

---

# CURRICULUM VITAE

## Dipl.-Ing. Dr. techn. Georgi Shilyashki

---

**Personal Details :**

Fullname: Georgi Shilyashki  
 Place of birth: Sofia, Bulgaria  
 Date of birth: 24.08.1981  
 Status: married  
 Nationality: Bulgarian

**School education**

9/1988 – 6/1995	Primary school in Sofia
9/1995 – 6/2000	„32 SOU - Klement Ohridsky“ Sofia, Bulgaria, English language school Graduation with Distinction

---

**Education**

10/2000 – 06/2001	Telecommunication, University of Technology Sofia
10/2001 – 06/2002	German Course „Vorstudienlehrgang Wien“, 2 terms
10/2002 – 05/2007	Bachelor of Science in Electrical Engineering TU Wien
10/2007 – 10/2009	Master of Science in Telecommunication TU Wien Diploma thesis: „Gleichfeldeffekte auf Magnetostriktion bei rotierender Magnetisierung“
10/2009 – 1/2014	PhD – thesis Title: „Magnetostriction of model transformer cores“ Graduation with Distinction

---

**Work Experience**

06/2007 – 09/2007	Internship: <b>Mobiltel Bulgaria</b> , Radio Access Network Planning Department
11/2007 – 05/2008	UMTS Indoor Measurements for <b>Mobilkom Austria</b>
08/2008 – 09/2008	Internship: <b>Mobilkom Austria</b> , Optimisation & Network Performance Department
10/2008 – 12/2008	Research fellow: <b>TU Wien</b> , Institute of Electrodynamics, Microwave and Circuit Engineering
01/2009 – 10/2009	Project assistant: <b>TU Wien</b> , Institute of Electrodynamics, Microwave and Circuit Engineering
04/2009 – 10/2009	Internship: <b>Mobilkom Austria</b> , Optimisation & Network Performance Department
11/2009 – 11/2013	University assistant: <b>TU Wien</b> , Institute of Electrodynamics, Microwave and Circuit Engineering
11/2013 –	Project assistant: <b>TU Wien</b> , Institute of Electrodynamics, Microwave and Circuit Engineering

---

**Additional skills**

Languages:	Excellent command of Bulgarian, German, English (spoken and written)
Computer skills:	MS-Office, Matlab, PSpice, Labview, Programming languages

---

<b>Interests</b>	Sport, Culture, Travels
------------------	-------------------------

