

Curriculum Vitae

Sándor BILICZ

Electrical engineer MSc, PhD

Born: Szolnok, Hungary, 1985.

Hungarian citizen; lives in Budapest

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Research fields

The main research interest of S. Bilicz is computational modeling in electromagnetics, mostly by integral equation and finite element formulations, with emphasis on inverse problems and surrogate modeling. Recently, his attention has been drawn by uncertainty propagation and sensitivity analysis, in the context of nondestructive evaluation.

Education

- Cotutelle **PhD** in Physics/Electrical Engineering by the University Paris-Sud and Budapest University of Technology and Economics (Sept. 2008–May 2011), thesis: “Application of Design-of-Experiment Methods and Surrogate Models in Electromagnetic Nondestructive Evaluation” (Referees: J. Idier, P. Dular and G. Harsányi. Jury: D. Lesselier (president), S. Gyimóthy and M. Lambert (co-advisors), P. Dular, J. Idier, J. Bíró, P. Calmon and E. Vazquez)
- **MSc** in electrical engineering (with highest honors) at Budapest University of Technology and Economics (Sept. 2003–June 2008, 5-year degree), thesis: “Volumetric Flaw Model and Stochastic Inversion in ECT”

Professional experience

- 2011–present: assistant professor at the Department of Broadband Infocommunications and Electromagnetic Theory, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics (BME)

Prizes, awards and scholarships

- 2017: “Top 100 lecturers of BME” (among 1000+), rated by the students at the official evaluation of the university
- 2016(–2019): “János Bolyai” research scholarship of the Hungarian Academy of Sciences (among the 15 awarded from 76 applicants in Technical Sciences)
- 2008–2011: Doctoral scholarship by DIGITEO and by the Hungarian State during the PhD thesis
- 2007: MSc scholarship by the Hungarian State
- 2007: 1st prize at the “Students’ Scientific Association” Conference of the Faculty of Electrical Engineering and Informatics, BME
- 2005: 1st prize at the contest in Electromagnetics at the Faculty of Electrical Engineering and Informatics, BME
- 2003: 6-8th prize at the national contest in Physics by the *KöMaL – Mathematical and Physical Journal for Secondary Schools*

Invitations abroad, seminar talks

- invited associate professorships (1 month each) by the University Paris-Sud:
 - 2016 Laboratoire Génie électrique et électronique de Paris (France) with M. Lambert
 - 2015 Laboratoire des Signaux et Systèmes (France) with D. Lesselier
- 2014: lecture at the Fall School, Modelling and Simulation for NDE, by INSTN - CEA Saclay (France)
- 2013–2014: visiting researcher several times for 1-2 weeks at CEA-LIST (France)
- seminars given at the Lorentz Force Research Training Group, Ilmenau, 2014; CEA-LIST, 2013; Laboratoire des Signaux et Systèmes, 2009 and Laboratoire SONDRRA, 2009

Participation and leadership in R&D activities

As principal investigator:

- 2015–2016: Development of Inversion Procedures Based on the Exploitation of Database of Simulated NdT Signals; research project for the CEA-LIST (France)
- 2015–2017: Multichannel passive ISAR imaging for military applications (MAPIS); European Defence Agency Ad-Hoc Research and Technology Category B Project (the BME university is a consortium member with a team led by S. Bilicz)

As investigator:

- 2015–2017: Wireless Power Transmission for Sustainable Electronics, COST Action IC1301
- 2014–2018: Optimization of a magnetic hysteresis measurement-based nondestructive inspection method and its application in materials science, Hungarian Scientific Research Fund K111987
- 2012–2015: Surrogate modeling for the solution of electromagnetic inverse problems, Hungarian Scientific Research Fund K105996
- 2012–2013: Efficient Database Construction of Simulated ECT Signals; research project for the CEA-LIST (France)

Organization of international conferences and reviewing for international journals

- 2017: member of the scientific committee of the ENDE'17 international workshop (Saclay, France)
- 2017: chair of a session at ENDE'17
- 2017: chair of a session at the COMPUMAG conference (Daejeon, Korea)
- 2013: member of the organizing committee (6 members under J. Pávó chairmanship) of the COMPUMAG'13 conference (Budapest, Hungary)
- Regular reviewer of the journals *IEEE Transactions on Magnetics* (2010–) and *COMPEL – The int. journal for comp. and math. in electrical and electronic eng.* (2015–)

Advisory and teaching activities

Advisory roles in PhD/MSc/BSc theses and projects:

- 1 PhD thesis (2016–): K. Marák; Coupled electromagnetic simulators for large-scale full-wave problems
- 3 MSc students (co-supervised) in research works for the Students' Scientific Association Conference (all awarded by 1st prize), Faculty of Electrical Engineering and Informatics, BME:
 - B. Bálint: Long range wireless power transfer based on a chain of resonators (2015)
 - L. L. Tóth: Electromagnetic modeling of wireless power transfer (2014)
 - C. Hajdu: Optimization of electromagnetic devices by a statistical optimization method (2008)
- 1 BSc thesis (2016): A. Bingler; Sensitivity analysis of magnetic material evaluation by means of a modern statistical method

Lectures, notes, and organization duties:

- Regularly gives lectures on electromagnetics and on signal and system theory for electrical engineering students at BSc and MSc levels, since 2005 (first as undergraduate teaching assistant, then PhD student, finally as assistant professor since 2011 to the present).
- Authored 2 university notes: Problems in Electromagnetics (120 pages, 2010) and Problems in Mathematics for Electrical Engineers (137 pages, 2013). He also contributed to notes by chapters on electromagnetic inverse problems and wireless power transfer (all in Hungarian).
- The organizer of the competitions in the subjects “Electromagnetics” and “Signals and Systems” at the Faculty of Electrical Engineering and Informatics, BME, since 2011.
- Member of the committee of the Student's Scientific Association Conference at BME (2011).
- Member of the jury of PhD defense (3 times at BME); member of the mid-term PhD thesis evaluation committee (1 time at University Paris-Saclay).
- Responsible for the internship (4-6 weeks) of the students preparing BSc/MSc thesis at the Department.

Membership

- Member of Electromagnetic Nondestructive Evaluation International Standing Committee (2017–)
- Member of the International Compumag Society (2011–)
- Member of the Public Body of the Hungarian Academy of Sciences (2016–)

Identifiers

- ResearchGate: http://www.researchgate.net/profile/Sandor_Bilicz
- Scopus: <http://www.scopus.com/authid/detail.uri?authorId=34871411300>
- ResearcherID: <http://www.researcherid.com/rid/I-2376-2013>
- ORCID: <http://orcid.org/0000-0003-4995-6698>
- Google Scholar: <http://scholar.google.com/citations?user=icx65BkAAAAJ>
- Hungarian Doctoral Council: http://doktori.hu/index.php?menuid=192&sz_ID=11657&lang=EN
- Webpage: <http://emside.bme.hu/index.php/en/12-munkatarsak/36-sandor-bilicz-phd>

Publications

Publications of S. Bilicz regularly appear in international journals and conference proceedings. To date, he co-authored 15 articles (11 as 1st author) in international journals with IF. The on-line list (with further details) is available at:

<https://vm.mtmt.hu//search/slist.php?lang=1&AuthorID=10041910>.

September 14, 2017

Sándor Bilicz