

Curriculum Vitae

Prof Dr. Wolfgang Sproessig

Prof. Dr. rer. nat. habil. Wolfgang Sproessig born in Chemnitz in 1946 (13.10.1946), married, 2 children

1 Positions and activities

1965 – 1969 studies of mathematics at the Technical University of Karl-Marx-Stadt (today: Chemnitz)

1969 – 1974 PhD student supervised in the field of multidimensional singular integral equations by Siegfried Prößdorf

1975-1978 assistant at the Chair of Applied Analysis held by Hans Jäckel at the TU Karl-Marx-Stadt

1979-1985 involved in industrial research with the responsibility for stress calculations during cast iron production (industrial project)

1979 habilitation with professional dissertation titled : *On a operator calculus for the solution of boundary value problems in bounded domains* (in German)

1980 – 1986 Lecturer at the Technical University of Karl-Marx-Stadt

1986 appointed Full Professor at the Technical University Bergakademie Freiberg

1986 – 1992 Head of the Research Sector Analysis

1992 – 1996 Deputy Director of the Institute of Applied Mathematics I

1996 – 2003 Head of the Institute of Applied Mathematics I

2003 – 2012 Head of the Institute of Applied Analysis

2012 – retirement

2 Qualification Papers

1. (1974) *Über die Regularisierung eines Systems zweidimensionaler singulärer Integralgleichungen, dessen Symbol endlich viele Nullstellen ganzzahliger Ordnung besitzt.* Dissertation (A), Karl-Marx-Stadt (118 pages).
Supervisor: Siegfried Pröckdorf
2. (1979) *Eine mehrdimensionale Operatorenrechnung über beschränkten Gebieten des Euklidischen Raumes und ihre Anwendung auf die Lösung von Gleichungen,* Dissertation(B), Karl-Marx-Stadt (220 pages).

3 Teaching and Research areas

Teaching experience for undergraduate and graduate students in the following topics:

calculus, differential geometry, differential equations, vector analysis, complex analysis, algebra, special functions, models in mathematical physics, tensor analysis, differential topology, integral equations, financial mathematics, functional analysis.

Research areas: quaternionic analysis, Clifford analysis, boundary value problems of partial differential equations.

4 Membership in Professional Bodies

Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) (Germany)

Clifford Algebras International Research Open Studies (C.A.I.R.O.S.)(France)
(Deputy Coordinator)

European Consortium of Mathematics in Industry (ECMI)

European Society of Computational Methods in Science and Engineering (ESCMSE)

Telesio-Galilei Academy of Science (TGA)

ISAAC Group in Clifford and Quaternion Analysis (IGCQA)

5 Board Member of Scientific Journals

Mathematical Methods in The Applied Sciences (MMAS) (Editor-in-Chief) (Wiley-Blackwell Chichester)

Frontiers in Mathematics (Birkhauser Basel)

Advances in Applied Clifford Algebras (AACA)(Birkhauser Basel)

Complex Analysis and Operator Theory (CAOT) (Birkhauser Basel)

Clifford Analysis Clifford Algebras and their Application (CACAA)(Open Journal Systems, PKP Publishing)

6 Awards

Honorary Fellowship of the ESCMSC (2005)

Goldmedal of the TGA (2012)

7 Organizer of international scientific meetings

Chairman of the International Advisory Board of the ICCA (International Conferences on Clifford Algebras and their Applications)

Member of the Scientific Board of the ICNAAM (International Conferences of Numerical Analysis and Applied Mathematics)

8 Commissions and responsibilities at the TU Freiberg

Member of the PhD-commission („Graduierten-Kommission“) 1993 – 2012

Speaker of the local Freiberg group of the German Association of University Professors and Lecturers (1997 –)

Local coordinator of the Erasmus program (1991 – 1997)

Local coordinator of the Socrates program (1997 – 2010)

Local coordinator of the Leonardo program (ECMI) (1999 – 2012)

Speaker of the DAAD project „Technomathematik“ (Industrial Mathematics) with the TU Hanoi, University Weimar and the TU Freiberg (2005 – 2010)

Comprehensive referee’s work (evaluation of science sectors, reports for the GRF (DFG), reports for dissertations, reports for books and science articles for many international journals, reports for appointments, reports for grants)

9 External Examiner Experience

External Examiner at the TU Hanoi Vietnam)

Examiner at the European Intensive Courses of Complex Analysis (Aveiro, Coimbra)

PhD and habilitation examiner in Germany and some European universities

Reviewer of the Georgia National Science Foundation

External Examiner for Mathematics at the University of Brunei Darussalam (Sultanate Brunei)

10 Habilitation paper reports

Helmuth Malonek (1988)(PH Halle-Köthen)

Klaus Gürlebeck (1989) (TU Karl-Marx-Stadt)

Ludmila Meister (1997) (TU Darmstadt)

Swanhild Bernstein (2001) (TU Freiberg)

Bertfried Fauser (2002) (University of Konstanz)

Roman Lavicka (2011) (Charles University Prague)

11 Books

1. with K. Gürlebeck (1989) *Quaternionic Analysis and Elliptic Boundary Value Problems*, Akademie-Verlag, Birkhäuser-Verlag - Basel, (ISBN 3 76432-382-5) (253 pages).
2. with K. Gürlebeck (1997) *Quaternionic and Clifford Calculus for Physicists and Engineers*, Series: Mathematical Methods in Practice, Volume 1, Wiley & Sons, Chichester * New York * Weinheim * Brisbane * Singapore * Toronto, (ISBN 0-471-96200-7) (371 pages).
3. with K. Gürlebeck (eds.)(1997) *Proceedings of the Symposium Analytical and Numerical Methods in Quaternionic and Clifford Analysis*, (1997)(ISBN 3-86012-041-7), Freiberg University of Mining and Technology.
4. with J. Ryan (eds.) (2000) *Clifford Algebras and their Applications in Mathematical Physics, Volume 2: Clifford Analysis*, Birkhäuser New York, (ISBN 0-817-64183-1), Progress in Physics.
5. with K. Gürlebeck und X. Ji (eds.)(2001) *Clifford Analysis and Related Topics*, (ISSN 0188 7009) Advances in Applied Clifford Algebras, Volume 11 (S2).
6. with F. Sommen (eds) (2002) *Clifford Analysis in Applications* (2002), Special Issue MMAS, ISSN 0170–4214, (142 pages)
7. with A. Fichtner (2004) *Vektoranalysis*, Eagle-Guide , Edition am Gutenbergplatz Leipzig, (ISBN 3-937219-19-6) (77 pages).
8. with K. Gürlebeck and K. Habetha (2006) *Funktionentheorie in der Ebene und im Raum*, Birkhäuser Verlag Basel,(ISBN 2764373695) (417 pages).
9. with K. Gürlebeck and K. Habetha (2008) *Holomorphic functions in the plane and n -dimensional Space*, Birkhäuser-Verlag, Basel, (ISBN 978-3-7643-8271-1) (extended translation of 8.)(394 pages).
10. (ed.)(2009) *Discrete and continuous hypercomplex structures* Special issue, Cubo - A Mathematical Journal, Universidad de La Frontera (Chile), (162 pages).

12 Scientific papers

1. (1974) *Über ein System zweidimensionaler singulärer Integralgleichungen nichtnormalen Typs*, Wissenschaftliche Zeitschrift der TH Karl-Marx-Stadt 16, Heft 3, (1974), 433–446.

2. (1975) *Eine Klasse zweidimensionaler singulärer Integralgleichungen nicht-normalen Typs*, Wissenschaftliche Schriftenreihe der TH Karl-Marx-Stadt, 5. Tagung über Probleme und Methoden der mathematischen Physik, Heft 2.
3. (1978) *Methods of function theory for solution of non-linear partial differential equations*, Proc. of the International Summer School of the Academy of Science in GDR held at Berlin 1977, Abhandlungen der AdW der DDR, Nr. 6N, Jahrgang 1978, 399–402.
4. (1978) *Analoga zu funktionentheoretischen Sätzen im R^n -Anwendungen auf mehrdimensionale singuläre Integralgleichungen*, Beiträge zur Analysis, 12, (1978), 113-126.
5. *Räumliches Analogon zum komplexen T-Operator*, Beiträge zur Analysis, 12, 127-137.
6. (1979) *Lösungsdarstellungen einer Klasse spezieller Operatorgleichungen*, Mathematische Nachrichten, Band 90, (1979), 135-147.
7. (1979) *Taylor- und Laurententwicklungen räumlich verallgemeinerter analytischer Funktionen*, Wissenschaftliche Zeitschrift der TH Karl-Marx-Stadt, 21, Heft 7, 889–894.
8. (1979) *Anwendung der analytischen Theorie der Quaternionen zur Lösung räumlicher Probleme der linearen Elastizität in beschränkten Gebieten*, ZAMM, 59, 741–743.
9. (1980) *Quadratur mehrdimensionaler singulärer Parameterintegrale und ihre Anwendung zur Lösung partieller Differentialgleichungen*, Beiträge zur Numerischen Mathematik 8, (1980), 155–166.
10. (1981) *Constructions of local solutions for Maxwell equations*, Proc. of the 7th International Summer School held at Berlin 1979, Abhandlungen der AdW der DDR, Nr.2N, 413–415.
11. (1981) *Methode der harmonischen Approximation*, Beiträge zur Numerischen Mathematik, 9, 185–193.
12. with K. Gürlebeck (1984) *Calculating stresses in three-dimensional bodies*, Suppl. ai Rend. di Circ. Mat.di Palermo, Serie II, numero 6, 271–284.
13. (1985) *Untere Abschätzungen des ersten Eigenwertes spezieller elliptischer Randwertaufgaben*, Wissenschaftliche Zeitschrift der TH Leuna-Merseburg, 27, 556–560.