**Publications:**

1. G. Shilyashki, H. Pfützner, F. Hofbauer, D. Sobic, V. Galabov, "Magnetostriction distribution in a model transformer core," *J. El. Eng.* 61, pp. 130-132, (2010).
2. H. Pfützner, G. Shilyashki, F. Hofbauer, D. Sobic, E. Mulasalihovic, V. Galabov: "Effects of DC bias on the loss distribution of a model transformer core," *J. El. Eng.* 61, pp 126-129, (2010).
3. G. Shilyashki, H. Pfützner, F. Hofbauer, D. Sobic, E. Mulasalihovic, "DC bias effects on losses and field patterns of silicon iron under rotational magnetization," *Abstr. 1&2D.Magn.Meas. & Test* 11, p. 31, (2010).
4. G. Shilyashki, H. Pfützner, F. Hofbauer, E. Mulasalihovic, D. Sobic, V. Galabov: "Magnetostriction of grain-oriented Fe-Si under rotational magnetization with DC bias". *Abstr. 1&2 D.Magn.Meas. & Test.* 11, p. 32, (2010).
5. D. Sobic, H. Pfützner, F. Hofbauer, G. Shilyashki, E. Mulasalihovic, "Dynamics effects on losses due to rotational magnetization," *Prz. Elekt. / Electr. Rev.* 87, pp. 29-32 (2011).
6. H. Pfützner, E. Mulasalihovic, H. Yamaguchi, D. Sobic, G. Shilyashki, F. Hofbauer, "Rotational magnetization in transformer cores – a review," *IEEE Trans. Magn.* 47, pp. 4523-4533, (2011).
7. G. Shilyashki, H. Pfützner, F. Hofbauer, D. Sobic, V. Galabov, E. Mulasalihovic, "Magnetostriction as a function of the vector course of time  $B(t)$  of rotational magnetization," *Abstr. SMM 20*, p 490, (2011).
8. H. Pfützner, G. Shilyashki, E. Mulasalihovic, D. Sobic, F. Hofbauer, V. Galabov, "DC-bias on the magnetic performance of transformer core material – a survey," *Abstr. SMM 20*, p 29, (2011).
9. G. Shilyashki, H. Pfützner, F. Hofbauer, V. Galabov, E. Mulasalihovic, M. Palkovits, "Dynamics effects on magnetostriction under rotational magnetization," *Proc. 1&2-D Magn. Meas. & Test.*, pp. 41-42, (2012).
10. G. Shilyashki, H. Pfützner, F. Hofbauer, V. Galabov, E. Mulasalihovic, I. Matkovic, "Effects of moderate DC bias on magnetostriction of grain oriented SiFe," *Proc. 1&2-D Magn. Meas. & Test.*, pp. 45-46, (2012).
11. H. Pfützner, G. Shilyashki, V. Galabov (Eds.): Sh.Pap.Proc. 12<sup>th</sup> International Workshop on 1&2 Dimensional Magnetic Measurement and Testing. *Vienna Magn.Gr.Rep.* (2012).
12. Y. Okazaki, S. Arai, H. Yamaguchi, H. Pfützner, V. Galabov, G. Shilyashki, "Status of domain studies on 2-D processes of magnetization" *Proc. 1&2-D Magn. Meas. & Test.*, pp. 67-68, (2012).
13. E. Mulasalihovic, H. Pfützner, P. Zanolin, G. Shilyashki, V. Galabov, "Effects of moderate DC-magnetization on 3-D loss distributions of a 3-phase model transformer core," *Proc. 1&2-D Magn. Meas. & Test.*, pp. 59-60, (2012).
14. G. Shilyashki, H. Pfützner, F. Hofbauer, V. Galabov, "Regional building factor of losses and magnetostriction in transformer cores," *Abstr. SMM 21*, p. 347, (2013).
15. G. Shilyashki, H. Pfützner, M. Aigner, P. Hamberger, F. Hofbauer, V. Galabov, "Path length consideration for magnetic loss testers as a function of grade of anisotropy," *Abstr. SMM 21*, p. 281, (2013).
16. V. Galabov, H. Pfützner, G. Shilyashki, H. Yamaguchi, "Domain reconstructions of G.O. SiFe under rotational magnetization with DC Bias," *Abstr. SMM 21*, p.128, (2013).
17. H. Pfützner, E. Mulasalihovic, K. Gramm, G. Shilyashki, V. Galabov, "Effects of DC-Bias on highly grain oriented silicon iron," *Abstr. SMM 21*, p.133, (2013).
18. V. Galabov, H. Pfützner, G. Shilyashki, H. Yamaguchi, Y. Okazaki, S. Arrai, "Domain reconstructions of g.o. SiFe during rotational magnetization considering also 3-D flux components" *J. Appl. Electrom. Mech.* 44., pp. 417-428, (2014).

