

Curriculum Vitae

Name: Walter Gander
Date of birth: 5-24-44
married to Heidi Gander-Wolf
daughters: Marie-Louise and Beatrice



Address

office:
Computer Science
ETH, CAB F 10.1
Universitätsstrasse 6
CH-8092 Zürich
Switzerland
Tel: +41 44 632 7430
Mobile: +41 79 292 0867
email: gander@inf.ethz.ch

private:
Ekkehardstrasse 8
CH-8006 Zürich
Switzerland

WEB page:

<http://www.inf.ethz.ch/personal/gander/>

Recent Activities

Since 2009: Professor Emeritus in Scientific Computing in the Computer Science Department of ETH. I assist Prof. Juraj Hromkovic (ETH) and support his efforts to introduce computer science as core subject in Swiss gymnasia.

We organized several training camps for the Informatics Olympiad in Davos, Flims and in Bessans (France). I could invite a delegation of the best Hong Kong students to participate.

Since 2010–2020: Visiting Professor at Baptist University Hong Kong (HKBU) in Spring semester. I taught lectures in Scientific Computing for graduate students.

Since 2020: President of the Advisory Board of the Swiss Informatics Society (SI).

New book: I am writing a book on *Vector Geometry Using Computers*. Traditional books for vector geometry are designed for hand calculations. If we use computers, new algorithms can be developed (see my web-page).

SVD-algorithms: I am writing a paper on the history of the first algorithms for the *Singular Value Decomposition* (SVD) of a matrix. I discovered an old Stanford Report (1967) by Golub with an ALGOL program of Businger. To test the program and compare it with the standard Golub-Reinsch program, I implemented an ALGOL compiler on my laptop.

Academic Degrees

Degrees	Field	Institution	Year
Full Professor	Computer Science	ETH Zürich	1991
Associate Professor	Computer Science	ETH Zürich	1987
Privatdozent	Numerical Analysis	ETH Zürich	1979
Dr. sc. math.	Mathematics	ETH Zürich	1973
ETH Diploma	Mathematics	ETH Zürich	1968

Education

Grown up in Biel, Switzerland, Matura 1963 type B (Latin and English). Student of mathematics and physics at ETH from 1963 – 1968.

Professional Employment

1968 – 1973: Assistant and graduate student of Heinz Rutishauser and Peter Henrici at ETH Zürich.

1973 – 1987: Professor of Numerical Analysis and Computer Science at the University of Applied Sciences Neu-Technikum Buchs <http://www.ntb.ch/>.

1977/78, 1984, 1993 and 2006: Sabbatical leaves visiting Gene Golub in the Computer Science Department of Stanford University, California www.cs.stanford.edu

2000: on sabbatical leave visiting Nick Trefethen at Oxford University.

1979 – 1987: Privatdozent at ETH Zürich.

1987 – 1991: Associate Professor in Computer Science at ETH.

1991 – 2009: Full Professor in Computer Science at ETH Zürich.

2009 – 2020: Visiting Professor at HKBU.

Fall 2014: Visiting Professor at Qian Weichang College at Shanghai University.

Some Important Academic Services

May 1989 – May 1991: Head of the evaluation committee for the Swiss national supercomputer (“Projekt HLR-91”). Purchased the first NEC SX-3 supercomputer for the Swiss National Supercomputing Center in Manno <http://www.cscs.ch/>

October 1989 – 1992: President of the Swiss Supercomputer Counsel (Hochleistungsrechnerrat).

October 1990 – October 1992: Head of Education (Abteilungsvorsteher) of the Department of Computer Science at ETH Zürich (ca. 900 students).

January 1989: Founder of the Institute for Scientific Computing at ETH. Head of this institute till September 1997.

October 1997 – October 2001: Chairman of the Department of Computer Science at ETH and also Head of Education of Computer Science.

2013 President of the joint Informatics Europe & ACM Europe Working Group on Informatics Education, April 2013.

The report *Informatics education: Europe cannot afford to miss the boat* is available on: <https://www.informatics-europe.org/images/documents/informatics-education-acm-ie.pdf>

Languages

Fluent in German, French and English.

