

Teaching Portfolio

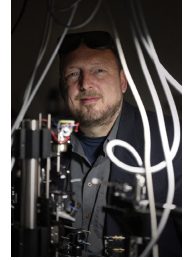
Jesper Glückstad

Mads Clausen Institute (MCI)

SDU Centre for Photonics Engineering

Email: jegl@mci.sdu.dk

Phone: +4565501298



Jesper Glückstad

Jesper Glückstad (JG) established the Programmable Phase Optics in Denmark two decades ago and is currently Full Professor & Head of SDU Centre for Photonics Engineering, Univ. Southern Denmark. Guest Prof. at Nagoya University, Japan from April 2020. Prior to that he has been Professor at the Dept. of Photonics Engineering at the Technical Univ. of Denmark and held a position as 5-year period Guest Professor in Biophotonics at Lund Institute of Technology in Sweden. In 2004 he received the prestigious Doctor of Science (DSc) degree from DTU for the dissertation entitled "The Generalised Phase Contrast method". Together with a colleague he has authored a 315 pages Springer book on this topic. Prior to his achievements in Denmark, JG was a visiting scientist at Hamamatsu Photonics Central Research Laboratories and in the Physics Dept. at Osaka University in Japan. Since he obtained his PhD at the Niels Bohr Institute at Copenhagen University in 1994, he has published more than 500 journal articles and international conference papers and holds over 30 international patent families. He has published papers in Nature Materials, Nature Methods and Nature Photonics with a recent in Nature Publishing Group (LSA). He is the year 2000 recipient of the Danish Optical Society Award and was elected as «Scientist of the Year» in 2005 by Dir. Ib Henriksen's Foundation in Denmark. JG is a 2010 elected Fellow of the OSA and a Fellow of the SPIE as the first from DK. In 2012-2014 he was appointed for the prestigious SPIE Fellows committee together with an American physics Nobel laureate. In 2013 & 2016 invited to join the Editorial Boards of the European Optical Society journal JEOS and De Gruyters ODPS. JG was invited Plenary Speaker for one of the world's most prestigious nanotech conferences IEEE NANO 2016. Invited as nominator for the highly prestigious 50 mill. yen Kyoto Prize 2017 (aka the Asian Nobel Prize). A 482 pages Elsevier book on Light Robotics – the first on the topic - was published mid 2017. JG is founder of the Børsen Gazelle 2019 awarded OptoRobotix ApS originally rooted in Silicon Valley, CA, USA + the associated tech-transfer GPC Photonics.

Positions

2019- Professor and Head of Centre, SDU Photonics 2019 Visiting Prof. Nagoya Univ. (Guest Prof. from April 2020)
2008–2019 Professor, DTU Fotonik, 2006-2008 Research Professor, Risø National Laboratory, 2006-2011 Guest Professor, Lund Institute of Technology, Sweden 1998-2005 Senior Scientist, Risø National Lab., 1996-1997 Visiting scientist, Osaka University, Japan 1995-1996 Visiting researcher, Hamamatsu Photonics K.K. CRL, Japan

Distinctions and Awards

2020 SPIE Community Champion 2019 Børsen Gazelle Award 2018 Invited Plenary and Keynote Speaker at MHS 2018 and NOP 2018 2016 Invited Plenary Speaker at IEEE NANO 2016 2016 Invited Nominator for the 50 million yen Kyoto Prize 2017 2012-2014 SPIE Fellows Committee with physics Nobel laureate 2011-2012 SPIE Scholarship Committee 2010 Fellow of OSA 2009 Fellow of SPIE (as the first-ever in Denmark) 2005 Best Paper Award from SPIE at ISOT 2005, Sapporo, Japan 2005 Scientist of the Year Award from dir. Ib Henriksen's Foundation, Denmark 2004 Selected by the major Danish technical magazine "Ingeniøren" among its annual Top 5 technical innovations in Denmark 2004 Selected to represent Denmark's science delegation at the Royal Danish visit to the Emperor of Japan 2000 Recipient of the Danish Optical Society Annual Award 1995 Recipient of a Royal Denmark-Japan Fellowship Award from the Danish Ministry of Science and Business 1995 Hamamatsu Fellowship Grant