19. F. Hofbauer, H. Pfützner, G. Shilyashki, D. Sasic, E. Mulasalihovic, V. Galabov, "Rise-of-temperature method for building factor distribution in 1-phase model transformer core interior considering high DC bias," *J. Appl. Electrom. Mech.* 44., pp. 349-354 (2014).
20. H. Pfützner, G. Shilyashki, M. Palkovits, V. Galabov, "Concept for more correct iron losses measurements considering path length dynamics," *J. Appl. Electrom. Mech.* 44, pp. 259-270 (2014).
21. G. Shilyashki, H. Pfützner, J. Anger, K. Gramm, F. Hofbauer, V. Galabov, E. Mulasalihovic, "Magnetostriction of transformer core steel considering rotational magnetization," *IEEE Trans. Magn.* 50-1, 8400115 pp.1-10, (2014).
22. H. Pfützner, G. Shilyashki, F. Hofbauer (Eds.): 12<sup>th</sup> International Workshop on 1&2 Dimensional Magnetic Measurement and Testing. *Int.J.Appl.El.Magn.Mech.* 44, Nos 3,4 (2014).
23. H. Pfützner, G. Shilyashki, P. Hamberger, M. Aigner, F. Hofbauer, M. Palkovits, E. Gerstbauer, I. Matkovic, V. Galabov, "Automatic 3-dimensional building factor analysis of a grain oriented model transformer core," *IEEE Trans. Magn.* 50-4, 8400604, (2014).
24. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, F. Hofbauer, I. Matkovic, A. Kenov, "The impact of off-plane flux on losses and magnetostriction of transformer core steel," *IEEE Trans. Magn.* 50-11, 8401604, (2014).
25. G. Shilyashki, H. Pfützner, "A domain model for magnetostriction of GO SiFe considering rotational magnetization" *Proc. 1&2-D Magn. Meas. & Test.*, pp. 31-32, (2014).
26. H. Pfützner, E. Mulasalihovic, G. Shilyashki, M. Palkovits, G. Trenner, E. Gerstbauer, "Multiparametric analyses of a model transformer core under two basic types of DC bias," *Proc. 1&2-D Magn. Meas. & Test.*, pp. 98-99, (2014).
27. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, "Consequences of anisotropy on rotational magnetization and the corresponding losses and magnetostriction," *Abstr. SMM* 22, (2015).
28. H. Pfützner, G. Shilyashki, P. Hamberger, M. Aigner, "Methodologies for the assessment of local magnetization in laminated soft magnetic systems - a systematic comparison," *Abstr. SMM* 22, (2015).
29. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, E. Gerstbauer, G. Trenner, "Numerical non-linear 3-dimensional MACC-simulation of local induction distributions in a 1-phase, 2-package model transformer core," *Abstr. SMM* 22, (2015).
30. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, E. Gerstbauer, M. Palkovits, G. Trenner, "Pin sensor for induction measurements in the core interior," *IEEE Trans. Magn.* 51-1, 4001904 (2015).
31. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, E. Gerstbauer, M. Palkovits, G. Trenner, "Automatic 3-dimensional flux analyses of a three phase model core," *J. Appl. Electrom. Mech.* 48, pp. 277-282, (2015).
32. H. Pfützner, G. Shilyashki, "Magnetic dummy sensors - A novel concept for interior flux distribution tests," *J. Appl. Electrom. Mech.* 48, pp. 213-218, (2015).
33. H. Pfützner, G. Shilyashki, E. Mulasalihovic, "Modern transformer cores – 3-dimensional magnetic systems of under-estimated complexity," *J. Appl. Electrom. Mech.* 48, pp. 213-218, (2015).
34. G. Shilyashki, H. Pfützner, M. Palkovits, P. Hamberger, M. Aigner, "A tangential induction sensor for 3D-analyses of peripheral flux distributions in transformer cores," *IEEE Trans. Magn.* 51-6, 4003306, (2015).
35. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, E. Gerstbauer, G. Trenner, "Numerical MACC-modeling of local magnetostriction distributions in a 3-phase transformer core package," *Int.Conf.Eng.Vibr. (ICoEV)*, pp. 1431-1439, (2015).
36. G. Shilyashki, H. Pfützner, C. Huber, "An ultra-thin printed sensor foil for Off-plane flux detection in transformer cores," peer reviewed short paper, *AIM* 1 (2016).