14. with K. Gürlebeck, M. Tasche (1985) *Numerical realization of boundary collocation methods*, International Series of Num. Mathematics, Vol. 75, Birkhäuser-Verlag Basel, 206–217.
15. with K. Gürlebeck (1986) *Untere Eigenwertabschätzungen*, Preprint Nr. 3 der TH Karl-Marx-Stadt, 1–15.
16. with K. Gürlebeck, A. Schürer (1986) *Application of Boundary Collocation Methods in Physics and Engineering*, Wissenschaftliche Zeitschrift der TH Karl-Marx-Stadt, 28, Festband 150. Jahre Ingenieurausbildung, Heft 2, (1986), 168–174.
17. with K. Gürlebeck (1987) *A Unified Approach to Estimation of Lower Bounds for the First Eigenvalue of Several Elliptic Boundary Value Problems*, Mathematische Nachrichten, 131, 183–199.
18. with K. Gürlebeck (1987) *A generalized Leibniz rule and a discrete quaternionic analysis*, Suppl. ai Rend. di Circ. Mat. di Palermo, Serie II, num. 16, 44–64.
19. with K. Gürlebeck (1987) *An application of quaternionic analysis to the solution of time-independent Maxwell equations and of Stokes' equations*, Suppl. ai Rend. del Circ. Mat. di Palermo, Serie II, num. 14, 61–78.
20. with K. Gürlebeck (1989) *Methods of Quaternionic Analysis and Numerical Consideration of Boundary Value Problems*, Seminar Analysis of Academy of Science of the GDR, 12–42.
21. with K. Gürlebeck (1989) *A quaternionic treatment of Navier-Stokes equations*, Suppl. ai Rendiconti del circolo Matematico di Palermo, Serie II, numero 22, 77–95.
22. (1991) *On a class of non-linear boundary and eigenvalue problems*, In: R. Kühnau and W. Tutschke; *Boundary value and initial value problems in complex analysis: studies in complex analysis and its applications to partial differential equations 1*, Pitman Research Notes in Math., Vol. 256, 135–141.
23. with K. Gürlebeck (1992) *On eigenvalue estimates of nonlinear Stokes eigenvalue problems*, In: A. Micali et al.; *Clifford Algebras and their Applications in Mathematical Physics*, Kluwer Academic Publishers, 327–333.
24. with K. Gürlebeck (1992) *Application of Quaternionic Analysis on Generalized Non-linear Stokes Eigenvalue Problems*, in: H. Begehr, A. Jeffrey: *Partial Differential Equations With Complex Analysis*; Pitman Research Notes 262, Longman 1992, 52–60.

25. with K. Gürlebeck (1992) *On Eigenvalue Estimates of Nonlinear Stokes Eigenvalue Problem*, in: A.MICALI: Clifford Algebras and their Applications in Mathematical Physics, Fundamental Theories of Physics, Vol. 47, Kluwer Acad. Publ. 327–333.
26. (1993) *Quaternionic operator calculus and domain perturbation problems*, In: F.Brackx et al.; Clifford Algebras and their Applications in Mathematical Physics, Kluwer Academic Publishers, 233-240.
27. with E. Venturino (1993) *The Treatment of Window Problems by Transform Methods*, ZAA, Vol. 12,643–654.
28. with K. Gürlebeck, U. Wimmer (1993) *Hypercomplex Function theory for consideration of non-linear Stokes problems with variable viscosity*, Complex Variables, Vol. 22, 195-202.
29. (1993) *On the treatment of non-linear boundary value problems of a disturbed Dirac equation by hypercomplex methods*, Complex Variables, Vol. 23, 123–130.
30. with K. Gürlebeck (1995) *Clifford Analysis and Elliptic Boundary Value Problems*, In: R. Ablamowicz and P. Lounesto; Clifford Algebras and Spinor structures, Kluwer Academic Publishers,325-334.
31. (1995) *Representation formulae of solutions of boundary value problems with Clifford analysis methods*, Preprint 95-06 der TU-Bergakademie Freiberg,1–30.
32. (1995) *On decompositions of the Clifford valued Hilbert space and their applications to boundary value problems*, Advances in Applied Clifford Algebras, Vol. 5, 167–186.
33. with K. Gürlebeck (1996) *On the treatment of fluid problems by methods of Clifford analysis*, Proceedings to the IMACS-COST Conference held at Lausanne in 1995, In: M. Deville, S. Gavrilakis, I.L.Ryhming (eds.): Notes on Numerical Fluid Mechanics, Vol. 53, Vieweg-Verlag, Braunschweig,304–310.
34. with K. Gürlebeck (1997) *On the treatment of fluid problems by methods of Clifford analysis*, Mathematics and Computers in Simulation Vol. 44, No. 4, Elsevier Science, 401–414.
35. with K. Gürlebeck, U. Kähler and J. Ryan (1997) *Clifford Analysis over Unbounded Domains*, Advances in Applied Mathematics 19, 216–239.
36. (1998) *Boundary Value Problems Treated with Methods of Clifford Analysis*, Contemporary Mathematics, Vol. 212, 255–268.

37. (1998) *On a class of non-linear boundary value problems*, In: V. Dietrich, K. Habetha and G. Jank (eds.) - Clifford Algebras and Their Applications in Mathematical Physics, Kluwer Academic Publishers, 383–389.
38. (1998) *On the treatment of classes of non-linear boundary value and extension problems by Clifford algebraic methods*, In: J. Ryan, D. Struppa: Dirac operator in Analysis, Pitman Research Notes, Mathematical Series 394, 58-74.
39. with K. Gürlebeck (1999) *Methods of quaternionic analysis for the treatment of non-linear boundary value problems* In: T. M. Rassias: Recent trends in Mathematical Analysis and Applications, Contemporary Mathematics, 228, 146–169.
40. (1999) *On operators and elementary functions*, ZAA, Vol. 18, No. 2, 349–360.
41. with K. Gürlebeck (1999) *Methods of Quaternionic Analysis for the Treatment of Non-Linear Boundary Value Problems*, in: T.M. Rassias (ed.), Mathematical Analysis and Applications, Hadronic Press, Inc., Florida, USA.
42. (2000) *Quaternionic Analysis in Fluid Mechanics*, In: J. Ryan and W. Sprößig Clifford Algebras and their Applications in Mathematical Physics, Vol. 2, Clifford-Analysis, Birkhäuser, Progress in Physics, 37–54.
43. (2001) *Operators in Clifford algebras and applications*, Advances in Applied Clifford Algebras Special Issue Clifford Analysis, Vol. 11 (SI) 77–92.
44. (2001) *Clifford Analysis and its applications in mathematical physics*, Advances in Applied Clifford Algebras Special Issue Clifford Analysis, Vol. 11, 1-36.
45. (2001) *Teodorescu type transforms (TT) in applications*, in F. Brackx et al (eds), Clifford Analysis and its Application, Kluwer Academic Publishers, 341–360.
46. with H. Schaeben, G. van den Boogart (2001) *Spherical X-Ray Transform of Texture Goniometry*, in F. Brackx et al (eds.): Clifford Analysis and its Application, Kluwer Academic Publishers, 283–291.
47. with H. Bahmann, K. Gürlebeck, M. Shapiro (2001) *On a modified Teodorescu Transform*, Integral Transforms and Special Functions, Vol. 12 No. 3, 213-226 (also as Preprint 1, Bauhaus-Universität Weimar, Professur für Angewandte Mathematik)
48. (2001) *Eigenvalue Problems in the Framework of Clifford Analysis*, Advances in Applied Clifford Algebras Vol. 11(S2), 301–316.