Memberships of scientific boards, conference organisation and panels

2019 Main Chair of "Complex Light and Optical Forces" at Photonics West **2015** Invited as Guest Editor on a feature issue for the journal Optical Engineering **2015** Invited to review ERC Consolidator grant applications **2015** Invited to review grant applications for the Dutch research councils **2015** Invited to edit Elsevier volume on nano-biophotonics **2013-:** Editorial Board of JEOS 2013 Main Chair at Photonics West **2011-:** Executive Committee of the SPIE OPTO planning unit **2011** Head of PhD evaluation board at Univ. Bristol UK **2011-2013** Co-organizer of the 2nd and 3rd California-Denmark Photonics Workshop at Stanford and Berkeley **2004-2015** Conference committee member of 30+ international photonics conferences and co-chair at Photonics West **2007-2015** Management committee of five EU COST networks **2009-2010** Board member of the SPIE International Student Scholarship Committee **2012-2014** Board member of the SPIE Fellow Committee **2010-2015** Grant-proposal reviewer for a plurality of foreign science and research councils including the

European Science Foundation, ERC, and the EPSRC in UK **2005** Co-organizer of the ESF-funded international PhD Summer School "Physics of Life". ISI publ: 175+ Others: 400+ Patents: 30+ Citations (G.Scholar 15/5-20): 5638 H-index (G.Scholar 15/5-20): 41 Has published in Nature Photonics, Nature Methods and Nature Materials. Featured twice in Nature Photonics and once in Nature Physics. Featured in New Scientist, The Scientist, Laser Focus World, Opto & Laser Europe, Physics World and more. Selected 7 times for OSAs annual breakthroughs (cover 2013). Having Top downloaded papers with OSA, SPIE, Elsevier and JEOS. A Nature Publishing Group paper (LSA) was published in the Fall **2016**.

Books and monographs

315 pages Springer monograph on own invention GPC. A plurality of invited book chapters - the latest for Cambridge Univ. Press and Wiley. Published a 482 pages Elsevier book on Light Robotics: Structure-mediated Nano-biophotonics in May 2017. Edited a plurality of SPIE Proc. Vols. 3 Academic Dissertations (MSc, PhD and DSc).

Fund raising and grants during the last 15 years:

2017-2023 Novo Nordisk Foundation Challenge Program, co-PI [Gross budget ~60 MDKK]**2016-2019** H2020 ITN-network participant for ESRs/PhDs [Gross budget ~30 MDKK] **2014-2015** GAP + POC + CSO leading up to tech-transfer unit GPC Photonics [Gross budget ~1.5 MDKK]**2013-2018** EU FP7 HEALTH R&D Program [Gross budget ~55 MDKK]**2013-2017** Innovation Fond Denmark (WP leader) [Budget ~12 MDKK]**2013-2015** EuroStar grant with UK and DK partners [Budget ~1.2 MDKK]**2013-2014** POC-funding for smaller technical innovation project [Budget ~750 KDKK] **2012-2014** PI of Novo Nordisk Foundation Pre-seed grant [Budget ~2.5 MDKK]**2011-2013** DFF innovation grant (x 2) on nano-biophotonics R&D with Japan [Budget 720 KDKK]**2011-2012** POC-funding for all-optical cell manipulation and sorting [Budget ~ 1.5 MDKK] **2007-2012** PI of DFF framework grant DTU-AU-KU [Gross budget ~15.1 MDKK + cofunding ~10 MDKK]**2011-2012** GAP Funding from DTU [Budget ~ 750 KDKK]**2010-2011** GAP Funding from RNL Innovation Activities [Budget ~ 675 KDKK] **2008-2009** Proof of Concept Foundation [PoC grant, ~1.0 MDKK]**2005-2008** PI of DFF research grant [Budget ~3 MDKK + cofunding ~2.5 MDKK]**2005-2005** European Science Foundation (ESF) [Fundraiser + organizer of international PhD School ~200 KDKK]**2004-2007** PI of DK in European Science Foundation (ESF) Eurocores program [Gross budget ~7 MDKK]**2004-2007** PI of DK in EU FP6 program [Gross budget ~20 MDKK]

