

CURRICULUM VITAE

Peter Oswald

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Born: November 13, 1951, Dresden, Germany

Marital status: married, two daughters

Education and professional experience

1958 – 1970	Elementary and High School education in Dresden
1970 – 1975	Undergraduate Study at Odessa State University (Ukraine/Soviet Union), Faculty of Mathematics and Mechanics
1975	Diploma degree in Mathematics (with distinction)
1975 – 1978	Graduate Study at Odessa State University, Chair of Mathematical Analysis.
1978 –	Ph. D. (candidate of mathematical-physical sciences = Dr. rer. nat) from Moscow Institute of Electronical Engineering by work on metric properties of functions and algebraic approximation in L_p spaces.
1978 – 1988	Assistant and Associate Professor at Technical University Dresden, Department of Mathematics
1982	Habilitation (Dr. sc. nat. = Dr. rer. nat. habil.) from Friedrich Schiller University Jena by work on spline approximation and function spaces.
1981 – 1982	Postdoctoral stay at Moscow State University, Chair of Function Theory and Functional Analysis
1988 – 1994	Professor in Numerical Analysis at Friedrich Schiller University Jena (reappointed (C3) in December 1992)
1989/90	Visiting Professor, Department of Mathematics, Kuwait University
1991/92	Director of the Institute of Applied Mathematics, FSU Jena
1994/95	Visiting Professor, Department of Mathematics, Texas A&M University, College Station.
1996/97	Visiting Professor at GMD (German National Research Center for Information Technology), Institute for Algorithms and Scientific Computing (SCAI), Sankt Augustin, Germany
1997-now	Member of Technical Staff, Bell Laboratories, Lucent Technologies

Research specialization

- 1974-1980 Metric theory of functions, approximation theory, classical Fourier analysis
(Main contributions: Jackson-Bernstein inequalities for algebraic, trigonometric, and spline approximation, especially in L_p spaces, extremal properties of rearrangements of functions)
- 1980-1988 Function spaces, approximation theory
(Main contributions: Basis problem and approximation in Besov-Hardy-Sobolev spaces, topics in $\varphi(L)$ spaces, nonlinear PDE)
- 1986-now Numerical methods for PDEs, finite element methods, multiscale methods in spaces of smooth functions, scientific computing
(Main contributions: Theory of Schwarz iterative methods, multilevel and domain decomposition methods for conforming and nonconforming finite element discretizations of elliptic problems, wavelet/frame theory and algorithms)
- 1997-now Nonlinear approximation theory and algorithms
(Main contributions: Theoretical results on nonlinear approximation and adaptivity, sparse grid approximation optimal design problems in coding theory)
- 1998-now Applied analysis and modelling of technical systems
(Main contributions: Mathematical and computational problems in coding theory, wireless, integrated fiber optics)
- 2000-now Subdivision algorithms
(Main contributions: $\sqrt{3}$ -subdivision schemes, smoothness of nonlinear subdivision)

Visits and main conferences

1979-now	International Conferences on Approximation Theory (Gdansk 1979), Varna (1981,1991), College Station (1995), Nashville (1998,2000), St.Malo (2002)
1981/82	Postdoctoral stay at Moscow State University
1983/86/91	Visits at Stefan Banach International Mathematical Center, Warsaw, as invited lecturer
1989/90	Visiting Professor in Numerical Mathematics at Kuwait University, Department of Mathematics
1989-now	Invitations as lecturer to Oberwolfach conferences on Constructive Approximation (1989/91/93) and Numerical Methods for P. D. E. (1992/93/95/2000)
Sept. 1992	Visits at USC Columbia and Courant Institute NYU
1993-now	International Conferences on Domain Decomposition (Penn. State Univ. 1993, Ullenvang/Norway 1996, Greenwich/UK 1999, Lyon/France 2001)
Febr./March 93	Visiting Professor at TU Munich
Nov. 1993	Organizer of the Autumn Workshop of the Graduate College, University Jena (with international participation)
April 1994	Visit at Tel-Aviv University, Israel
June 1997	Invited Lecturer at University of Bonn, Germany
July 1997	Invited Lecturer at University of Lancaster, UK
July 1998	Invited Lecturer at EMS Summer School <i>Wavelets in Analysis and Simulation</i> , Paris-Orsay.
Sept. 1998	Invited Lecturer at the Dutch Conference of Numerical Mathematicians, Woudschouten, Netherlands.
June 2001	Invited Talk at ICCHA'01, Hong Kong.
Febr. 2002	Invited Talk at Dagstuhl-Workshop on Mesh Generation Techniques.

Editorial activities, memberships, grants

- Since 1984 Reviewer for Acta Sci. Math. Hung., Math.Nachrichten, CA, ACHA, JAT, SIAM J. on Numerical Analysis, Numer. Math., Computing, Math. Comp., Numer. Algorithms, Adv. in Comput. Math., Amer. Math. J., and others
- 1986-88 *Inverse Problems in reactor modelling*
(grant with Rheinsberg Nuclear Power Station, East Germany)
- 1992 *Diffusion model for biotechnological purposes*
(BMFT-supported grant with Hans-Knöll-Institut, Jena)
- Since 1993 Associate editor of Constructive Approximation (CA)
- 1995/96 Co-editor of volume 6 in the series "Wavelet Analysis and Applications" Academic Press, 1997.
- 1997 Program Committees of Intern. Conf. (Varna 1997, Novosibirsk 1999, Hongkong 2001)
- Since 1999 Associate editor of Applied Computational Harmonic Analysis (ACHA)
- Since 2000 Associate editor of Computational Methods in Applied Mathematics (CMAM)
- Since 2001 Associate editor of Journal of Approximation Theory (JAT)

Lecture courses

Undergraduate courses

1984-86	Mathematics I-IV for engineers (4 semesters), TU Dresden
1986-88	Analysis I-IV (4 semesters), TU Dresden and
1991-93	FSU Jena
1989/90	Numerical analysis I-III (3 semesters), Kuwait University
1990/92, 94	Numerical analysis I-II (2 semesters), FSU Jena
1992, 93	Applied Mathematics for teachers , FSU Jena
1986, 87	Numerical methods for engineers , TU Dresden and
1993	FSU Jena
1994, 95	Engineering Calc. II, III , TAMU
1995	Differential Equations , TAMU

Seminars

Graduate courses

1981, 83	Integral equations and potential theory , TU Dresden
1984, 86	Approximation theory and Fourier analysis , TU Dresden
1989	Splines , FSU Jena
1991	Numerical methods for PDE , FSU Jena
1991	Multilevel methods , FSU Jena
1993	Finite element approximation , TU Munich
1994	Approximation theory and numerical analysis , FSU Jena
1994	Advanced Calculus for Engineers, MATH 601 , TAMU

Seminars for Undergraduates and Graduates

Supervisor of 7 Diploma Theses (TU Dresden and FSU Jena), and 2 Dissertations (TU Dresden):

R. Fritsch, Optimal finite element approximation for functions with singularities (in German). Ph.D.Thesis 1990, Faculty of Natural Sciences and Mathematics, Technical University of Dresden (5/9/1990).

F.-M. Sens, A posteriori estimates and adaptive grid control for parabolic systems of reaction-diffusion type (in German). Ph.D.Thesis 1991, Faculty of Natural Sciences and Mathematics, Technical University of Dresden (6/17/1990).