49. (2001) *On Generalized Vekua Type Problems*, Advances in Applied Clifford Algebras 11(S) 77–92.
50. with K. Gürlebeck, M. Shapiro (2002) *On the Teodorescu transform for a class of metaharmonic functions*, Journal of Natural Geometry (London), Vol. 21, 17-38.
51. (2002) *Clifford analysis and its applications in mathematical physics*, Cubo , Vol. 4, No. 2, 253–314.
52. with E. Venturino (2002) *An alternative approach for solving Maxwell's equations*, J. Levesley, I.J. Anderson, J.C. Mason (eds.) , Algorithms for Approximation IV, Proceedings of the 2001 International Symposium, University of Huddersfield, Queensgate, Huddersfield HD1 3DH, UK, 110–118.
53. with K. Guerlebeck (2002) *Representation theory for classes of initial value problems with quaternionic analysis* (2002) Mathematical Methods in the Applied Sciences, 25: 1371–1382.
54. with F. Sommen (2002) *Introduction to Clifford analysis*, MMAS, 25 16–18, 1337–1342, 2002.
55. (2004) *Maxwell's equations in Clifford calculus framework - an overview on the development*, In: Le Hung Son (ed.) et al Finite or infinite dimensional complex analysis and applications, Proc. of the International Conference, Hanoi, Vietnam August 8-12, 2001, Boston MA, Kluwer Acad. Publ. Adv. Compl. Analys. Appl. 2, 85 – 100.
56. with Xinhua Ji (2004) *Global stability for the n-species Lotka-Volterra Tree Systems of Interacting Population-Diffusion Equations*, Journal of Dynamical Systems and geometric theories, Vol 2.
57. with K. Gürlebeck (2004) *Galpern-Sobolev Type Equations with Non-constant Coefficients*, Trends in Mathematics: Advances in Algebra and Geometry, 301–310, Birkhäuser Verlag Basel.
58. (2005) *Quaternionic analysis and Maxwell's equations* ,Cubo, A mathematical Journal, Vol 7, Nr.2, 57 – 67.
59. (2005) *Quaternionic analysis and Maxwell's equations* ,Cubo, A mathematical Journal, Vol 7, Nr.2, 57 – 67.
60. with D. Constales, K. Gürlebeck, S. Krausshar (2006) *Applications of quaternionic analysis in Engineering* In: 17th International Conference on the Application of Computer Science and Mathematics in Architecture and Civil Engineering IKM 2006, 12.-14. July 2006, Weimar, Germany, [eds. K. Gürlebeck, C. Könke].

61. (2007) *Fluid flow equations with variable viscosity in quaternionic setting* (2007), *Advances in Applied Clifford Algebras* 17, Birkhäuser Basel, 259 – 272.
62. *Toroidal flows* (2007), AIP Conference Proceedings 936, „Numerical analysis and applied mathematics“, American Institute of Physics, 769 – 774.
63. with K. Gürlebeck (2007) *Clifford algebras in Mathematics and Applied Sciences* (2007), AIP Conference Proceedings 936, „Numerical analysis and applied mathematics“, American Institute of Physics, 709 – 710.
64. (2008) *Quaternionic operator Methods in Fluid Dynamics*, AACA Vol. 18, Numbers 3-4, 963-978.
65. with R. Schlichting (2008) *Norm estimates of the modified Teodorescu transform with applications to multidimensional equations of Airy's type*, In T. Simos, G. Psihoylos, Ch. Tsitouras (Eds.), AIP Conference proceedings Volume 1048 ICNAAM, Psalidi, Kos., 701–706.
66. (2008) *Quaternionic Operator Methods in Fluid Dynamics* , *Advances in Applied Clifford Algebras*, Birkhäuser Basel, Vol 18, No. 3-4, 963–978.
67. with Le Thu Hoai (2009) *On a new notion of holomorphy and its applications*, *Cubo - A mathematical Journal*, Vol 11 Nr. 1 145–162.
68. *Exponentials of the Dirac operator and an application*, AIP, Vol. 1168, 805-808.
69. (2010) *On Helmholtz decompositions and their generalizations an overview* MMAS, vol. 33, Issue 4, 373–383.
70. (2010) *Poisson-Stokes-Problem in quaternionic setting* Sbirnik praz In-Tu matematiki NAN Ukraini, tom 7,Nr. 2, 140–149.
71. with S. Ludkovsky (2010) *Ordered representations of normal and super-differential operators in quaternion and octonion Hilbert space*, ACAA 20, No. 2, 321–342.
72. with K. Avetyan and K. Gürlebeck (2009) *Harmonic conjugates in weighted Bergman spaces of quaternion-valued functions*, CMFT 9, No 2, 593–608.
73. with S. V. Ludkovsky (2011) *Spectral representations of operators in Hilbert spaces over quaternions and octonions*, *Complex Variables and Elliptic Equations*, Taylor & Francis, 1–24. (DOI: 10.1080/17476933.2010.538845)
74. with S.V. Ludkovsky (2011) *Spectral Theory of Super-Differential Operators of Quaternion and Octonion Variables*, AACA, vol. 21, no. 1, 165–191. (DOI: 10.1007/s00006-010-0238-4)

75. with T. Qian, J. Wang (2012) *Adaptive Fourier decomposition of functions in quaternionic Hardy spaces Hardy spaces*, MMAS Vol 35, 1, 43–64.
76. with J. Morais, and H.T. Le (2011) *On some constructive aspects of monogenic function theory in R^4* , MMAS Vol 34, 14, 1694–1706.
77. with K. Gürlebeck (2011) *Fluid flow problems with quaternionic analysis – an alternative conception*, In: E. Bayro-Corrochano, G. Scheuermann, Springer (London), Geometric Algebra Computing; Engineering and Computer Science Science, 345 – 380.
78. with S. Georgiev, J. Morais, (2011) *New aspects on elementary functions in the context of quaternionic analysis*, Cubo - A mathematical Journal, (accepted for publication)
79. with S. Georgiev, J. Morais (2012) *A note on the Clifford Furir-Stieltjes transform*, (submitted CAOT)
80. with S. Georgiev, J. Morais, K.I. Kou (2012) *Bochner-Minlos Theorem and Quaternion Fourier Transform*, (submitted CACAA)

13 Thesis supervisor

Dissertations

1. **Roland Hagen** (1980), TU Karl-Marx-Stadt
Über die Methode der Finite-Element-Kollokation zur näherungsweise Lösung gewisser Rand- bzw. Anfangs-Randwertprobleme
2. **Klaus Gürlebeck** (1984) TU Karl-Marx-Stadt: *Über die optimale Interpolation verallgemeinert analytischer quaternionenwertiger Funktionen und ihre Anwendung zur näherungsweise Lösung wichtiger räumlicher Randwertaufgaben der Mathematischen Physik*
3. **Elias Wegert** (1984) TU Karl-Marx-Stadt: *Über eine Anwendung ausgearteter Differentialoperatoren in der konstruktiven Approximationstheorie*
4. **Andreas Schürer** (1985) TU Karl-Marx-Stadt: *Approximationssätze für Lösungen der Wärmeleitungsgleichung und ihre Anwendungen zur Berechnung instationärer Temperaturfelder*
5. **Swanhild Bernstein** (1993) TU Freiberg, *Analytische Untersuchungen in unbeschränkten Gebieten mit Anwendungen auf quaternionische Operatorentheorie und elliptische Randoperatoren*

6. **Frank Kippig** (1996) TU Freiberg: Untersuchungen zu Randwert- und Anfangsrandwertaufgaben für partielle Differentialgleichungen mit Methoden der Cliffordschen Analysis
7. **Hoai Thu Le** (2013 planned) TU Hanoi/TU Freiberg: *L-holomorphic structures and boundary value problems*

Diploma thesis

1. **Andreas Schürer** (1976) TU Karl-Marx-Stadt: *Das dynamische Modell der linearen Elastizitätstheorie für Thermoschockvorgänge bei metallurgischen Prozessen*
2. **Kerstin Hölzel** (1979) TU Karl-Marx-Stadt: *Numerische Realisierung des verallgemeinerten Nabla-Operators*
3. **Lutz Vogel** (1978) TU Karl-Marx-Stadt: *Erstellung effektiver numerischer Verfahren zur Lösung räumlich verallgemeinerter Cauchy-Riemann-Systeme mit Anwendung zur Berechnung von Wärmespannungen*
4. **Phillip Zauleck** TU Karl-Marx-Stadt: *Quadratur eines mehrdimensionalen schwach-singulären Integrals-Untersuchung spektraltheoretischer Eigenschaften verallgemeinerter Cauchy-Riemann-Systeme*
5. **Elias Wegert** (1980) TU Karl-Marx-Stadt: *Funktionalanalytische Fundierung der Methode der R-Funktionen*
6. **Birgit Böhm** (1981) TU Karl-Marx-Stadt: *Anwendung der Algebra zur Begründung geometrischer Zusammenhänge*
7. **Eckehard Sahm** (1982) TU Karl-Marx-Stadt: *Ein Zusammenhang zwischen gewöhnlichen und partiellen Differentialgleichungen*
8. **Achim Kreißel** (1982) TU Karl-Marx-Stadt: *Über einen räumlich verallgemeinerten Analytizitätsbegriff*
9. **Wolfgang Victor** (1987) TU Freiberg: *Über die näherungsweise Lösung eines ebenen Verfolgungsproblem*
10. **Swanhild Bernstein** (1987) TU Freiberg: *Ein einheitliches Konzept zur Behandlung von Außenraumaufgaben für partielle Differentialgleichungen*
11. **Ulrike Wimmer** (1991) TU Freiberg: *Hyperkomplexe Methoden bei der Betrachtung nichtlinearer Strömungsprobleme mit veränderlicher Viskosität*
12. **Frank Kippig** (1991) TU Freiberg: *Lösungsmethoden von drei dimensionalen inversen Aufgaben der Gravimetrie*

