

Profesijný životopis, dosiahnuté významné výsledky, prehľad získaných ocenení

Prof. RNDr. Ivan G L E S K, DrSc.
Professor of Broadband Communication Systems

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Personal: Citizenship: Slovak Republic, USA

Education: Doctor of Philosophy (Ph.D.) in Quantum Electronics and Optics
Comenius University, Bratislava, Czechoslovakia, 1989
Master of Science in Physics (RNDr.) Bachelor Degree in Physics
Comenius University, Bratislava, Czechoslovakia, 1981
Languages: Slovak, English, Czech, Russian, and German

Achievements:

- **Patents:** (5)
 - Classification (International)**
 - All-optical wavelength converter based on Sagnac interferometer with an SOA at asymmetric position. Pub. info: CN1846159 - 2006-10-11
 - Classification (International and European)**
 - All-optical wavelength converter based on Sagnac interferometer with an SOA at asymmetric position. Pub. info: EP1665481 - 2006-06-07
 - Toad having enhanced extinction ratio of the switching window. Pub. info: US2002126946 - 2002-09-12
 - Optical data format converter. Pub. info: WO0104677 - 2001-01-18
 - TOAD- based optical data format converter. Pub. info: US6448913 - 2002-09-10
- **Publication activities:**
 - 5 Patents
 - 18 Chapters
 - 27 Invited Lectures
 - 65 Invited Conference Presentations
 - 148 Journal Publications
 - 12 Non-Journal Publications and Reports
 - 191 Conference Proceedings
 - 3873 Citations (based on Scopus)
 - H index 32 (Scopus, 2021)

Work history:

University of Strathclyde, Department of Electronic and Electrical Engineering, Glasgow, UK
Professor of Broadband Communication Systems
(Oct 2007 - present)

- CIDCOM Laboratory Manager
- Head of the Joint GRPe Graduate School
- Departmental Safety Coordinator

Princeton University **Department of Electrical Engineering**
Princeton NJ, USA

- Senior Research Scholar with continuing appointment
- Laboratory Manager, Lightwave Communications Research Laboratory

Department of Mechanical and Aerospace Engineering

- Visiting Research Staff Member Oct. 1990 - June 1991
- Visiting Fellow Apr. 1990 - Oct. 1990

Comenius University **Department of Experimental Physics, Faculty of Mathematics and Physics and Informatics Bratislava, Slovakia** - Professor of Physics (1984-2011 on leave)

Research activities:

PI, Co-PI, research team member – selected state, industry, NJ-USA, DARPA funded research projects

- *Nonlinear optical elements for photonic devices and their simulations*
Slovak Grant Agency
- *Laser induced structures for optical data processing*
Slovak Grant Agency
- *Optical elements for ultrafast demultiplexers*
Slovak Grant Agency:
- *Laser Beam Guided Welding Head*
Czechoslovak Welding Research Institute
- *Analysis of Laser Beam Propagation in the Atmosphere*
Czechoslovak Army Research Institute
- *Theoretical Analysis of Laser Beam Propagation in the Atmosphere*
Czechoslovak Army Research Institute
- PU/NJ funded project: “*A Compact Holographic Data Storage System*”
- DARPA funded project: “*Optical CDMA*”
- DARPA funded project: “*Optical Computing Technologies based on Solitonic Interactions and Switching*”
- DARPA funded project: “*Ultrafast Multidimensional Network*”
- DARPA funded project: “*Demonstration of 100 Gbit/s Optical ShuffleNet Testbed*”
- DARPA funded project: “*Demonstration of Highly Scalable 100 Gbit/s Optical Computer Interconnect*”
- EU funded project: “*Marie Curie/People*”
- Faculty strategy funds “*Next Generation Networks Test Bed*”
- ITI Techmedia, Scotland: “*Next Generation Computing*”
- OKI Ltd Japan: “*Strathclyde-OKI Testbed for a joint OCDMA/ultrafast OTDMA activities*”
- GRPe startup fund: “*Ultrafast testbed activities*”
- REF microgrant: “*Ultrahigh speed photonic testing station for investigation of novel photonic devices*”
- The Royal Society, UK: International Exchanges Scheme - 2012/R2 “*Ultrafast low power InGaN nanowire-based devices compatible with CMOS technology*”
- EU Horizon 2021 “*SENSIBLE*”

