

Curriculum vitae

Stefan Luby Prof. Dipl. Ing., Doctor of Sciences (DrSc.), Dr. h.c. mult.

Born: May 6th, 1941, Bratislava, Slovak Republic

Family:

spouse: Dipl. Ing. Želmira Lubyova (died 1996)
researcher in chemistry

daughters: Martina Lubyova
Mgr.: mathematics and physics, Comenius University 1991
JUDr.: juridical studies, Comenius University 2000
PhD: University of Economy, Bratislava, 2000
PhD: CERGE at Charles University, Prague and State Univ. New York, 2002
International Labour Office, UN New Delhi 2000 – 2002, Moscow 2002 – 2010
Director of ILO, subregional office for East Europe and middle Asia, Moscow 2009 – 2010
Institute for Forecasting, Slovak Acad. Sci., 2010 - , vicedirector since 2012, director since 2013
Centre for Social and Psychological Sciences, Slovak Acad. Sci., director since Oct. 2015
Member of Presidium of SAS, June – September 2017
Minister of Education, Science, Research and Sport of SR, since October 2017

Barbora Lubyova
Mgr.: natural sciences, Comenius University 1991
PhD.: Institute of Molecular Pathology and University, Vienna 1998
Faculty member, Johns Hopkins University, Baltimore 1998 – 2005
Charles University, 1st Medical Faculty, Inst. of Immunology and Microbiology, Prague, 2005- 2013
Institute of Organic Chemistry and Biochemistry, Acad. Sci. of Czech Rep., 2013-

Study:

1958-1963: Slovak Technical University
(Solid State Physics), Dipl. Ing.
Diploma work: Measurement of lifetime of minority carriers in germanium

1968-1970: Comenius University
(Mathematics and Physics)

1964-1966: CSc. study
Slovak Technical University

Thesis: Physical properties of Ge thin films and their preparation by pulsed sputtering

- 1982:** DrSc. (Doctor of Science)
Slovak Academy of Sciences
Thesis: Preparation and properties of metallic and semiconductor films for electronic devices and circuits
- 1992:** Doc. habilitation
Thesis: Diffusion and stability in thin film structures
Comenius University
Department of Mathematics and Physics
- 1996:** Prof. in condensed matter physics and acoustics
Slovak Technical University
Department of Electrical Engineering and Informatics
- 2012:** Visiting Doc., University Zürich

Research:

1963-1964

P. J. Šafárik University, Košice
Semiconductors

1964-1983:

Institute of Electrical Engineering
Slovak Academy of Sciences, Bratislava
Thin films of semiconductors, insulators, metals and superconductors, resistive films

1983-up to now:

Institute of Physics
Slovak Academy of Sciences, Bratislava
Diffusion in metallic glasses, metallic multilayers for X-ray optics, silicides, excimer laser technologies, etc.

2009-up to now

Encyclopaedic Institute
Slovak Academy of Sciences, Bratislava
Encyclopaedia Beliana,

2011-2015

Institute for Forecasting,
Slovak Academy of Sciences, Bratislava
Centre of Excellence of Strategic Studies CESTA, 2011 – 2015,
Scientific supervisor of CE

Research topics:

1. Transport in thin films of amorphous semiconductors (Ge, Si, CdTe);
2. Electron paramagnetic resonance in amorphous Ge, concentration of dangling bonds, doping of amorphous semiconductors;
3. Thin film electrets, solar cells;
4. MOS transistors, R MOS technology (refractory metal gates, silicide gates);
5. Ta based thin film resistors for hybrid integrated circuits;
6. Trimming of Ta based thin film resistors using gel - electrode;
7. Electromigration in Al - based metallization of integrated circuits, improvement of the mean time to failure of metallic interconnections;

