precise monitoring and personalized treatment for better patient outcomes."