Membership in associations and expert functions

- Member of Swiss Informatics Society (SI), ACM, SIAM, Swiss Mathematical Society.
- Member of the international advisory board of the “Bavarian Graduate School of Computational Engineering”, TU München <http://www.bgce.de/>.
- Member of the Editorial Advisory Board of the journal *INFORMATICS IN EDUCATION* http://www.mii.lt/informatics_in_education/editors.htm
- Category editor with ACM Computing Reviews (CR), covering mathematics of computing (numerical analysis, mathematical software & algebraic manipulation) since May 2017.

PhD Students

Supervised as Referent

Stefan Bondeli: *Divide and Conquer: Parallele Algorithmen zur Lösung tridiagonaler Gleichungssysteme*, 1991.

Urs von Matt: *Large Constrained Quadratic Problems*, 1992.

Michael Oettli: *The Homotopy Method Applied to the Symmetric Eigenproblem*, 1995.

Volker Strumpfen: *The Network Machine*, 1995.

David Sourlier: *Three Dimensional Feature Independent Best Fit in Coordinate Metrology*, 1995.

Tobias Fabio Christen: *Computer Simulation of Nerve Signal Transmission*, 1999.

Stefan Andreas Schmäzle: *New Methods for Nurbs Surface Approximation to Scattered Data*, 2001.

Erwin Achermann *MUSAC: a Tool for Evaluating Measurement Uncertainty*, Verlag Dr. Kovač, 2002.

Roman Geus *The Jacobi-Davidson algorithm for solving large sparse symmetric eigenvalue problems with application to the design of accelerator cavities*, 2002.

Oliver Broecker *Parallel Multigrid Methods using Sparse Approximate Inverses*, 2003

Leonhard Jaschke *Preconditioned Arnoldi Methods for Systems of Nonlinear Equations*, 2003.

Pedro Gonnet *Adaptive Quadrature Re-Revisited*, 2009.

Marco Wolf *A Modeling Language for Measurement Uncertainty Evaluation*, 2009.

Martin Müller *Computational Aspects of Measurement Uncertainty Calculation*, 2009.

Dirk Zimmer *Equation-Based Modeling of Variable-Structure Systems*, 2010.

Supervised as Korreferent

Perry Bartelt: *Finite Element Procedures on Vector/Tightly Coupled Parallel Computers*, 1989.

Bert Pohl: *Ein Algorithmus zur Lösung von Anfangswertproblemen auf Parallelrechnern*, 1992.

Arno Liegmann: *Efficient Solution of Large Sparse Linear Systems*, 1995.

Albert Hugo Widmann: Parallelization in Monte Carlo Simulations of Atomistically Detailed Polymers, 1995.

Masud Ghazvini: Modellgestützte, mehrdimensionale, inverse Interpolation zur effizienten Verbesserung der Positionier- und Orientierungsgenauigkeit von Industrierobotern, 1996.

Tilo Levante: Optimierung von Pulssequenzen, 1997.

Beat Hörmann: Error Assessment with Approximate Inverses in Linear System Solving with Application to Stopping Criteria for Iterative Methods, 1997 (University of Basel).

Claude G. Diderich: Automatic Data Distribution for Massively Parallel Distributed Memory Computers, 1998 (EPFL, Lausanne).

Lars Lippert: Wavelet-based Volume Rendering, 1998.

Remo Schnidrig: Adrenalin: a distributed realtime environment for the intraday analysis of financial markets, 1998.

Rolf Strebel: Pieces of Software for the Columbic m Body Problem, 2000.

Martin Roth: Bernstein-Bézier Representations for Facial Surgery Simulation, 2002.

Oscar Chinellato: The Complex-Symmetric Jacobi-Davidson Algorithm and its Application to the Computation of some Resonance Frequencies of Anisotropic Lossy Axisymmetric Cavities, 2005.

Honors

- Since February 2002 corresponding member of the Bavarian Academy of Sciences (<http://www.badw.de/>).
- Member of the Swiss Academy of Engineering Sciences (SATW <http://www.satw.ch/>) since 2007.
- Innovative Lectures Award (INNOLEC), Masaryk University, 2008 http://www.sci.muni.cz/NW/VVZ/INNOLEC/INNOLEC_2008.htm
- Awarding of the Medal of Mendel University, Brno, 15.12.14.