8. Development of plasma technologies and facilities for magnetron sputtering, plasma oxidation;
9. Diffusion of Au and Ti in Co-Fe-B and Ni-Si-B metallic glasses;
10. Silicides for integrated circuits, preparation by excimer laser synthesis (TiSi_2 , WSi_2 , FeSi_2 , CoSi_2);
11. Superconductivity in W/Si metallic multilayers;
12. Diffusion barriers for Cu based metallization immiscible pairs of metals (Mo/Cu), intermixing under XeCl laser melting;
13. Preparation and properties of metal/metalloid multilayers for X-ray mirrors (W/Si , $\text{W}_{1-x}\text{Si}_x/\text{Si}$);
14. Science in Slovakia in the transition period;
15. Thermal/radiation stability of X-ray mirrors under rapid thermal annealing and excimer laser irradiation;
16. Giant magnetoresistance effects;
17. Grant system and evaluation procedures of science and its institutes and universities in various countries;
18. Miscibility in “immiscible systems”;
19. Nanotechnologies and nanoparticles for magnetic memories, sensors, esp. gas sensors;
20. Femtosecond laser microstructuring of soft X-ray multilayer gratings;
21. Research of innovation models for Central Europe;
22. Research in the field of civil security;
23. Nanoethics;
24. Modelling of social phenomena using physical theories and instruments.

Principal investigator: 16 Slovak projects, incl. 1 bilateral Ital./Slovak APVV, 1 state order and 13 international projects incl. 4 projects of NATO, 4 times CNR, 2 times CNRS.
Investigator of 2 projects of 5th FP EU, 3 projects APVV (LPP and General Call), 1 project ERDF-CERIM, 2 projects of Structural funds EC (Appl. res.of nanoparticles, Innov. solar cells), 4 projects of VEGA, 1 project of Ministry of ESRS SR.

**Research abroad
(at least one month):**

- Institute of Semiconductors, Novosibirsk, USSR, topic 4
- Technical University Aachen, Germany (2x), topic 4
- University Stuttgart, Germany, topic 3
- University Syracuse, USA, topic 7
- University Chiba (2x), Japan, topic 11
- University Lecce and CNR Lecce, Italy, (11x 1985-2002), topics 10, 12, 13, 15, 19
- University of Karlsruhe, topic 11
- University of Bielefeld (8x 1995 - 2010), topics 13, 15, 19
- FORTH Heraklion, topic 20

Teaching at universities

Radioelectronics, Fac. of Electrotechnol., Slovak Univ. of Technol., 1967 – 1969, 3 years,
Electrotechnology, Fac. of Electrotechnol., Slovak Univ. of Technol., 1971, 1 year,
Film devices and circuits, Fac. of Electrotechnol., Slovak Univ. of Technol., 1972 – 1975, 4 years,

Materials for electronics, Fac. of Chemical Technol., Slovak Univ. of Technol., 1988 – 1991, 4 years,
 Applied nuclear physics, Fac. Math.& Phys., Comenius Univ., 1988 – 1990, 3 years,
 Reliability of materials, Fac. of Electrotechnol., Slovak Univ. of Technol., 1992 – 1993, 2 years,
 Characterization of structure and composition of solid materials, PGS, Fac. of Electrotechnol., Slovak Univ. of Technol., 1992 – 1994, 2 years,
 Quantum electronics and optics, PGS, Fac. Math.& Phys., Comenius Univ., 1992 – 1995, 3 years,
 Microelectronics and optoelectronics, 3rd generation univ., Slovak Univ. of Technol., 2000 – 2009, 10 years,
 Nanoelectronics and information technology, 3rd generation univ., Slovak Univ. of Technol., 2010 – up to now, 9 years.