13. **Uta Beyer** (1996) TU Freiberg: *Eine erste Integraltafel zur Teodorescu-Transformation über die Einheitskugel und deren Anwendung*

14. **Dana Heinsdorf** (1996) TU Freiberg: *Algebraische Untersuchungen zur Bewertung von Abschreibungen am Beispiel des Kapazitätserweiterungseffekts*

15. **Kerstin Mothes** (1997) TU Freiberg: *Analytische Untersuchungen des Bausparens*

16. **Peter Keller** (2008) TU Freiberg: *Aggregation und Scaling zur Reduktion von Gleichungen und Parametern in Räuber-Beute-Modellen*

17. **André Schlichting** (2008) TU Freiberg: *Solvability, approximation and estimates for a class of singular phase field models*

18. **Matti Schneider** (2009) TU Freiberg: *Verallgemeinerter Dirac-Operator auf Mannigfaltigkeiten der Dimension 2*

19. **Daniel Pauksch** (2011) TU Freiberg: *Modellierung ferro-elektrischer Materialien*

14 Lectures and talks

Date(No): 01.06.73 (1)
Occasion: 5. TMP (Tagung über Probleme und Methoden der Mathematischen Physik)
Location: TU Karl-Marx-Stadt
City: **Karl-Marx-Stadt** (today: Chemnitz)
Country: GDR (German Democratic Republic)
Title: *Über ein System zweidimensionaler singulärer Integralgleichungen nicht-normalen Typs*
(*On a system of 2-dimensional singular degenerated integral equations*)
Presentation: Talk

Date(No): 21.09.75 (2)
Occasion: International Summer School Theory of Nonlinear Operators
Location: Academy of Science of the GDR
City: **Berlin**
Country: GDR
Title: *Zwei Methoden zur näherungsweise Lösung spezieller nichtlinearer partieller Differentialgleichungen* (*Two methods for an approximate solution of special non-linear partial differential equations*)
Presentation: Talk

Date(No): 4.05.78 (3)
Occasion: Invitation by W. Tutschke
Location: Martin-Luther-University
City: **Halle (Saale)**
Country: GDR
Title: Funktionentheorie im R^n
(Holomorphic functions in R^n)
Presentation: Institutional Seminar

Date(No): 12.09.78 (4)
Occasion: Annual Meeting of the HFR Numerische Mathematik
Location: Castle of Reinhardtsbrunn
City: **Friedrichroda**
Country: GDR
Title: *Methode der harmonischen Approximation*
(*Method of harmonic approximation*)
Presentation: Talk

Date(No): 28.08.79 (5)
Occasion: 7.th International Summer School on Nonlinear Analysis, Theory and Applications
Location: Academy of Science of the GDR
City: **Berlin**
Country: GDR
Title: *On the solution of Maxwell equations in isotropic media*
Presentation: Talk

Date(No): 03.10.79(6)
Occasion: Invitation by M. Tasche
Location: Department of Mathematics, University of Rostock
City: **Rostock**
Country: GDR
Title: *Mehrdimensionale Realisierung einer allgemeinen Operatoretheorie
(A multidimensional realisation of a general operator theory)*
Presentation: Institutional Seminar

Date(No) 21.01.81 (7)
Occasion: Invitation by J. Brilla
Location: Chair of Applied Mathematics of the Comenius-University
City: **Bratislava**
Country: Czechoslovakia

Title: *Multidimensional Cauchy-Riemann systems and applications*
Presentation: Institutional Seminar

Date(No): 25.03.81 (8)
Occasion: Term on „Mathematical Methods and Models in Contemporary Mechanics“
Location: Banach-Center
City: **Warsaw**
Country: Poland
Title: *A multidimensional Realization of an Algebraic Operator Calculus and
Applications for Solution of Elliptic Boundary Value Problems*
Presentation: Lecture

Date(No): 20.10.81 (9)
Occasion: Invitation by A.W. Bitzadse
Location: Steklov Institute of the Lomonossov University
City: **Moscow**
Country: Soviet Union
Title: *A Multidimensional Function Theory*
Presentation: Institutional Seminar

Date(No): 31.03.82 (10)
Occasion: 4. Wissenschaftliche Konferenz „III. Kolloquium Eigenspannungen und Oberflächenverfestigung“
Location: IHS Zwickau
City: **Zwickau**
Country: GDR
Title: *Die Berechnung thermischer Spannungen in der Aufheizphase*
(The calculation of thermal stresses in the heating-up period)
Presentation: Talk

Date(No): 1982 (11)
Occasion: Invitation by R. Schimming
Location: University of Greifswald
City: **Greifswald**
Country: GDR
Title: *Mehrdimensionale Funktionentheorie*
Function theory in higher dimensions
Presentation: Institutional Seminar

Date(No): 03.06.83 (12)
Occasion: 60th birthday of Hans Jäckel
Location: TU Karl-Marx-Stadt
City: **Karl-Marx-Stadt**
Country: GDR
Title: *Die Arbeiten von Professor Jäckel bei der Anwendung mathematischer Methoden zur Optimierung volkswirtschaftlich bedeutsamer technologischer Prozesse*
(On the papers of Professor Jäckel on the application of mathematical methods for the optimisation of economic relevant technological processes)
Presentation: Talk

Date(No): 07.01.84(13)
Occasion: 12. Internationale Winter School on Abstract Analysis
Location: Academy of Science of Czechoslovakia
City: **Churanov** (Bohemian Forest)
Country: Czechoslovakia
Title: *A hypercomplex method for calculating stresses in 3-dimensional Bodies*
Presentation: Lecture

Date(No): 25.09.84 (14)
Occasion: Term on „Partial Differential Equations“ (organised by B. Bojarski)
Location: Banach-Center
City: **Warsaw**
Country: Poland
Title: *Application of quaternionic analysis for calculating stresses in real bodies*
Presentation: Lecture

- Date(No): 05.10.84(**15**)
 Occasion: Tagung über Partielle Differentialgleichungen und Steuertheorie
 (Conference on partial differential equations and operation research)
 Location: TU Leuna-Merseburg
 City: **Merseburg**
 Country: GDR
 Title: *Untere Abschätzungen des ersten Eigenwerts für eine Klasse
 elliptischer Differentialoperatoren (Lower estimates
 of the first eigenvalue for a class of elliptic differential operators)*
 Presentation: Talk
- Date(No): 06.12.84 (**16**)
 Occasion: Winterschool of the Weierstrass-Institute of the Academie of Science of th GDR
 Location: Leisure residence of the Academy of Science of the GDR
 City: **Binz**
 Country: GDR
 Title: *Analytischen und Numerischen Methoden zur Lösung von Integral- und
 Pseudodifferentialgleichungen (Analytic and numercal methods for the
 solution of integral- and pseudodifferential equations)*
 Presentation: Lecture
- Date(No): 13.06.86 (**17**)
 Occasion: Invitation by H. Malonek
 Location: Pädagogische Hochschule Halle-Köthen
 City: **Halle (Saale)**
 Country: GDR
 Title: *Mehrdimensionale Realisierung eines allgemeinen Operatorenkalküls
 (Multidimensional realization of a general operator calculus)*
 Presentation: Institutional Seminar
- Date(No): 11.06.86 (**18**)
 Occasion: Honorary Colloquium on the occasion of the retirement of Professor F. Rühls
 Location: TU Bergakademie Freiberg
 City: **Freiberg**
 Country: GDR
 Title: *Funktionentheorie der Quaternionen und ihre Anwendungen
 (Analysis of quaternions and its applications)*
 Presentation: Talk
- Date(No): 07.10.86 (**19**)
 Occasion: Conference on Analytical and Numerical Treatment of Differential- and Integral Equations
 City: **Frankfurt(Oder)**
 Country: GDR
 Title: *Quaternionic analysis and its applications*
 Presentation: Talk