37. H. Pfützner, G. Shilyashki, G. Trenner, E. Gerstbauer, P. Hamberger, M. Aigner, "Mixed core materials for transformers?," peer-reviewed short paper, *AIM 1*, (2016).
38. H. Pfützner, G. Shilyashki, P. Hamberger, M. Aigner, "A Flux-Bridge Model (FBM) for the interpretation of 3D flux distributions in multi-package transformer cores," *1&2-D Magn. Meas. & Test.* 16, PE-5, China, (2016)
39. G. Shilyashki, H. Pfützner "3-Dimensional Measurements of Local Distributions of Induction and Distortion in a 3-phase, 3-package Model Transformer Core," *1&2-D Magn. Meas. & Test.* 16, PE-3, China, (2016).
40. H. Pfützner, G. Shilyashki, "Concept for numero-experimental modelling of soft magnetic cores," *1&2-D Magn. Meas. & Test.* 16, OG-3, China, (2016).
41. G. Shilyashki, H. Pfützner "Nanocrystalline ribbons for induction measurements in laminated machine cores," *1&2-D Magn. Meas. & Test.* 16, OC-3, China, (2016)
42. G. Shilyashki, H. Pfützner, E. Gerstbauer, G. Trenner, P. Hamberger, M. Aigner, "Numerical prediction of rhombic rotational magnetization patterns in a transformer core package," *IEEE Trans.Magn.* 52, 7200110, (2016).
43. H. Pfützner, G. Shilyashki, E. Gerstbauer, G. Trenner, "Multidirectional non-linear magnetic equivalence circuit calculation (MACC) of rotational magnetization distribution," *Int.J.Appl.El.Magn.Mech* 50, pp. 81-95 (2016).
44. G. Shilyashki, H. Pfützner, E. Gerstbauer, G. Trenner, P. Hamberger, M. Aigner, "Inhomogeneity and local distortions of magnetic flux in a single phase transformer core package," *IEEE Trans.Magn.* 52-11, 7210109 (2016).
45. G. Shilyashki, H. Pfützner, P. Hamberger, M. Aigner, A. Kenov, I. Matkovic, "Spatial distribution of magnetostriction, strain, displacements and noise generation of model transformer cores," *Int. J. Mech. Sci.* 118, pp. 188-194, (2016).
46. H. Pfützner, G. Shilyashki, "Magnetic foil detectors - a novel sensor family for the assessment of the interior physical performance of laminated soft magnetic systems," *Abstr. EMSA* 11, Turin, (2016).
47. H. Pfützner, G. Shilyashki, "Magnetic Circuit Calculation (MACC) for effective interpretations of experimental analyses of soft magnetic core ,," *Abstr. EMSA* 11, Turin, (2016).
48. G. Shilyashki, H. Pfützner, "MACC Modelling of Transformer Core Induction – Resolution and Accuracy," *IET Electr. Power Appl.*, accepted, (2016).
49. G. Shilyashki, H. Pfützner, "Nanocrystalline ribbons for induction measurements in laminated machine cores," *J. Appl. Electrom. Mech.*, submitted, (2016).
50. H. Pfützner, G. Shilyashki, G. Trenner, E. Gerstbauer, P. Hamberger, M. Aigner, "Transformer cores of mixed materials in limbs and yokes," *CIGRE Science & Engineering*, accepted, 2017.
51. G. Shilyashki, H. Pfützner, M. Palkovits, A. Windischhofer, M. Giefing, "Foil sensors for magnetic off-plane flux detection between inner laminations of machine cores," *INTERMAG Dublin*, digest, accepted FF-04, (2017).
52. G. Shilyashki, H. Pfützner, C. Huber, "Interlaminar Magnetic Flux Assessment of a Transformer Core Measured by an Extra-thin Printed Foil Detector," *IEEE Trans.Magn.*, accepted, DOI: 10.1109/TMAG.2017.2706672.
53. H. Pfützner, G. Shilyashki, "Magnetic Detector Bands for Interior 3D-Analyses of laminated machine cores," *J. Appl. Electrom. Mech.*, to be submitted (2017).
54. H. Pfützner, G. Shilyashki, "Concept for industrially relevant magnetic power loss measurements by Single Sheet Tester and Epstein Frame Tester," *CIGRE Science & Engineering*, submitted (2017).

55. G.Shilyashki, H.Pfützner, "3D Flux distribution of Epstein Frame Tester," *Abstr. SMM 23*, Sevilla, accepted (2017).
56. H.Pfützner, G.Shilyashki, "True magnetic energy losses from optimized single sheet testing," *Abstr. SMM 23*, Sevilla, accepted (2017).

**Reviewer:**

IEEE Transactions on Magnetics

International Journal of Applied Electromagnetics and Mechanics

IET Electric Power Application

Journal of Magnetism and Magnetic Materials

IET Generation Transmission and Distribution

IEEE Transactions on Intelligent Transportation Systems

International Transactions on Electrical Energy Systems