Organization of Science:

Presidium of the Slovak Academy of Sciences:

1988 - 1989	Scientific Secretary
1992 - 1993	Member of the Presidium
1993 - 1994	First Vice-president
1994 - 1995	Acting President
1995 - 2009	President of Academy

Presidium of the Czechoslovak Academy of Sciences:

1987 - 1989 Member of the Presidium

Institutes of the Slovak Academy of Sciences:

Head of various departments of the
 Institute of Electrical Engineering, SAS 1970-1983
 Deputy director of the Electrophysical Research Centre,
 SAS, 1981-1988
 Director of the Institute of Physics, SAS 1984-1992
 Head of Editorial Board of the Encyclopaedia Beliana, Encyclop.
 Inst. SAS, 1997 – up to now

Member of International Committees:

National representative in International Thin Films Committee,
 later in International Union of Vacuum Science, Technology and
 Applications (three periods together);
 Nominator of Nobel prize in physics ad hoc, 1987 – 1989;
 European Security Research Advisory Board, EC, Brussels, 2005 – 2006;
 Representative of SAS in ALLEA, IAP, 1995 – 2009;
 Member of the Executive Board, ALLEA, 2008 – 2012, acting president
 dec. 2011 - april 2012;
 Representative of SAS in ESF, 2002 – 2009;
 Program Comm. 7. FP, EC, Security, 2007 –2015, 19 projects for SR, 2
 coordinated – Redirnet, Freesic, 1 success story – Secricom;
 Program. Comm. Horizon 2020, Secure societies – protection of liberty and
 security of Europe and its citizen 2013 – up to now;
 Shadow thematic configuration, Horizon Europe, Secure societies, 2019 - ;
 Nanometer Structures Division, IUVSTA, 2013 – , third period;
 Board member of the International S.T.E.P.S. foundation, 2017- ;

Member of Scientific Societies

Alexander von Humboldt Fellow, 1971
 American Physical Society, 1992, about five years
 International Society of Optical Engineering, 1994-1995
 Slovak Academy of Sciences, *corresponding member*, 1987
 Czechoslovak Academy of Sciences, *corresponding member*, 1987 – 1991
 Pugwash Conf. on Science and World Affairs, national representative, 1994
 – up to now
 International Informatization Academy, Moscow, *full member*, 1995
 Academia Europaea Scientiarum and Artium, Salzburg, *socius ordinarius*
 from 1997, *head of Slovak* delegation from 1997, *member of senate* from
 2005, *vicepresident* from 2010, second period
 Danube Academies Conference, under patronage of ASAE, speaker
 together with M. Djurovic, 2011 - 2015
 Danube Rector Conference, observer on behalf of ASAE, 2013 - 2015
 Central European Academy of Science and Art
member, 1997, *executive president*, 1999 - 2002
 Academy of Mining Sciences, Department of Physics, Moscow, *member*,
 1999
 American Vacuum Society, 2001 - 2004
 The World Innovation Foundation, *fellow*, 2002
 Learned Society of Slovak Academy of Sciences, *member*, 2004 - 2018,
 member of board 2016 – 2018
 Learned Society of Slovakia, 2018 - , head of working group Slovak science
 in ERA, WRA
 Slovak Academy of Agricultural Sciences, *honorary member*, 2004
 Slovak Vacuum Society, from 2002 to 2007 *chairman*
 Slovak scientific societies (physics, math.-physics)
 Internat. Academy of Rating Technologies and Sociology, Kyiv, 2001,
 about five years
 Club of writers of literature of the fact, from 2006

Member of scientific and governing boards of universities and faculties

Comenius University, Bratislava, SB, 1994 - 2011
 Slovak University of Technology, Bratislava, SB, 1994 - 2011
 University of Trnava, SB, 2002 – 2015
 University of P. J. Safarik, Kosice SB, 2003 – 2007
 A. Dubcek University of Trencin, SB, 2001 – 2011, from 2011 honorary
 member
 A. Dubcek University of Trencin, GB, 2005 - 2013
 Matej Bel University, Banska Bystrica, SB, 2007 - 2010
 University of Constantin the Philosopher, Nitra, GB, 2003 – 2009
 Catholic University, Ruzomberok, SB, 2008 – 2014
 Slovak Postgraduate Academy of Medicine, SB, 2000 – 2002
 Slovak University of Health, Bratislava, SB, 2002 – 2009