Publications

A: Books

- [1] W. Gander, L. Molinari and H. Švecová
Numerische Prozeduren aus Nachlass und Lehre von Prof. H. Rutishauser, ISNM 33, Birkhäuser Basel, 1977.

- [2] W. Gander
Chapter 6, *Numerik* in: *Informatik für Ingenieure*, F. L. Nicolet ed., Springer Verlag, 1979.
- [3] W. Gander
Computermathematik, Birkhäuser Basel, 1985. Second edition 1992.
- [4] W. Gander
Computermathematik, Lösungen der Aufgaben mit PASCAL Programmen, Birkhäuser Basel, 1986.
- [5] W. Gander and J. Hřebíček, ed.,
Solving Problems in Scientific Computing using Maple and Matlab, Springer Berlin Heidelberg New York, 1993, second edition 1995, third edition 1997, second printing of third edition 2001, fourth edition 2004.
<http://www.solvingproblems.ethz.ch/>
Chinese edition of the third edition 1999, China Higher Education Press and Springer Verlag.
Portuguese edition of the third edition, Editora Edgard Blücher LTDA, Sao Paulo, 2001.
Russian edition of fourth edition: December 2005, Publisher Vassamedia, Minsk, Bjelarus.
- [6] Walter Gander, Martin J. Gander, Felix Kwok
Scientific Computing, an Introduction Using Maple and Matlab, Springer Verlag, April 2014, ISBN 978-3-319-04324-1 <https://www.unige.ch/~gander/book.php>
- [7] Walter Gander
Learning Matlab – a Problem Solving Approach, Springer Verlag, December 2015. ISBN: 978-3-319-25327-5, 149p. <http://www.springer.com/gp/book/9783319253268>

B: Articles

1. W. Gander
Numerische Prozeduren, Bericht Nr. 4 der Fachgruppe für Computerwissenschaften der ETH Zürich, 1972.
2. W. Gander
Numerische Implementationen des Romberg'schen Extrapolationsverfahrens mit Anwendungen auf die Summation unendlicher Reihen, Dissertation ETH Nr. 5172, 1973.
3. W. Gander
Transfer of Numerical Programs, ACM SIGNUM Newsletters Vol. 11, No. 1, 1976.

4. W. Gander
A Machine Independent Algorithm to Compute Percentage Points of the χ^2 -Distribution, Zeitschrift für Angewandte Mathematik (ZAMP), 1978.
5. W. Gander
On the Linear Least Squares Problem with a Quadratic Constraint, Stanford Report STAN-CS-78-697, 1978 (Habilitationsschrift).
6. W. Gander
Algorithms for the QR-Decomposition, Research Report Nr. 80-2 des Seminars für Angewandte Mathematik der ETHZ, 1980. <https://www.inf.ethz.ch/personal/gander/papers/qrneu.pdf>
7. W. Gander
Least Squares with a Quadratic Constraint, Numerische Mathematik 36, 291-307, 1981.
8. W. Gander
Wie genau kann man mit dem Computer lineare Gleichungssysteme lösen ?, Didaktik der Mathematik 4, 247-268, 1982.
9. W. Gander
A Simple Adaptive Quadrature Algorithm, Research Report No. 83-03 des Seminars für Angew. Mathematik der ETHZ, 1983.
10. W. Gander
Das Verfahren von Givens zur Auflösung linearer Gleichungssysteme, Didaktik der Mathematik 4, 263-277, 1984.
11. W. Gander
On Halley's Iteration Method, The American Mathematical Monthly, Vol. 92, No. 2, February 1985.
12. P. Arbenz and W. Gander
Solving nonlinear Eigenvalue Problems by Algorithmic Differentiation, Computing 36, 205-215, 1986.
13. P. Arbenz, W. Gander and G. H. Golub
Restricted Rank Modification of the Symmetric Eigenvalue Problem: Theoretical Considerations, Linear Algebra and its Appl. Vol. 104, 75-95, 1988
14. W. Gander, G.H. Golub and Urs von Matt
A Constrained Eigenvalue Problem, Linear Algebra and its Appl. Vol. 114/115, 815-839, 1989
15. W. Gander and G.H. Golub
Discussion of: Linear Smoother and additive Models by A. Buja et al., The Annals of Statistics, Vol. 17, No. 2, 529-532