Date(No): 13.01.87 (**20**)
Occasion: 15. Winterschool on Geometry and Physics of the Czechoslovakien Academy of Science
City: **Srni**
Country: Czechoslovakia
Title: *A generalized Leibniz Rule and Foundation of a discrete Quaternionic Analysis*
Presentation: Talk

Date(No): 06.05.88(**21**)
Occasion: Invitation by Ch. Rezek
Location: AGH Krakow
City: **Krakow**
Country: Poland
Title: *Quaternionic Analysis*
Presentation: Institutional Seminar

Date(No): 03.06.88(**22**)
Occasion: Honorary colloquium of the 65th birthday of Hans Jäckel
Location: TU Karl-Marx-Stadt
City: **Karl-Marx-Stadt**
Country: GDR
Title: *Anwendungen der räumlichen Funktionentheorie in der theoretischen Physik
(Applications of the multidimensional function theory in theoretical physics)*
Presentation: Talk

Date(No): 28.06.88(**23**)
Occasion: 9. TMP (Tagung über Probleme und Methoden der Mathematischen Physik)
Location: TU Karl-Marx-Stadt
City: **Karl-Marx-Stadt**
Country: GDR
Title: *Eine Operatormethode zur Lösung nichtlinearer Randwertprobleme
(A operator method for the solution of non-linear boundary value problems)*
Presentation: Talk

Date(No): 07.12.88(**24**)
Occasion: 5.Conference on Complex Analysis and Its Applications to
Partial Differential Equations
Location: University of Halle–Wittenberg
City: **Halle(Saale)**
Country: GDR
Title: *On a Boundary Value Problem of Maxwell's Equations by using of Quaternions*
Presentation: Talk

Date(No): 09.01.89(**25**)
Occasion: 16. Winterschool on Geometry and Physics
City: **Srni**
Country: Czechoslovakia
Title: *Discrete Quaternionic Function Theory for the Solution of Navier-Stokes Equations*
Presentation: Talk

Date(No): 30.03.89(**26**)
Occasion: Invitation by S. Prössdorf
Location: Karl-Weierstrass-Institute of the Academy of Science of GDR
City: **Berlin**
Country: GDR
Title: *Behandlung von Randwertproblemen mittels Quaternionenanalyse
(Treatment of boundary value problems with quaternionic analysis)*
Presentation: Institutional Seminar

Date(No): 23.05.89(**27**)
Occasion: Invitation by W. Wendland
Location: University of Stuttgart, Institute for Applied Mathematics
City: **Stuttgart**
Country: FRG
Title: *Randkollokationsmethoden mit H -regulären Funktionen
und ein hyperkomplexes Diskretisierungskonzept (Boundary collocation methods
with H -regular functions and a hypercomplex conception of discretisation)*
Presentation: Institutional Seminar

Date(No): 28.05.89(**28**)
Occasion: Invitation by R. Delanghe
Location: University of Ghent, Seminaire voor Algebra en Functionaalanalyse
City: Ghent
Country: Belgium
Title: *On a decomposition of the quaternionic-valued Hilbert space $L_{2;H}(G)$*
Presentation: Institutional Seminar

Date(No): 30.05.89(**29**)
Occasion: Invitation by F. Brackx
Location: University of Ghent, Engineering Faculty
City: **Ghent**
Country: Belgium
Title: *Boundary Collocation Methods with H -regular Functions*
Presentation: Institutional seminar

Date(No): 31.05.89(30)
Occasion: Invitation by K. Habetha
Location: RWTH Aachen, Department of Mathematics, Mathematisches Kolloquium
City: **Aachen**
Country: FRG
Title: *Anwendung der Quaternionentheorie zur Lösung räumlicher Randwertaufgaben
(Application of quaternionic analysis for the solution of multidimensional
boundary value problems)*
Presentation: Institutional Seminar

Date(No): 05.06.89(31)
Occasion: Invitation by U. Koschorke
Location: Universität Gesamthochschule Siegen, Mathematisches Kolloquium
City: **Siegen**
Country: FRG
Title: *Eine neue Strategie zur Lösung räumlicher Rand- und Eigenwertprobleme
(A new strategy for the treatment of boundary- and eigenvalue problems)*
Presentation: Institutional Seminar

Date(No): 18.09.89 (32)
Occasion: 2nd International Conference Clifford Algebras and their Applications
Location: University of Montpellier
City: **Montpellier**
Country: France
Title: *Discrete Hypercomplex Function Theory and Applications in Numerical Mathematics*
Presentation: Invited lecture

Date(No): 20.09.89 (33)
Occasion: 2nd International Conference Clifford Algebras and their Applications
Location: University of Montpellier
City: **Montpellier**
Country: France
Title: *Lower Bounds for the First Eigenvalue of the Dirac Operator*
Presentation: Talk

Date(No): 26.02.90 (34)
Occasion: Tagung Eigenwertaufgaben in Natur- und Ingenieurwissenschaften
und ihre numerische Behandlung (Conference on eigenvalue problems
in natural sciences and engineering and its numerical treatment)
Location: Mathematisches Forschungsinstitut Oberwolfach
City: **Oberwolfach**
Country: FRG
Title: *On methods of quaternionic analysis for the computation of lower eigenvalue bounds*
Presentation: Lecture

Date(No): 01.10.90(**35**)
Occasion: Invitation by P. Lounesto
Location: Helsinki University of Technology
City: **Espoo**
Country: Finland
Title: *An Operator Calculus in Clifford Structures*
Presentation: Institutional Seminar

Date(No): 03.10.90(**36**)
Occasion: Colloquium of the Finnish Academy of Science
Location: Helsinki University
City: **Helsinki**
Country: Finland
Title: *Treatment of Eigenvalue and Boundary Value Problems by Clifford Algebra Techniques*
Presentation: Colloquium talk

Date(No): 19.12.90(**37**)
Occasion: Invitation-Meeting for mathematicians from the former GDR
Location: FU Berlin
City: **Berlin**
Country: Germany
Title: *Elliptische Randwertprobleme im Quaternionenkalkül*
(Elliptic boundary value problems in quaternionic calculus)
Presentation: Lecture

Date(No): 22.03.91(**38**)
Occasion: Workshop „Mathematische Analyse bruchmechanischer Probleme“
(Mathematical analysis of fracture-mechanical problems)
Location: TU Darmstadt
City: **Darmstadt**
Country: Germany
Title: *Quaternionic analysis and boundary value problems – new aspects*
Presentation: Lecture

Date(No): 29.05.91(**39**)
Occasion: Workshop Analysis in höheren Dimensionen und Funktionentransformationen
(Analysis in higher dimensions and function transforms)
Location: TU Chemnitz
City: **Chemnitz**
Country: Germany
Title: *Treatment of boundary value problems with hypercomplex methods*
Presentation: Lecture

Date(No): 26.07.91(40)
Occasion: 13th World Congress on Computation and
Applied Mathematics und Angewandte Mathematik
Location: Trinity College
City: **Dublin**
Country: Ireland
Title: *Quaternionic Analysis and Applications to Elliptic Boundary Value Problems*
Presentation: Talk

Date(No): 15.11.91(41)
Occasion: Invitation by K. Doppel
Location: FU Berlin
City: **Berlin**
Country: Germany
Title: *Anwendung von Quaternionenanalyse auf stationäre Navier-Stokes-Probleme mit freier Konvektion (Application of quaternionic analysis to the stationary Navier-Stokes problem with free convection)*
Presentation: Institutional Seminar

Date(No): 04.12.91(42)
Occasion: Invitation by H. Leutwiler
Location: Friedrich Alexander University Erlangen-Nuremberg
City: **Nuremberg**
Country: Germany
Title: *Zur hyperkomplexen Behandlung elliptischer Randwertaufgaben (Hypercomplex treatment of elliptic boundary value problems)*
Presentation: Institutional Seminar

Date(No): 16.03.92(43)
Occasion: Tagung Elliptische Randwertaufgaben
(Conference on elliptical boundary value problems)
Location: Hochschule für Seefahrt Warnemünde-Wustrow
(University for Nautics Warnemünde-Wustrow)
City: **Wustrow**
Country: Germany
Title: *On the function theory of the disturbed Dirac operator*
Presentation: Talk

Date(No): 15.06.92(44)
Occasion: Invitation by E. Venturino
Location: University of Catania
City: **Catania**
Country: Italy
Title: *Analisi ipercomplessa e problemi al contorno (Hypercomplex analysis and problems in domains)*
Presentation: Lecture

Date(No): 19.06.92(45)
Occasion: Invitation by E. Venturino
Location: University of Catania
City: **Catania**
Country: Italy
Title: **Methodi di collocazione sul contorno H-regulatori**
(H-regular Collocation methods in domains)
Presentation: Institutional Seminar

Date(No): 10.09.92(46)
Occasion: Symposium on Hyperkomplexe Analysis – Transformationen
– New Applications of Quaternionic Analysis
Location: Waldgasthof Teichhaus
City: **Holzhaus**
Country: Germany
Title: *A new application of quaternionic analysis*
Presentation: Lecture

