BIOGRAPHICAL SKETCH

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NAME: Leopold SCHMETTERER

eRA COMMONS USER NAME (credential, e.g., agency login): N.A.

POSITION TITLE: Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Technical University, Vienna, Austria	Ph.D.	1987	Medical Physics
Technical University, Vienna, Austria	Ms.C	1982	Tech Physics

A. Personal Statement

Since August 2016, I am the Professor and Head, Ocular Imaging Research Group at the Singapore Eye Research Institute and Professor of Ophthalmology at the Nanyang Technological University. Starting 1st October 2017, I am also the Scientific Director of Singapore Eye Research Institute.

I am involved in translational clinical research eye studies, particularly retina and neurodegenerative diseases. I have published more than 420 publications in international peer reviewed journal and my current H-Index on Google Scholar is 77. I was invited for more than 200 lectures including more than 22 keynote lectures and has been awarded SGD 21,429,880.25 in research grant funding in Singapore since 2016. I am a member of the Editorial Boards of *Progress in Retinal and Eye Research*, *Scientific Reports*, *Acta Ophthalmologica, Journal of Ocular Pharmacology and Therapeutics, Current Eye Research* and five other journals, as well as ad-hoc reviewers for more than 40 journals.

B. Positions, Scientific Appointments and Honors

Positions

2020 to present	SNEC/SERI Professor in Ophthalmic Engineering & Technology, Nanyang Technological University, Singapore
2019 to present	Visiting Professor at Institute of Molecular and Clinical Ophthalmology, Basel, Switzerland
2019 to present	Professor, School of Chemical, Chemical Engineering and Biotechnology, Nanyang Technological University, Singapore
2018 to present	Director, SERI-NTU Advanced Ocular Engineering (STANCE) Program, Singapore Eye Research Institute and Nanyang Technological University, Singapore
2017 to present	Scientific Director, Singapore Eye Research Institute, Singapore
2017 to present	Professor, Ophthalmology and Visual Sciences Academic Clinical Program, Duke-National University of Singapore Medical School, Singapore
2016 to present	Professor and Head, Ocular Imaging Research Group, Singapore Eye Research Institute, Singapore
2016 to present	Professorship, Institute of Medical Physics, Medical University of Vienna, Austria (On hold)

Scientific Appointments

2020 - Present	Member of Board of Trustees, Association for Research in Vision and Ophthalmology (ARVO)
Current	Council Member, Asia-Pacific Ocular Imaging Society
Current	President, Association of Ocular Circulation
Current	Member, German Ophthalmological Society
Current	Member of the Programme Committee, European Glaucoma Society (EGS)
Current	Member of the Scientific Board, European Glaucoma Society (EGS)
Current	Secretary of OBF Special Interest Group, European Glaucoma Society (EGS)
Current	Member, International Commission of Eye Research
2015 - Present	Member of the Programme Committee, Asian Pacific Academy of Ophthalmology (APAO)
2014 - Present	President, European Association for Vision and Eye Research (EVER) Foundation
2013 - Present	Member of the Programme Committee, World Ophthalmology Congress (WOC)
2012	President, European Association for Vision and Eye Research (EVER)
2011	Chairman of Physiology/Pharmacology Programme Committee, Association for Research and Vision in Ophthalmology (ARVO)
2009 - Present	Member of the Programme Committee, International Society for Ocular Pharmacology and Therapeutics
2008 - 2011	Member of the Programme Committee, Association for Research and Vision in Ophthalmology (ARVO)
2006 - 2014	Chairman of Scientific Committee, Austrian Ophthalmological Society
2006 - 2011	Chair of the Physiology and Pharmacology Section, European Association for Vision and Eye Research (EVER)

Honors

2022	First Prize, SingHealth Duke-NUS Research Team Award
2019	Gold Fellow, The Association for Research in Vision and Ophthalmology (ARVO)
2019	Honorary Degree, Technical University, Bucharest
2017	Gold Medal, Acta Ophthalmoologica
2016	Honorary Degree, Carol Davila University, Bucharest
2015	Hans Goldmann Medal, Switzerland
2014	International Bach Lecture, Leipzig
2014	Silver Fellow, The Association for Research in Vision and Ophthalmology (ARVO
2011	Visionary of the Quarter, European Vision Institute
2002	First Prize, International MSD Award
1998	Austrian Höchst Award

C. Contributions to Science

I am considered an international expert in the areas of ocular and functional imaging with excellent sub expertise in optical coherence tomography (OCT). I have published extensively on measurement of total retinal blood flow and retinal oxygen extraction based on OCT technology. I have made major contributions to our understanding of blood flow auto-regulation in the eye and elucidated mechanisms of choroidal blood flow auto-regulation. Next, I am working comprehensively on neurovascular coupling, a phenomenon that is well studied in the brain but had gained little attention in the retina. I was the first to show abnormalities in retinal neurovascular coupling in diabetes and glaucoma and worked on the mechanisms of neurovascular coupling in the retina proving the modulatory role of nitric oxide and oxygen. In the recent years, I am working on ultrahigh resolution imaging of the anterior eye segment. Using Ti:Sapphire laser as light source, I am able to build up a prototype OCT system with unprecedented resolution that for the first time allowed for the visualization of the pre-corneal tear film. Recent work of his group includes en face mapping of the pre-

corneal tear film and lipid layer, techniques that bear significant potential for the diagnostic and treatment of dry eye disease.