16. W. Gander
Rechnergestützte Herstellung wissenschaftlicher Texte von der Rohfassung bis zum Druck – ein Beispiel, in: *Typographie für Informatiker*, Herausgegeben von A. Gerold, Technische Universität München, Juni 1989.
17. W. Gander
Algorithms for the Polar Decomposition, SIAM J. on Sci. and Stat. Comp., Vol. 11, No. 6, 1989
TR-Report 101 Departement für Informatik Nr. 101, Januar 1989
18. Walter Gander, Gene H. Golub and Dominik Gruntz
Solving Linear Equations by Extrapolation in: *Supercomputing*, NATO ASI Series F: Computer and Systems Sciences, No 62, Janusz S. Kowalik (Ed.), p. 279-295, Springer-Verlag Berlin, 1989.
19. W. Gander, G.H. Golub and Urs von Matt
A Constrained Eigenvalue Problem, in *Numerical Linear Algebra, Digital Signal Processing and Parallel Algorithms*, NATO ASI Series, Series F: Computer and Systems Sciences, Vol. 70, ed. G. H. Golub and P. Van Dooren, Springer-Verlag, 1991, pp. 677–686.
20. W. Gander and D. Gruntz
The Billiard Problem, The Maple Technical Newsletter, Spring 1992, Birkhäuser Verlag.
21. W. Gander and D. Gruntz
The Billiard Problem, Int. J. Math. Educ. Sci. Technol., 1992, Vol. 23, No. 6, 825-830.
22. S. Bondeli and W. Gander
Cyclic reduction for special tridiagonal matrices, SIAM J. for Matrix Analysis Vol. 15, January 1994.
23. W. Gander, G.H. Golub and Urs von Matt
Large Constrained Quadratic Problems, Proceedings of the Cornelius Lanczos International Centenary Conference 1993, edited by David Brown et al., SIAM, 1994, pp. 308-310.
24. P. Arbenz and W. Gander
A Survey of Direct Parallel Algorithms for Banded Linear Systems, TR-Report 221 Departement Informatik ETHZ, November 1994.
25. Walter Gander, Gene H. Golub and Rolf Strebler
Least-Squares Fitting of Circles and Ellipses, BIT 34 (1994), pp. 558-578.
TR-Report 217 Departement Informatik ETHZ, June 1994.
TR-Report SCCM-94-08, Stanford University, 1994.

26. Christen T.F., Gander W., Vranesic I., Knoepfel T.
Modeling Diffusion in the Synaptic Cleft.
In: BIOMATH-95. Datecs Publishing. Sofia. p. 35, 1995.
27. P. Arbenz and W. Gander
Direct Methods for Banded Linear Systems on Massively Parallel Processor Computers.
In: Parallel Processing for Scientific Computing, (Ed.: Bailey, D. H. et al.) SIAM, Philadelphia, PA, 1995, pp. 506–507.
28. P. Kolm, P. Arbenz and W. Gander
Generalized Subspace Correction Methods for the Solution of Linear Systems.
TR-Report 241 Departement Informatik ETHZ, Okt. 1995
TR-Report TRITA-NA-9509, C2M2, Nada, KTH, Stockholm, November 1995.
29. D. Sourlier, W. Gander
A New Method and SW-Tool for the Exact Solution of Complex Measuring Problems, In: Advanced Mathematical Tools in Metrology II, World Scientific Publishing Co., 1996.
30. D. Sourlier, W. Gander
Mathematisch exakte Auswertung komplexer Geometrien,
Proceedings 9. internationales Oberflächenkolloquium, 29.–31.1.96, Chemnitz-Zwickau, pp. 103-114.
31. P. Arbenz, W. Gander and M. Oettli
The Remote Computation System,
In: High Performance Computing and Networking, H. Liddell and A. Colbrook and B. Hertzberger and P. Sloot eds., Lecture Notes in Computer Science, 1067, Springer-Verlag, 1996, pp. 662-667.
TR-Report 245 Departement Informatik ETHZ.
32. P. Arbenz and W. Gander and M. Oettli
The Remote Computation System,
Parallel Computing, Vol. 23, 1997, pp. 1421-1428.
33. P. Arbenz, W. Gander, H. P. Lüthi and U. von Matt
Sciddle 4.0, or, Remote Procedure Calls in PVM, in High-Performance Computing and Networking, Proceedings of the International Conference and Exhibition, ed. H. Liddell, A. Colbrook, B. Hertzberger and P. Sloot, Lecture Notes in Computer Science, Vol. 1067, Springer, Berlin, 1996, pp. 820–825.
34. P. Arbenz, W. Gander, H. P. Lüthi and U. von Matt
Sciddle 4.0: Remote Procedure Calls in PVM, in Workstations und ihre Anwendungen, Proceedings der Fachtagung SIWORK'96, Universität Zürich, ed. C. Cap, vdf, Zürich, 1996, pp. 323–326.