Faculty of Math., Phys. and Informatics, before Math.-Phys. Faculty, UK,
1987 – 2004
Board for state examinations, Fac. Electr. Engn. and Informatics SUT,
microelectronics, 1975 – 2013
Advisory Board, Alma Mater Europaea, Maribor – Vienna – Salzburg, 2013
Member of Sci. Comm. of Int. School on Safety and Environment
Protection, Alma Mater Europaea, Campus Ascoli-Piceno, Italy, 2015 -

Member of advisory boards and committees of Slovak government

Member of Slovak Comm. for Scientific Degrees, 1993 – 1996
State Fund for Culture *Pro Slovakia*, committees, 1995 – 2004
Chairmen of Comm. for Cooperation of SR with CERN, Geneva,
1997 – 1999
Board of Slovak Gov. for S&T 1999 - 2009
Chairmen of Comm. for Research and Peace Exploration of Space
at the Board of Slovak Gov. for S&T, 1999 – 2002
Board of Slovak Gov. for Equal Chances, 2006 – 2010
Comm. of Slovak Gov. for knowledge based soc., 2006 – 2010
Member of working group of APVV for natural sci. 2010 – 2013
Advisor to Minister of Environment of SR, 2007 – 2008
Member of the WG of Ministry of ESRS SR for the preparation of Horizon
Europe, 2017- 2019.

Member of programme and organiz. comm. of conferences

35 conferences including Joint Vacuum Conferences, Int. Thin Film
Conferences, Int. Vacuum Congresses, Euroensors, Olympiad of the Mind,
etc.

Member of editorial boards, in certain periods

Dialogue and Universalism, Poland
Mediterranean Review
J. of Electrical Engn, Slovakia, up to 2012
Acta Phys. Comenius Univ., Slovakia
Contemporary Materials, Serbia
Horizons of Mathematics, Physics and Computer Sciences

Juries, competitions

President of jury, competition Photomodel SR, 2015, 2016, 2017, 2018
Patronage of the competition of young chemists of SR “Try an experiment”
Publ. house Raabe/Expol 2017, 2018

Awards and Prizes

Slovak Foundation for Literature: *Prize for scientific publication* 1981
Slovak Academy of Sciences: *Prize for Research* 1983
Slovak Academy of Sciences: *Silver medal of Aurel Stodola* 1983
Slovak Technical University: *Memorial medal* 1987
Comenius University, Faculty of Mathematics and Physics: *Silver medal*
1991; *gold medal* 2001

