Published in final edited form as:

Mol Imaging Biol. 2017 June ; 19(3): 325–327. doi:10.1007/s11307-017-1053-2.

ESPMIS: Helping Young Scientists Navigate the Molecular Imaging Landscape

Brian M. Zeglis^{1,2,3,*} and Danielle J. Vugts^{4,*}

¹Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

²Department of Chemistry, Hunter College of the City University of New York, New York, NY, USA

³Ph.D. Program in Chemistry of the Graduate Center of the City University of New York, New York, NY, USA

⁴Department of Radiology and Nuclear Medicine, VU University Medical Center, Amsterdam, The Netherlands

Abstract

The core mission of the Early Stage Professionals in Molecular Imaging Sciences (ESPMIS) interest group is to help young scientists navigate the professional landscape of molecular imaging. Since its formation in early 2015, ESPMIS has used the annual World Molecular Imaging Congress (WMIC) as a platform to provide education and guidance on three areas that are particularly critical to young scientists: networking, career development, and funding. In the coming years, ESPMIS plans to continue its focus on these topics, work with the WMIS on the creation of new digital tools for young scientists, and introduce two new areas of emphasis: the importance of mentoring and international career opportunities. We at ESPMIS sincerely believe that the future is bright for young scientists in molecular imaging, and we are here to help.

Introduction

It is our pleasure to provide a brief introduction to the World Molecular Imaging Society's Early Stage Professionals in Molecular Imaging Sciences (ESPMIS) Interest Group. ESPMIS was founded in 2015 by a team led by our inaugural chairperson Thomas Reiner. Among the interest groups within the WMIS, we — along with the Women in Molecular Imaging Network (WMIN) and Managers of Molecular Imaging Laboratories (MOMIL) interest groups — have the distinction and privilege of advocating for *people* rather than disciplines or research interests. The official mission statement of ESPMIS is “to globally support the professional development of postdoctoral fellows and researchers, junior faculty, and junior and senior scientists in Molecular Imaging and associated science and engineering disciplines.” To put it a little more simply: our goal is to help young scientists navigate the professional landscape of molecular imaging. In service of this goal, we have

*Corresponding Authors: Brian M. Zeglis: 413 East 69th Street, New York, NY, 10021; phone: 212-896-0433; bz102@hunter.cuny.edu. Danielle J. Vugts: De Boelelaan 1117, 1081 HV Amsterdam, The Netherlands; Phone: +31204445699; d.vugts@vumc.nl.

Conflict of Interest Statement: The authors declare that they have no conflict of interest.

focused primarily on three areas during our fledgling years: *networking*, *career development*, and *funding*.

Networking

With regard to the first aim, ESPMIS has held Young Professionals networking events at each of the last three World Molecular Imaging Congresses (WMIC) held in Seoul, Honolulu, and New York City. While it may be tempting to write off our enthusiasm for networking as an excuse to enjoy a glass of wine and some hors d'oeuvres, we very much believe in the power of networking for young scientists within the molecular imaging community for a number of reasons. To wit, a very informal survey (read: Googling) of our friends and colleagues uncovers molecular imaging scientists stationed within departments of Chemistry, Biology, Biochemistry, Chemical Biology, Systems Biology, Pediatrics, Medicine, Electric Engineering, Biomedical Engineering, Radiology, Radiation Sciences, and Surgery. This diversity is without question one of the strengths of molecular imaging as a field. However, it also undeniably complicates and obfuscates the search for graduate school mentors, postdoctoral fellowships, and faculty positions. For better or worse, one cannot simply type “Molecular Imaging Department + Postdoctoral Positions” into a search engine and hope for particularly helpful results. In light of this, forming personal relationships — even those formed in a few minutes over shrimp cocktails — can be crucial for navigating job opportunities in our remarkably interdisciplinary field. Importantly, networking can also be extremely valuable beyond career advancement. Molecular imaging research is very often cross-disciplinary work, and networking events can facilitate conversations between researchers whose paths may otherwise not cross. The informal nature of in-person brainstorming can foster the formation of creative new collaborations.