35. P. Arbenz and W. Gander
Direct Parallel Algorithms for Banded Linear Systems,
 special volume on “Numerical Analysis, Scientific Computing, Computer Science” of Zeitschrift fuer Angewandte Mathematik und Mechanik (ZAMM) Akademie Verlag, Berlin, Proceedings ICIAM 95, 1996.
36. W. Gander, G. H. Golub and R. Strebel
Least Squares Fitting of Circles and Ellipses.
 In: Numerical Analysis, Supplement to the Bulletin of the Belgian Mathematical Society, Dez. 1996, pp. 63–84.
37. R. Strebel, D. Sourlier and W. Gander
A Comparison of Orthogonal Least Squares Fitting in Coordinate Metrology.
 In: Recent Advances in Total Least Squares Techniques and Errors-In-Variables Modeling. S. Van Huffel (Ed.), SIAM Proceedings series, 1997, pp. 249-258.
38. W. Gander and G.H. Golub
Cyclic Reduction - History and Applications,
 Proceedings of the Workshop on Scientific Computing : 10-12 March, 1997, Hong Kong, editor-in-chief, Gene Howard Golub ; managing editor, Shiu Hong Liu ; editors, Franklin T. Luk, Robert James Plemmons. Springer Verlag, New York, 1997.
 TR-Report SCCM-97-02, Stanford University, 1997.
39. W. Gander and D. Sourlier
Best-Fit of Sculptured Surfaces,
 pp. 59 – 73 in: G. J. Olling, B. K. Choi and R. B. Jerard, *Machining Impossible Shapes*, IFIP TC5 WG5.3 International Conference on Sculptured Surface Machining (SSM98), Conference Proceedings, Kluwer Academic Publishers, 1999.
 TR-Report 307, Departement Informatik, 1998.
40. W. Gander and W. Gautschi
Adaptive Quadrature - Revisited,
 BIT Vol. 40, No. 1, March 2000, pp. 84–101.
 TR-Report 306, Departement Informatik, 1998.
 Our quadrature programs are used for the new quadrature routines in Matlab (since Version 6 of December 2000).
41. W. Gander and D. Gruntz
Derivation of Numerical Methods using Computer Algebra,
 SIAM Review, Vol 41, Number 3, 1999.
 TR-Report 305, Departement Informatik, 1998.
42. Peter Arbenz, Oliver Bröker, Oscar Chinellato, Walter Gander, Roman Geus, and Rolf Strebel
A Comparison of Numerical Implementations of the Eigenstate Expansion