Japan Society for the Promotion of Science: *Memorial medal* 1993
 Slovak Institute for Metrology: *Convention du Metre (1875-1995) medal*
Convention du Metre (1875-2000), medal, 2000
 Israel Academy of Sciences and Humanities: *Einstein medal* 1995
Alexander von Humboldt Foundation: *Humboldt medal* 1995
University of Lecce, Salento, Italy *Dr. h. c. (laurea ad honorem)* 1996
***Crystal Wing*, Slovakia, 2001**
 University of Constantin the Philosopher, Nitra, *Silver medal* 2001
 Association of Slovak Societies for Science and Technology, *Memorial medal* 2000, *Gold medal* 2001
 Faculty of Civil Engineering, SUT, *Medal* 2001
Memorial medal of President of Slovak Republic, 2001
***De scientia et humanitate optime meritis*, Acad. Sci. Czech. Rep. 2001**
 Slovak Academy of Agricultural Sciences, *Medal* 2002
 Pontificia Academia Scientiarum, Vatican, *Medal* 2002
University of Constantin the Philosopher, Nitra, *Dr. h. c.* 2002
***The Cross of the 1st class of the President of Slovak Republic*, 2003**
 Academy of Education, Bratislava, *Prize*, 2003
 University of P. J. Safarik, *Memorial medal*, 2003
 Faculty of Natural Sci., University of P. J. Safarik, *Gold medal*, 2003
 J. A. Segner Gold Memorial Medal, ONMT 2004
***Cross of Pribina, 1st class, President of Slovak Republic*, 2005**
 Slovak Technical University, Bratislava, *Dr. h.c.* 2005
 Sud. – deutsche Akad. der Wiss. und Kuenste, Munich, *Medal Pro meritis*
 2005
 Union of Slovak Matemat. and Physicists, *Honorary membership*, 2005
 Sebechleby, *Honorary citizenship*, 2005
Gold Medal, Slovak Acad. Sci., 2006
Prize of Club of Slovak writers, Literature of Fact, 2006
Alexander Dubček University of Trenčín, Trenčín, *Dr. h. c.* 2007
 Gold medal and honorary member, Inst. of Archeology of SAS, 2009
 Medal of Jessenius Faculty UK, Martin, 2009
 Honorary member of M. R. Stefanik Society, 2010
Memorial medals, industry, academia, cities
 Slovak Foundation for Literature, *Award for Science*, 2010
 Gold Medal, University of Constantin the Philosopher, Nitra, 2011
Scientist of the year 2010, lifework category, 2011
 Slovak Academy of Sciences: *Prize for Popularization of Science*, 2011
 Slovak Academy of Sciences, *Prize for the building of scientific infrastructure*, member of group, 2011
 Slovak University of Technology, *The leaf from the tree of knowledge*, 2012
 Ministry of educ., sci., res. and sport of SR, *Honorary diploma at the 150 ann. of the Society of mat. and physicists*, 2012
 Medal at the 60th anniversary of SAS, 2013
 Identification Code of Slovakia, ARTEM Co., 2013
Medal of Danube rector's conference, 2014
 Memorial diploma, Inst. Landscape Ecology, 2014
 Memorial medal, Foundation of Stefan Luby, sen.
 Memorial diploma, 20th anniversary of journal Quark, 2015

Prize of the Inst. Tech. Phys. and Mater. Res., Hungarian Acad. Sci., 2015

Memorial dip. of 20th ann. of institutionalized Slavistic res. at SAS, 2015

Medal of Slovak Technical University, 2016

Gold medal of Slovak Medical Society, 2016

Gold medal of IDC Holding a.s., 2016

Honorary membership in Slovak Physical Society, 2016

Memorial medal, Conference New Europe at the Slovak Presidency of the Board of EU, 2016

Certificate of Appreciation for speech at Int. Conf. Adv. Electromaterials, Jeju, Korea, coauthor, 2017.

Honorary diploma, Encyclopaedia Beliana Vo. 8, Union of translators and interpreters, Prague 2018.

Memorial medal at the 25th anniversary of the Slovak Vacuum Society, 2018.

Memorial diploma of M. R. Štefánik Society to 100th Anniversary of the 1st Czechoslovak Republik.

Memorial medal at the 80th Anniversary of Centre of Scientific and Technical Information of SR, 2018.

Prize of Excellence, S. Kassay Foundation for the Promotion of Science and Education, 2019

Medal to the 25th Anniversary of the Armed Forces of SR, Minister P. Gajdoš, 2019.

Medal of M. R. Štefánik Society at the 100th anniversary of his pass away, April 2019

Publications:

original papers:	453
patents:	9
books, chapters, editor of internat. proceedings	15
books of literature of fact	17
research papers	426
short contributions	3
encyclopaedic entries	210

Citations:

in SCI, MSCI, WOS, Scopus, RG, books + reviews 1040 + 185

Supervisor of:

PhD., CSc. students:	8
Diploma students:	22
Visiting PhD students:	3, 1 from Italy/NATO
Visiting researchers:	3

Bratislava, 10. 2. 2020