Date(No): 26.09.92(47)
Occasion: Max Born - Symposium
Location: Sobotka castle
City: **Sobotka**
Country: Poland
Title: *Hypercomplex Function Theory and Stokes Problems*
Presentation: Invited lecture

Date(No): 04.03.93(48)
Occasion: ECMI93 (European Consortium for Mathematics in Industry) 7th Conference
Location: Terme Excelsior
City: **Montecatini Terme**
Country: Italy
Title: *Methods of quaternionic analysis for the treatment of Navier-Stokes equations*
Presentation: Talk

Date(No): 06.05.93(49)
Occasion: 3th International Conference Clifford Algebras and their Applications (ICCA)
Location: De Ceder
City: **Deinze**
Country: Belgium
Title: *Quaternionic Operator Calculus and Domain Perturbation Problems*
Presentation: Talk

Date(No): 19.08.93(50)
Occasion: 19th International Summer School Applications of Mathematics in Engineering
City: **Varna**
Country: Bulgaria
Title: *Some Remarks on Analysis in Clifford Algebras*
Presentation: Invited lecture

Date(No): 07.10.93(51)
Occasion: Workshop on Mathematical Problems in Continuum Mechanics
Location: TU Darmstadt
City: **Darmstadt**
Country: Germany
Title: *Applications of hypercomplex Methods to disturbed Boundary Value Problems*
Presentation: Talk

Date(No): 08.11.93(52)
Occasion: Invitation by B. Jancewicz
Location: University of Wroclaw, Chair on theoretical physics
City: **Wroclaw**
Country: Poland
Title: *Quaternionic Analysis and Problems in Electrodynamics*
Presentation: Institutional Seminar

Date(No): 09.03.94(53)
Occasion: Invitation by L. Fortuna
Location: University of Catania (Dipartimento Elettrico, Elettronio e Sistenistico)
City: **Catania**
Country: Italy
Title: *Quaternionic analysis*
Presentation: Institutional Seminar

Date(No): 07.04.94(54)
Occasion: Annual GAMM meeting
Location: TU Braunschweig
City: **Braunschweig**
Country: Germany
Title: *Multivector Analysis and Boundary Value Problems*
Presentation: Talk

Date(No): 16.05.94(55)
Occasion: Invitation by R. Schimming
Location: University of Greifswald
City: **Greifswald**
Country: Germany
Title: *Multivektoranalysis und Randwertprobleme der mathematischen Physik*
(*Multivector analysis and boundary value problems in mathematical physics*)
Presentation: Lecture

Date(No): 28.06.94(**56**)
Occasion: Erasmus stay
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *Treatment of problems in mechanics of viscous flows by quaternionic methods*
Presentation: two introductory lectures

Date(No): 08.07.94(**57**)
Occasion: Invitation by F.O. Speck
Location: Mathematical Faculty of the University of Lisbon
City: **Lisbon**
Country: Portugal
Title: *Quaternionic analysis and boundary value problems*
Presentation: Institutional Seminar

Date(No): 12.12.94(**58**)
Occasion: Internationale Conference Operator Theory for Complex and Hypercomplex Analysis
Location: IPN
City: **Mexico-City**
Country: Mexico
Title: *On the treatment of some classes of boundary value problems by methods of quaternionic analysis*
Presentation: Talk

Date(No): 08.05.95(**59**)
Occasion: Invitation by R. Delanghe
Location: Rijcks-University Ghent
City: **Ghent**
Country: Belgium
Title: *Applications of quaternionic analysis*
Presentation: Institutional Seminar

Date(No): 21.06.95(**60**)
Occasion: Invitation by E. Venturino
Location: University of Catania
City: **Catania**
Country: Italy
Title: *About hypercomplex analysis in quaternions*
Presentation: Institutional Seminar

Date(No): 15.09.95(**61**)
Occasion: IMACS-COST Conference on computational fluid mechanics and 3d-complex flows
Location: EPFL
City: **Lausanne**
Country: Switzerland
Title: *On the treatment of uid problems by methods of Clifford analysis*
Presentation: Lecture

Date(No): 08.11.95(**62**)
Occasion: Invitation by E. Meister
Location: TU Darmstadt
City: **Darmstadt**
Country: Germany
Title: *Zur Behandlung von Randwertaufgaben partieller Differentialgleichungen mit analytischen Mitteln der Quaternionentheorie (On the treatment of boundary value problems of partial differential equations with analytic means of the quaternionic analysis)*

Presentation: Institutional Seminar

Date(No): 28.05.96(**63**)
Occasion: 4th International Conference on Clifford Algebras and their Applications (ICCA)
Location: RWTH Aachen
City: **Aachen**
Country: Germany
Title: *On a class of non-linear boundary value problems*

Presentation: Lecture

Date(No): 14.06.96(**64**)
Occasion: Invitation by K. Gürlebeck
Location: Bauhaus-University of Weimar
City: **Weimar**
Country: Germany
Title: *Über nichtlineare Randwertaufgaben mit Mitteln der Quaternionen-Analyse (On non-linear boundary value problems with means of quaternionic analysis)*

Presentation: Invitational Seminar

Date(No): 1.10.96 (**65**)
Occasion: Sommerfeld '96 - Workshop Modern Mathematical Methods in Diffraction Theory and its Applications in Engineering
Location: Waldhotel Zollerblick
City: **Freudenstadt**
Country: Germany
Title: *On Classes of Nonlinear Boundary Value Problems dealt with Clifford Analytic Methods*

Presentation: Talk

Date(No): 7.06.97(**66**)
Occasion: ISAAC Meeting
Location: University of Delaware
City: **Newark**
Country: USA
Title: *On the treatment of classes of non-linear boundary value problems by Clifford analytic methods*

Presentation: Talk

Date(No): 28.09.97(**67**)
Occasion: Erasmus Meeting
Location: University of Sussex (Holiday House)
City: **Isle of Thorns**
Country: England
Title: *Quaternions and applications*
Presentation: Lecture

Date(No): 17.12.97(**68**)
Occasion: Invitation by T. Qian
Location: University of New England
City: **Armidale**
Country: Australia
Title: *Quaternionic and Clifford Analysis and their Applications*
Presentation: Institutional Seminar

Date(No): 05.03.98(**69**)
Occasion: Invitation by G. Sobczyk
Location: Universidad de Las Americas
City: **Puebla**
Country: Mexico
Title: *Boundary Value Problems and Growth Problems by Hypercomplex Methods*
Presentation: Institutional Seminar

Date(No): 06.03.98(**70**)
Occasion: Invitation by M. Shapiro
Location: ESFM of the IPN
City: **Mexico-City**
Country: Mexico
Title: *Boundary value problems dealt with hypercomplex analysis*
Presentation: Institutional Seminar

Date(No): 09.03.98(**71**)
Occasion: Invitation by J. Ryan
Location: Mathematics Colloquia of the University of Arkansas
City: **Fayetteville**
Country: USA
Title: *On regular hypercomplex elementary functions and boundary value problems*
Presentation: Institutional Seminar

Date(No): 27.03.98(**72**)
Occasion: Erasmus stay
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *Fueter's Ideas and Regular Elementary Functions*
Presentation: Introductory lectures

Date(No): 8.10.98(**73**)
Occasion: Internationale Conference Dirac operators and applications
Location: Grand Hotel San Michele
City: **Cetraro**
Country: Italy
Title: *Operators in Clifford Analysis and Boundary Value Problems*
Presentation: Invited lecture

Date(No): 16.03.99(**74**)
Occasion: Research stay at the Analysis Research Group
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *Quaternionic Analysis for Problems in Fluid Mechanics*
Presentation: Institutional Seminar

Date(No): 26.03.99(**75**)
Occasion: 13. TMP in honour of Siegfried Prössdorf
Location: Wasserschloss Klaffenbach
City: **Chemnitz**
Country: Germany
Title: *Quaternionic analysis of boundary value problems in Magneto- Hydrodynamics*
Presentation: Talk

Date(No): 23.06.99(**76**)
Occasion: Invitation by V. Kravchenko
Location: Escuela Superior de Ingenieria Mecanica y Electrica des Instituto Politecnico Nacional
City: **Mexico-City**
Country: Mexico
Title: *On the construction of quaternionic H-regular functions*
Presentation: Institutional Seminar

Date(No): 03.07.99(**77**)
Occasion: International Conference Clifford Algebras and their Applications
in Mathematical Physics (ICCA)
Location: Hotel Presidente Intercontinental Ixtapa
City: **Ixtapa-Zihuatanejo**
Country: Mexico
Title: *Hypercomplex analysis in fluid mechanics*
Presentation: Plenary lecture