- Method for Quantum Molecular Dynamics Simulations*,
TR-Report 333 Departement Informatik ETHZ, January 2000.
43. Linda Petzold et al. (SIAM Working Group on CSE Education)
Graduate Education in Computational Science and Engineering
SIAM Review, Volume 43, Number 1, March 2001, pp. 163–177.
 44. W. Gander
Bookreview: From Elementary Probability to Stochastic Differential Equations with MAPLE
Journal of the American Statistical Association, March 2003.
 45. Christian Soltmann, Conradin Beeli, Reinhard Lück, Walter Gander
In-situ high-temperature powder diffraction study of reversible phase transitions in decagonal $Al_{71.2}Co_{12.8}Ni_{16}$
J. Appl. Cryst. (2003). 36, 1030-1039.
 46. W. Gander
Heisenberg Effects in Computer-Arithmetic
<http://www-oldurls.inf.ethz.ch/personal/gander/Heisenberg/Heisenberg.html>
 47. W. Gander
Change of basis in polynomial interpolation
Numer. Linear Algebra Appl. 2005; **12**; 769–778
 48. W. Gander
Generating Numerical Algorithms with Computer Algebra
BIT Numerical Mathematics (2006) 46: 491-504 (Special edition dedicated to Germund Dahlquist).
 49. Martin Müller, Marco Wolf, Matthias Rösslein, Walter Gander
Messunsicherheit – Softwaregestützte Modellierung und Simulation komplexer Messvorgänge
In: VDI – Berichte 1947, Messunsicherheit praxisgerecht bestimmen, pages 347–356, 2006.
 50. Martin Müller, Marco Wolf, Matthias Rösslein, Walter Gander
Calculating measurement uncertainties with complex quantities using Monte-Carlo
In: Transverse disciplines in metrology, Proceeding, 13th International Metrology Congress, pages 603–614. ISTE Ltd., 2007.
 51. Martin Müller, Marco Wolf, Matthias Rösslein, Walter Gander
High resolution modeling for evaluation of measurement uncertainty
In: Transverse disciplines in metrology, Proceeding, 13th International Metrology Congress, pages 615–626. ISTE Ltd., 2007.

52. W. Gander
Teaching computational science with computer algebra
 Proceedings ICIAM07, Published Online:
 Dec 12 2008 7:37AM DOI: 10.1002/pamm.200701004 (p 1170103-1170104)
53. W. Gander
20 Jahre Wissenschaftliches Rechnen, Leiden und Freuden eines Professors
 Final lecture at ETH, May 25, 2009, (see link on my web-page).
54. W. Gander
Zeros of Determinants of λ -Matrices
 In: MATRIX METHODS: THEORY, ALGORITHMS AND APPLICATIONS, Dedicated to the Memory of Gene Golub. Vadim Olshevsky & Eugene Tyrtyshnikov eds. World Scientific Publishers, 2010
55. W. Gander
Writing the first L^AT_EX book
 TUGboat, Volume 31 (2010), No. 2, pp. 154–157.
56. W. Gander
Solving Least Squares Problems
 Proceedings of the 6th Summer School on Computational Biology, September 23–25, 2010 Lednice, Czech Republic.
57. W. Gander
Ein Beispiel für Daten: das Factbook der CIA
 Informatik-Spektrum, Springer Berlin / Heidelberg, ISSN0170-6012 (Print) 1432-122X (Online) <https://dl.gi.de/handle/20.500.12116/9599> July 29, 2009.
 Informatik-Spektrum: Volume 33, Issue 3 (2010), Page 296
58. Leon, S. J., Björck, Å. and Gander, W.
Gram-Schmidt orthogonalization: 100 years and more
 Numer. Linear Algebra Appl. John Wiley & Sons, Ltd, (published online: 4 June 2012), May 2013; 20: pp. 492–532.
59. Walter Gander
Informatics and General Education, In: Informatics in Schools, Teaching and Learning Perspectives Lecture Notes in Computer Science, Vol. 8730 Proceedings, ISSEP 2014, Istanbul, Turkey, September 22-25, 2014.
60. Hanna Rutishauser und Walter Gander
Programmieren, welche Bürde!, Informatik Spektrum, Dezember 2014.
61. W. Gander
Informatics – New Basic Subject, Bulletin of the EATCS, Number 116, June 2015, pp. 156-164