Innovation activities:

Has undertaken a plurality of tech-transfer and innovation activities with both Danish and foreign enterprises. Commercialising the proprietary BioPhotonics Workstation and cell-BOCS via my spin-out company OptoRobotix.com. The cell-BOCS was exhibited internationally at the annual SPIE Optics and Photonics conf. For several years undertaken a profitable joint innovation activity with Hamamatsu Photonics in Japan. Subsequently, launched the tech-transfer unit GPC Photonics as part of OptoRobotix ApS. Børsen Gazelle 2019 Award.

Supervision and mentoring of Early-Stage Researchers (PhDs and Postdocs):

Successfully supervised a dozen domestic and international PhD students and a dozen Postdocs during a variety of academic and innovation research projects as Principal Investigator.

Pedagogical view

My R&D background is inherently influencing my pedagogical experience platform "growing out of" a governmental research laboratory (Risø National Laboratory) before it was merged with academia. Priorities were different at Risø National Lab. and hence we did not invest too much time on teaching and education but were merely doing it on an ad hoc basis when called upon e.g. by industry or during consultancy tasks. However, after the merger with academia I naturally invested more time into supervising at all levels including Bachelor, Master and PhD students. All of my former Master and PhD students graduated and are either pursuing a career in academia or performing well in industry. I have offered my full support to my students regardless of their chosen career path after graduation and my mostly non-academic experiences have hopefully given me other skills that would be needed for being a successful leader of our newly inaugurated SDU Centre for Photonics Engineering, such as the ability to disrupt existing research areas and to dare challenge established scientific dogmas. The fact that I did not have a strong mentor myself to introduce me to contemporary areas and include me on scientific papers in my early career likely also fostered my urge to break new ground via own basic inventions. That is why I am very keen on stimulating independence and creative thinking for the students and Early Stage Researchers that I have and have had the pleasure to interact with. Student entrepreneurship at all levels in cross-disciplinary photonics-areas is an area that I feel particularly strongly for and will do my best to propagate and integrate at SDU-TEK in the future.

Teaching experience

2018: DTU Lys: Fun Light with Jesper Glückstad, DTU Fotonik, Techn. Univ. Denmark
2016: Invited to guest lecture for PhD students at KTH Winter School in optics and photonics, Sweden
2016-: Innovation Pilot Facilitator at DTU Diplom (+ 200 hrs. contribution per semester)
2012-: Co-responsible for advanced course on Optical and Photonics Engineering (part of the MSc in Photonics)

2014: Invited to guest lecture for PhD students at the Imperial College London adv. photonics seminar series

2014: Invited to guest lecture for PhD students at Photonics Seminar at Inst. Fresnel, Marseilles

2012: Invited to guest lecture at the Optoinformatics PhD summerschool in Ireland

2011 - 2012: Organising and chairing all lectures on biophotonics at Stanford + UC Berkeley photonics workshops

2005 - 2011: Teaching at a plurality of international summer schools and student workshops including

"Physics of Life" which I fully co-organised by funding I obtained from the European Science Foundation (ESF).

Formal pedagogical training

I have not attended formal pedagogical training due to my governmental research lab. background. However, I have received positive feedbacks from students who attended the above and other lectures that I have been giving in the past. I believe in learning by doing.

Other activities related to teaching and teaching development

I have been a member of SPIEs Scholarship Committee and met and interacted with a variety of international students. I have also published two lecture books – one a 315 pages Springer monograph on my own invention GPC (Generalized Phase Contrast). The other book is an edited Elsevier volume of more than 480 pages on so-called Light Robotics: Structure-mediated Nano-biophotonics. These two books would be natural to use as stepping-stones for novel teaching development initiatives at our new SDU Centre for Photonics Engineering.