Date(No): 18.08.99(**78**)
Occasion: 2.ISAAC World Congress
Location: Fukuoka University
City: **Fukuoka**
Country: Japan
Title: *On hypercomplex boundary value problems in H. Begehr's work*
Presentation: Talk

Date(No): 19.08.99(**79**)
Occasion: 2. ISAAC World Congress
Location: Fukuoka University
City: **Fukuoka**
Country: Japan
Title: *Quaternionic Analysis for special Boundary Problems in Fluid Mechanics*
Presentation: Talk

Date(No): 03.09.99(**80**)
Occasion: Lehrerweiterbildung des Landes Thüringen
Location: Adolf-Reichwein-Gymnasium
City: **Jena**
Country: Germany
Title: *Geometrische und algebraische Aspekte der Analysis*
Presentation: Introductory lecture

Date(No): 03.11.99(**81**)
Occasion: Invitation by G. Hecht
Location: TU Chemnitz, Faculty of Physics
City: **Chemnitz**
Country: Germany
Title: *Clifford-Analysis und deren Anwendung auf Randwertaufgaben der mathematischen Physik
(Clifford analysis and applications to boundary value problems in mathematical physics)*
Presentation: Faculty colloquium

Date(No): 14.01.00(**82**)
Occasion: Invitation by B. Fauser
Location: University of Konstanz, Institute of astrophysics
City: Konstanz
Country: Germany
Title: *Über die Anwendung hyperkomplexer Methoden in der Strömungsmechanik*
(*On the application of hypercomplex methods in fluid dynamics*)
Presentation: Institutional Seminar

Date(No): 31.03.00(**83**)
Occasion: Invitation by E. Venturino
Location: Politecnico Turin
City: **Turin**
Country: Italy
Title: *On the origins of digits and numbers*
Presentation: Public lecture

Date(No): 21.01.00(**84**)
Occasion: Invitation by K. Gürlebeck
Location: Bauhaus-University Weimar
City: **Weimar**
Country: Germany
Title: *On a class of algebraic integrals*
Presentation: Institutional Seminar

Date(No): 17.04.00(**85**)
Occasion: DFG-Workshop: New results on dynamic problems in continuum physics
Location: TU Darmstadt
City: **Darmstadt**
Country: Germany
Title: *Modified Teodorescu transform with an application to the Landesman-Lazar problem*
Presentation: Talk

Date(No): 28.04.00(**86**)
Occasion: Colloquium of the Analysis Research Group
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *83 years Radon transform - a historical survey*
Presentation: Introductory lecture

Date(No): 03.08.00(**87**)
Occasion: International Conference on Clifford Analysis, Its Applications and Related Topics
Location: Olympic Hotel Beijing
City: **Beijing**
Country: China
Title: *Teodorescu transform and eigenvalue problems*
Presentation: Key-Lecture

Date(No): 15.09.00(**88**)
Occasion: Second IMA International Conference on Boundary Integral methods Theory and Applications
Location: University of Bath
City: **Bath**
Country: United Kingdom
Title: *Teodorescu type transforms and applications*
Presentation: Talk

Date(No): 3.10.00(**89**)
Occasion: Invitation by G. Laville
Location: Departement de Mathematique an der Universite de Caen
City: **Caen**
Country: France
Title: *Clifford Analysis and Boundary Value Problems*
Presentation: Institutional Seminar

Date(No): 31.10.00(**90**)
Occasion: NATO Advanced Research Workshop Clifford Analysis and its Applications
Location: CDMS Krystal Prague
City: **Prague**
Country: Czechia
Title: *On a class of weak singular integral operators and its applications*
Presentation: Key lecture

Date(No): 26.01.01(**91**)
Occasion: GAMM Workshop Computational Electromagnetics
Location: University of Kiel
City: **Kiel**
Country: Germany
Title: *Modified Teodorescu transform and Maxwell equations*
Presentation: Talk

Date(No): 29.06.01(**92**)
Occasion: Computational Methods and Function Theory 2001 (CMFT)
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *Quaternionic analysis for non-stationary physical processes*
Presentation: Talk

Date(No): 20.07.01(**93**)
Occasion: International Symposium Algorithms for Approximation IV
Location: University of Huddersfield, Institute of Mathematics and Computer Science
City: **Huddersfield**
Country: United Kingdom
Title: *Quaternionic Calculus for Maxwell Equations*
Presentation: Talk

Date(No): 09.08.01(**94**)
Occasion: International Conference on Finite or Infinite Dimensional
Complex Analysis and Applications
Location: TU Hanoi
City: **Hanoi**
Country: Vietnam
Title: *Maxwell Equations in Clifford Algebra Framework*
Presentation: Key lecture

Date(No): 20.05.02(**95**)
Occasion: 6th Congress Clifford Algebras and their Applications to Mathematical Physics
Location: University of Tennessee
City: **Cookeville**
Country: USA
Title: *Clifford calculus for pseudoparabolic problems*
Presentation: Talk

Date(No): 18.08.02(**96**)
Occasion: International Conference on Clifford Analysis
and its Applications Satellite Conference of the (CM 2002)
Location: University of Macao
City: **Macao**
Country: Macao
Title: *Galpern-Sobolev equations with non-constant coefficients*
Presentation: Plenary lecture

Date(No): 10.06.03(**97**)
Occasion: IKM 2003
Location: Bauhaus-University of Weimar
City: **Weimar**
Country: Germany
Title: *On the Galpern-Sobolev equation – representation theory*
Presentation: Talk

Date(No): 17.06.03(**98**)
Occasion: Invitation by E. Venturino
Location: Turin University
City: Turin
Country: Italy
Title: *Representation of solutions for pseudo-parabolic problems*
Presentation: Institutional Seminar

Date(No): 02.07.05(**99**)
Occasion: 60th Birthday of Manfred Tasche
Location: Mecklenburger Workshop
City: **Hasenwinkel**
Country: Germany
Title: *Die Teodorescu-Transformation und deren Nützlichkeit*
Presentation: Talk

Date(No): 20.11.03(**100**)
Occasion: Invitation by J. Tolksdorf
Location: University of Mannheim
City: **Mannheim**
Country: Germany
Title: *Erzeugende Operatoren in der Quaternionen- und Clifford-Analyse
(Generating operators in quaternionic and Clifford analysis)*
Presentation: Institutional Seminar

Date(No): 05.12.03(**101**)
Occasion: Workshop Analytical and Numerical Methods in Clifford Analysis
Location: Bauhaus-University Weimar
City: **Weimar**
Country: Germany
Title: *Analytical and Numerical methods in Clifford analysis
On electromagnetic fields in a semiconductor with quaternionic analysis*
Presentation: Talk

Date(No): 08.07.04(**102**)
Occasion: Mini-Course
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *Quaternionic Analysis in Applications (electromagnetic fields, fluid flow problems)*
Presentation: three lectures

Date(No): 02.08.04(**103**)
Occasion: Intensive Course Summer School on Clifford Analysis and Applications
Location: TU Tampere
City: **Tampere**
Country: Finland
Title: *Initial-value and boundary value problems with hypercomplex methods and applied mathematics*
Presentation: three lectures

Date(No): 10.09.04(**104**)
Occasion: International Conference of Numerical Analysis and Applications (ICNAAM2004)
Location: University of Peloponnes
City: **Chalkis**
Country: Greece
Title: *Aspects of Cliffordanalysis in Applied Mathematics*
Presentation: Plenary lecture

Date(No): 18.06.05(**105**)
Occasion: Talk at the 2nd joint AMS-DMV Meeting
Location: University of Mainz
City: **Mainz**
Country: Germany
Title: *Quaternionic analysis in fluid dynamics*
Presentation: Talk

Date(No): 16.09.05(**106**)
Occasion: Minisymposium on Dirac Operators and Applications of the ICNAAM
City: **Rhodos**
Country: Greece
Title: *Equations of Fluid dynamics with non-linear viscosity in quaternionic setting*
Presentation: Talk

Date(No): 27.09.05 (**107**)
Occasion: 2nd International Course of the German Summer Academy Modelling of technical processes
Location: TU Freiberg
City: **Freiberg**
Country: Germany
Title: *Equations of fluid dynamics and rheology in quaternionic setting*
Presentation: Overview lecture

Date(No): 20.02.06(**108**)
Occasion: Lecture series as part of the program Technomathematics
Location: Technical University Hanoi
City: **Hanoi**
Country: Vietnam
Title: *Quaternionic and Cliffordanalysis with applications to fluid flow problems*
Presentation: six lectures

Date(No): 08.03.06(**109**)
Occasion: Invitation by T. Qian
Location: University of Macao, Department of Mathematics and Computer Science
City: **Macao**
Country: Macao
Title: *Quaternionic analysis in fluid dynamics*
Presentation: Institutional Seminar