Managerial skills:

Director of Engineering – Ultra Fast Optical Systems, Inc., USA

- New product development

Laboratory Manager – Lightwave Communication Research Laboratory, Princeton University, USA

- Built a laboratory for data communication research and for educating undergraduate and graduate students
- Supervising postdoctoral fellows and visitors using the laboratory
- Responsible for collaborative interactions with companies and industrial collaborators

History of Professional activities:

Serving on Committees:

- Dean of the Faculty c/7 committee, Princeton University - 2006-2007
- Council of the Princeton University Community (CPUC) - 2003-2005
- Advisory board, Kailight, Inc., Israel
- Consultant - Princeton Optics a Division of ADC Telecommunications, USA
- Consulting work for Sensors Unlimited, NJ, USA
- Collaborative research with Telcordia, NJ, USA
- Collaborative research with SUN Microsystems, CA, USA
- Collaborative research with - Thorlabs, Inc., USA – to develop of Pr-Doped Fiber Amplifier
- Collaboration with Sensitron Semiconductor. USA.

International Committees and Panels:

- Member of various editorial boards of international journals
- Member of the “*Doctor of Sciences, (DrSc) Evaluation Committee,*” Slovak republic, 1998-2010

- Member of the “*PhD Examining Committee*,” Comenius University, Slovak Republic
- Chairman of Slovak Committee for Optics (part of International Commission for Optics, ICO), 2004-2009

Funding agencies and review boards:

- APVT (Funding agency of the Slovak government) - reviewer
- APVV (Slovak Research and Development Agency) – reviewer
- Member of the EPSRC College Review Panel, United Kingdom

International Scientific Conference Committees and Panels:

- ICO Topical Meeting on Optics & Energy 2010, Paris, France, Scientific program committee member.
- GLOBECOM 2009, 2010, 2011
- Information Photonics IP2011, Ottawa Canada
- 3rd, 4th, 5th Electronics Circuits and System Conference, Bratislava; (IEEE Computer Society)
- Photonics Prague 2005, 2008, 2011 (European Optical Society, SPIE) 14th, 15th, 16th, 17th, 18th, 19th Czech-Slovak-Polish International conference (2004, 2006; 2008, 2010, 2014, 2016)
- Program committee member – Photonics in Switching 2001 (Optical Society of America)

Honors and awards:

- 2021– Visiting Professor at University of Žilina, Žilina, Slovakia
- 2016–2018 Visiting Professor at University of Žilina, Žilina, Slovakia
- 2010 Visiting fellowship Canadian Research Council
- 2001 Promoted to *IEEE, Senior member* grade
- 1998 DrSc degree awarded by the Slovak Academy of Sciences
- 1989 The International Research and Exchanges Board Fellow, USA
- 1985 *Visiting Fellow*, Taras Shevchenko State University in Kiev
- 1981 Award of the President of the University for Excellent Results
- 1981 Award of the Slovak Scientific Society
- 1980 *Visiting Fellow*, Armenia State University in Yerevan

Professional societies:

- IEEE (*senior member*) active member
- IEE (*MIEE*) – currently not an active member
- European Optical Society
- Optical Society of America (OSA) correctly not an active member

Research Experience:

Fiber optics, data multiplexing schemes, biophotonics, analog/digital/RF electronics, semiconductor/solid state/gas/fiber lasers, ultra-fast (ns-, ps-, fs-) laser systems, interconnects, ultrafast data processing/switching, RF/optical amplifiers, ultra-high vacuum systems, cryogenic systems, wind tunnel facilities, electronic circuitry, optical and electronic detection techniques, laser flow diagnostic, LIDAR systems and techniques, liquid crystals, artificial intelligence, machine learning.