Career Development

A second — yet no less important — focus of ESPMIS is providing young scientists with guidance as they advance in their nascent careers. As we've noted, the diverse and interdisciplinary nature of molecular imaging can muddy the waters surrounding career transitions. The translational focus of the field can complicate matters as well, as academic jobs are often available at both Universities *and* Medical Centers. We believe that the annual World Molecular Imaging Conference provides an exceptional venue for education and discussion regarding career development. At the 2015 WMIC in Hawaii, for example, ESPMIS sponsored two panel discussions. In one, a group of very well established and well known scientists — including Drs. Jason Lewis (MSKCC), Julie Sutcliffe (UCD), Anna Wu (UCLA), and John Frangioni (Curadel, Inc.) — answered questions about their career trajectories and the important lessons that they have gathered after decades in the field. In the second, a collection of younger faculty members — including Drs. Brian Zeglis (Hunter College/MSKCC) Jonathan Liu (UWash), and Greg Thurber (UMich) — provided the valuable perspective of scientists that had *recently* navigated the postdoc-to-faculty transition. In a parallel effort geared toward helping match young scientists at all levels with molecular imaging jobs, ESPMIS is working to establish a Molecular Imaging-focused career website at micareer.wmis.org. Once up and running, this virtual job posting board will provide a venue for both young scientists looking for open positions in academia and

industry *and* faculty members and companies aiming to recruit fresh talent to their organizations. Finally, we are also invested in helping provide young scientists — particularly young principal investigators — with guidance for *after* they secure a position. To this end, ESPMIS hosted an educational session at the 2015 WMIC led by both faculty and journal editors focused on how to write and review manuscripts. More recently, at the 2016 WMIC, we sponsored another educational session centered upon the practical aspects of running a laboratory, including economics, logistics, and intellectual property matters.

Funding

ESPMIS is also committed to helping young scientists secure funding despite an ultra-competitive environment that threatens to become even more challenging in light of recent political developments within the United States and European Union. At the 2016 WMIC meeting in New York, ESPMIS organized a spotlight session designed to provide guidance to postdoctoral fellows and young faculty members as they apply for independent funding. In this session, we sought to include a range of perspectives on funding issues by featuring presentations from the Director of Research Sciences and Strategic Directions at the National Institute of Biomedical Imaging and Bioengineering (Dr. Krishna Kandarpa) as well as primary investigators from both the United States (Dr. Sanjiv Gambhir, Stanford University) and Europe (Dr. Anke Henning, Max Planck Institute for Biological Cybernetics). However, we are just as committed to the graduate student seeking an F31 fellowship award as we are to the young faculty member aiming for a first R01. To this end, we plan to host events at upcoming annual meetings aimed at helping graduate students and postdoctoral fellows successfully garner funding. Moreover, we plan to work with the WMIS on the development of an online hub for grant-writing resources — including examples of successful applications — for graduate students, postdoctoral fellows, and young faculty.

Moving Forward

Over the next few years, we at ESPMIS plan to remain as committed as ever to the career advancement, funding, and networking of young scientists. Yet simultaneously, we also plan to expand our reach to two additional areas: the *importance of mentoring* and *international opportunities in molecular imaging research*. With regard to the former, we believe that establishing effective mentoring relationships is incredibly important at every stage of a young scientist's career, a notion which is increasingly supported by quantitative evidence. [1] Yet effective mentoring relationships can often prove elusive, especially in an environment in which many have to balance research and clinical responsibilities. We believe that one way ESPMIS can help is by organizing sessions and workshops at future WMIC meetings that provide guidance on how to establish, maintain, and benefit from effective mentor/mentee relationships. Shifting gears, a simple stroll through the poster hall at any molecular imaging convention — including the WMIC, of course — will reveal that molecular imaging research is thriving all over the globe. The prospect of receiving training or seeking a faculty position in another country is often very enticing. However, differences in the structure of academic systems (not to mention funding mechanisms) in different nations can present an intimidating obstacle to young scientists. In an effort at breaking

down these barriers — or, at the very least, making them more manageable — ESPMIS plans to sponsor panels at upcoming WMIC meetings in which postdoctoral fellows and early-stage faculty members who have traveled abroad during their young careers will discuss the exigencies of living and working in academia and industry in a foreign country.

Conclusion

In the end, we within ESPMIS are optimistic about the professional landscape in molecular imaging. Indeed, one could argue that despite some clouds looming on the horizon, career prospects in the field have never been better, as universities, medical centers, and pharmaceutical companies are increasingly bullish on the power of molecular imaging. Yet this rosy outlook does not mean that young scientists will not encounter barriers and would not benefit from a little help along the way. This is where we believe that ESPMIS can fit in. Over the past few years, we have begun to carve out a niche helping to guide young scientists as they navigate the professional landscape, and we look forward to serving the community even more in the years to come.

References

1. DeCastro R, Griffith KA, Ubel PA, Stewart A, Jaggi R (2014) Mentoring and the career satisfaction of male and female academic medical faculty. *Academic Medicine* 89:301–311. [PubMed: 24362376]