Translational Molecular Imaging & Therapy (TMI&T) within the EANM

An interview with the TMI&T committee

The Translational Molecular Imaging & Therapy (TMI&T) committee is one of 15 European Association of Nuclear Medicine (EANM) committees. Since 2018 prof. dr. Fijs van Leeuwen took over the task as committee chair from prof. dr. Marion Hendriks-de Jong. The other TMI&T members are prof. dr. Margret Schottelius (vice-chair), prof. dr. Felix Mattaghy (secretary), prof.dr. Jan Grimm (external advisor), dr. Latifa Rbah-Vidal, dr. Pedro Fragoso Costa, dr. Chiara Maria Grana, dr. Sergi Vidal-Sicart, dr. Jean-Pierre Pouget.

Translational science is an important aspect of the EANM activities. How does the TMI&T committee bring this into practice? How is a selection made in subjects?

The TMI&T committee is built up with experts that all have a track record in translational molecular imaging and therapy, many being actively involved in clinical translation of their agents or approaches. Backgrounds however may vary between fundamental science and medicine. This diversity in backgrounds, and the fact that each member was selected based on his/her unique field of expertise, allows us to address a broad range of translational questions. Selection of specific scientific subjects is based on the timely needs that arise within the EANM community and for example, present themselves at the annual congress. A recent example is the initiation of the European Working Group in radiobiology of molecular radiotherapy in which the TMI&T committee plays an important role.

Collaboration with other scientific European societies is important for the EANM. With which external societies is the TMI&T committee collaborating?

The advantage of having a highly diverse committee composition is that each member also brings unique new chances for collaboration. As to external societies we have collaborations with European and World Molecular Imaging Societies (WMIS), surgical societies, cardiovascular societies, sentinel node society, technical societies, radiation research societies etc.

How multidisciplinary is the TMI&T committee and what is its role within the structure of the EANM?

Short answer: VERY multidisciplinary! Through the committee members we cover backgrounds in oncology, neurology, immunology, surgery, theragnostic, engineering, physics, nanotechnology, (radio)chemistry, radiobiology, optical imaging, preclinical models, ethics, clinical knowledge, etc. This expertise supports the interaction with the other, thematically more focused EANM committees and can even be used to build a bridge between committees. In addition, three of the committee members are associate editors of EJNMMI research, which covers all aspects of interdisciplinary translational research in nuclear medicine.

The EANM-congress organizes joint symposia with other European scientific societies. Did the TMI&T committee organize such symposia and if so which ones?

Yes of course! Each year all the EANM committees, including the TMI&T, can propose joint symposia to the congress chair who then makes a final selection. Although the number of joint symposia at the EANM meeting has been restricted, we have consistently maintained them with the European Society for Molecular Imaging (ESMI) at the respective annual congresses. Other examples are the European

"Virtual meeting of the Translational Molecular Imaging & Therapy committee in the context of the EANM congress 2021".

Robotic Urology Society and Society for Computer Assisted Radiology. The interaction between EANM committees and other societies results in a great collaboration in developing Guidelines about most aspects, not just of clinical medicine but also preclinical.

Next to preclinical tracer studies, nuclear medicine is increasingly being confronted with other technological developments. Do aspects such as artificial intelligence and new medical devices also fall within the scope of the committee?
Originally the TMI&T committee was set up to primarily address translational efforts in radiopharmaceutical development, a topic that is also covered by the Radiopharmacy and Drug-development committees. The collaboration with these committees is very valuable and constitutes the basis for the M2M tracks within the annual congress program. To expand our translational scope, the TMI&T committee has recruited members during the last years whose specific areas of expertise now also allow to address novel technological aspects that are related to nuclear medicine and molecular imaging. This includes implementation of radiobiology in clinical trails, but also artificial intelligence and new medical devices. It should be noted that such technological aspects are also addressed by the Physics and Oncology committee, which extends the number of EANM committees with whom we closely collaborate. Moreover one of the aim of this committee is to try to give answers to clinicians, starting from basic science.

Did the COVID-19 crisis have an influence on the TMI&T activities?
Yes and no. Life, and thus nuclear medicine, goes on COVID-crisis or not. Of course, we have faced practical restrictions - like everyone else - that complicate communication. The effect of this is perhaps somewhat strengthened by the geographical spread of the committee members and the fact that each committee member has a full-time job 'on the side ;)'. Most of all we are anxious to meet up again in person - it is a great team full of wonderful people!

On European level, what is the status quo for molecular imaging? Are there other scientific societies active in this area? Are there joint activities at European level?
Molecular imaging and its sub-disciplines such as theragnostics, combination treatments, image guided surgery, radiomics are all booming. In Europe, ESMI and EANM play a major role in bringing together all molecular imaging disciplines and joining efforts in clinical translation of novel approaches and technologies, but with the maturation of the discipline, you see molecular imaging also starts to become a routine aspect for other scientific and clinical societies. I would say this is a very positive sign indicating that translation of technologies is likely to grow exponentially.

What type of progress and innovations in translational imaging can be expected in the coming years?
Now, the sky seems to be the limit, making this a hard question to answer. In general, though, we can expect that molecular imaging will increasingly become a part of therapy planning as well as therapy control or patient selection for specific therapies in the setting of individualized therapies. A clear indicator for this trend is certainly the expansion of previously "pure" diagnostic imaging activities towards theragnostics and image guided surgery. Also, new devices like the whole-body PET scanner will open up new opportunities for molecular imaging.

f.w.b.van_leeuwen@lumc.nl ♦

Margret Schottelius (vice-chair) and Fijs van Leeuwen (chair) of the Translational Molecular Imaging & Therapy (TMI&T) committee during a joint-symposium of the EANM congress in 2017.