62. W. Gander
The Life of a Computer Pioneer, BLOG@CACM, 13. April 2015, <http://cacm.acm.org/blogs/blog-cacm/185577-the-life-of-a-computer-pioneer/fulltext>
63. Walter Gander and Qiquan Shi
Matrix completion with ε -algorithm, Numerical Algorithms, Springer, 2018, ISSN 1017-1398, DOI 10.1007/s11075-018-0579-y
64. Walter Gander
Infinity and Finite Arithmetic, in: *Adventures Between Lower Bounds and Higher Altitudes - Essays Dedicated to Juraj Hromkovič on the Occasion of His 60th Birthday*, p. 377–392, Springer, 2018, DOI 10.1007/978-3-319-98355-4_21
65. Walter Gander
New Algorithms for Solving Nonlinear Eigenvalue Problems, Computational Mathematics and Mathematical Physics, No. 5, 2021, Springer Verlag.
 A Russian translation of this paper will also be available in the Proceedings of *The 5th International Conference on Matrix Methods in Mathematics and applications, Moscow, Russia, August 19-23, 2019*, to appear 2021.

In the pipe line:

66. Walter Gander
Vektorgeometrie mit Computer, chapter in a new book (in German) of Juraj Hromkovic for high school students, to appear 2021.
67. Walter Gander
Computing the SVD.

Scopes Projects

The SCOPES co-operation programme (Scientific Co-operation between Eastern Europe and Switzerland) enables researchers from Eastern Europe and Switzerland to collaborate on their scientific work in mutual partnerships. The designated group of partner countries is a reflection of the Eastern European aid policy of the Swiss Federal Government.

The aim of the programme is to enhance the qualifications as well as performance and competitiveness of research groups and institutions in Eastern Europe. SCOPES is a joint initiative by the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC).

I managed three Scopes projects:

1. *Solving Problems in Scientific Computing* 1991–1993

Project partners: Prof. Jaroslav Buchar and Prof. Jiří Hřebíček Institut of Physics, Mendel University of Agriculture and Forestry, Brno

2. *Establishing Computational Science and Engineering in Bulgaria and Macedonia*, 2002–2004.

Project partners:

- Institute of Mathematics and Informatics (IMI) of the Bulgarian Academy of Sciences (Prof. S. Dodunekov, Prof. S. Markov), Sofia, Bulgaria.
- Department Informatics at the Faculty of Mathematics and Natural Sciences of the South-West University Blagoevgrad, Bulgaria (Prof. I. Mirchev)
- Department of Mathematics of the Faculty for Mechanical Engineering and Instrument Design of the Technical University Gabrovo, Bulgaria (Prof. S. Kapralov)
- Institute of Informatics of the Faculty of Natural Sciences and Mathematics at the University Saints Cyril and Methodius (UKIM), Skopje, Macedonia (Prof. S. Markovski)
- Faculty of Mechanical Engineering at UKIM, Skopje (Prof. T. Zlatanovski)

3. *New Methods for Quadrature*, 2005–2008

Project partners:

- Prof. Gradimir V. Milovanovic, University of Nis, Serbia
- Prof. Borislav Bojanov, Department of Mathematics University of Sofia, Bulgaria

Program Committees

- Householder Symposium 1996 Pontresina (Main Organizer), <https://www.maths.manchester.ac.uk/~higham/conferences/householder.php>
- GAMM 2001, 12-15 Februar 2001, ETH Zurich.
- 3rd INTERNATIONAL FORTWIHR - CONFERENCE 2001, March 12th to 14th, 2001, University of Erlangen-Nuremberg, Germany
- HERCMA 2001 Athens, 20-22 September 2001
- Latsis Symposium 2002, 18-21 February 2002, ETH Zurich (Main Organizer). *Iterative Solvers for Large Linear Systems, celebrating 50 years of the conjugate gradient method.*
- Member (treasurer) of the Organizing Committee of ICIAM 2007 <http://www.iciam.org/event/iciam-2007-%E2%80%93-zurich>
- Organizer of “40 years of Computer Science at ETH” October 3, 2008.
- Golub Memorial Days 2012, 2015, 2017, 2018 and 2019. Together with Franklin Luk and Zhong-Zhi Bai.

June 6, 2021 / WG