Date(No): 23.05.06(**110**)
Occasion: SIMAI 2006, Session: Boundary integral equations;
recent numerical developments and applications
Location: Hotel Congressi Baia Samuele
City: **Ragusa (Sicily)**
Country: Italy
Title: *Applications of quaternionic analysis in fluid dynamics*
Presentation: Talk

Date(No): 05.06.06(**111**)
Occasion: International Conference on Mathematical Modelling and Computation
Location: University of Brunei-Darussalam
City: **Darussalam**
Country: Sultanate of Brunei
Title: *Clifford algebra techniques and (initial) boundary value problems*
Presentation: Plenary talk

Date(No): 13.07.06(**112**)
Occasion: IKM 2006
Location: Bauhaus-University Weimar
City: **Weimar**
Country: Germany
Title: *On fluid flow problems on the sphere*
Presentation: Talk

Date(No): 20.07.06(**113**)
Occasion: Invitation by G. Sommer
Location: Christian-Albrechts-University of Kiel, Institute of Informatics
and applied mathematics (Research group: Cognitive systems)
City: **Kiel**
Country: Germany
Title: *On the usefulness of quaternionic analysis*
Presentation: Institutional Seminar

Date(No): 16.09.06(**114**)
Occasion: ICNAAM 2006, Symposium Applied Clifford Analysis
Location: Hotel Imperial Belvedere
City: **Hersonissos (Crete)**
Country: Greece
Title: *Forecasting equations in quaternionic formulation*
Presentation: Talk

Date(No): 26.04.07(**115**)
Occasion: MATA2007
Location: Westin Hotel
City: **Cancun**
Country: Mexico
Title: *Quaternionic holomorphic functions in fluid dynamics and elasticity*
Presentation: Plenary talk

Date(No): 03.05.07(**116**)
Occasion: International Conference on Applied Analysis
Location: Resort Hotel „Mision“
City: **Queretaro**
Country: Mexico
Title: *Hodge decompositions and boundary value problems*
Presentation: Plenary talk

Date(No): 18.06.07(**117**)
Occasion: 13. European Intensive Course on Complex Analysis
and applications to partial differential equations
Location: Universities of Aveiro and Coimbra
City: **Aveiro and Coimbra**
Country: Portugal
Title: *L-Holomorphic functions in elasticity and fluid dynamics*
Presentation: four lectures

Date(No): 03.09.07(**118**)
Occasion: Workshop on Clifford Analysis and Applications
Location: Hed Pand
City: **Ghent**
Country: Belgium
Title: *Navier-Stokes equations with thermal effects in complex-quaternionic setting*
Presentation: Invited talk

Date(No): 16.09.07(**119**)
Occasion: ICNAAM 2007, Symposium Applied Clifford Analysis
Location: Hotel Marbella
City: **Corfu**
Country: Greece
Title: *Shallow water equations in quaternionic setting*
Presentation: Talk

Date(No): 14.02.08(**120**)
Occasion: Invitation by Le Hung Son
Location: TU Hanoi
City: **Hanoi**
Country: Vietnam
Title: *Fluid flow equations with thermal effects in quaternionic setting*
Presentation: Institutional talk

Date(No): 06.05.08(**121**)
Occasion: Invitation by V. Kisil
Location: Department of Mathematics at the University of Leeds
City: **Leeds**
Country: United Kingdom
Title: *Quaternionic Operator Methods with Applications to Initial-Boundary Value Problems*
Presentation: Institutional talk

Date(No): 26.05.09(**122**)
Occasion: International Conference on Clifford Algebras and their Applications in Mathematical Physics (ICCA2008)
Location: University of Campinas, Departments of Physics and Mathematics
City: **Campinas**
Country: Brazil
Title: *Hydrodynamics with thermal and magnetic effects in complex quaternionic setting*
Presentation: Plenary talk

- Date(No): 08.06.08(**123**)
Occasion: Mecklenburger Workshop „Approximationsmethoden und schnelle Algorithmen“
(65th Birthday of M. Tasche)
Location: Castle Hasenwinkel
City: **Hasenwinkel**
Country: Germany
Title: *Fluid flow problems in compressible media*
Presentation: Talk
- Date(No): 12.06.08(**124**)
Occasion: Honory meeting on the occasion of the 150th birthday of E. Papperitz
Location: TU Freiberg
City: **Freiberg**
Country: Germany
Title: *Erwin Papperitz als Mathematiker und Mitbegründer der DMV*
(*Erwin Papperitz as mathematician and co-founder of the German Mathematical Society*)
Presentation: Lecture
- Date(No): 19.08.08(**125**)
Occasion: AGACE2008 (Applied Geometric Algebras in Computer Science and Engineering)
Location: Hotel Kloster Nimbschen
City: **Grimma**
Country: Germany
Title: *Fluid flow problems - an alternative conception*
Presentation: Plenary lecture
- Date(No): 27.08.08(**126**)
Occasion: International Course of the German Summer Academy Modelling of technical processes
Location: TU Freiberg
City: **Freiberg**
Country: Germany
Title: *Basic principles in modeling and examples*
– *a survey with historical comments*
Presentation: two lectures
- Date(No): 17.09.08(**127**)
Occasion: International Conference of Numerical Analysis and Applied Mathematics (ICNAAM2009)
Location: Kyriotis International Conference Center Psalidi
City: **Psalidi**
Country: Greece (Kos)
Title: *Norm estimations of the modified Teodorescu transform*
with application to a multidimensional equation of Airy type (with A. Schlichting)
Presentation: Talk

Date(No): 11.12.08(**128**)
Occasion: Workshop on Clifford analysis
Location: Charles University Institute of Mathematics (Sokolovska ulica)
City: **Prague**
Country: Czechia
Title: *Decomposition techniques and boundary value problems for vector fields and Cl_n -valued functions – an overview*
Presentation: Talk

Date(No): 11.02.09(**129**)
Occasion: 6th Vienna International Conference on Mathematical Modelling (MATHMOD2009)
Location: Technical university of Vienna
City: **Vienna**
Country: Austria
Title: *Quaternionic methods in mathematical physics*
Presentation: Talk

Date(No): 30.06.09(**130**)
Occasion: International Conference Analytic methods of mechanics and complex analysis
Location: National Academy of Science of Ukraine
City: **Kiev**
Country: Ukraine
Title: *Fluid flow equations with thermal effects in complex-quaternionic setting*
Presentation: Plenary talk

Date(No): 07.07.09(**131**)
Occasion: 18th International Conference on the Applications of Computer Science and Mathematics in Architecture and Civil Engineering (IKM2009)
Location: Bauhaus University
City: **Weimar**
Country: Germany
Title: *Operator exponentials and harmonic extension for initial-boundary value problems*
Presentation: Talk

Date(No): 13.07.09(**132**)
Occasion: 7th International ISAAC Congress
Location: Department of Mathematics, Imperial College
City: **London**
Country: United Kingdom
Title: *Initial-boundary value problems with quaternionic analysis*
Presentation: Talk

Date(No): 06.08.09(**133**)
Occasion: The 17th International Conference on finite or infinite dimensional complex analysis and applications
Location: University of Pedagogy
City: **Ho Chi Minh City (Saigon)**
Country: Vietnam
Title: *New aspects in the application of quaternionic analysis*
Presentation: Plenary talk

Date(No): 22.09.09(**134**)
Occasion: ICNAAM2009 (International Conference of Numerical Analysis and Applied Mathematics)
Location: Hotel AQUILA Rethymna Beach
City: **Rethymno (Crete)**
Country: Greece
Title: *Exponentials of the Dirac operator and an application*
Presentation: Talk

Date(No): 23.09.09(**136**)
Occasion: Invitation by Ioannis Stratis
Location: Department of Mathematics, University of Athens
City: Athens
Country: Greece
Title: *Quaternionic analysis applied to problems in elasticity*
Presentation: Institutional Seminar

Date(No): 08.10.09(**137**)
Occasion: Workshop on Advances and Trends in Integral Equations
Location: Wasserschloss Klaffenbach
City: **Chemnitz**
Country: Germany
Title: *Initial-boundary value problems and complex quaternionic analysis*
Presentation: Invited lecture

Date(No): 19.02.10 (**138**)
Occasion: Annual Workshop on hypercomplex Analysis and Applications
Location: Universität Paderborn
City: **Paderborn**
Country: Germany
Title: *Strong non-linear initial-boundary value problems*
Presentation: Talk

Date(No): 25.05.10 (**139**)
Occasion: Invitation by M. R. Anderson
Location: University of Brunei Darussalam
City: **Darussalam**
Country: Sultanate Brunei
Title: *Quaternionic operator methods with applications to initial boundary value problems*
Presentation: Institutional Seminar

Date(No): 15.07.10(**140**)
Occasion: IWOTA Session: Operatortheoretical Methods in Mathematical Physics
Location: Technical University of Berlin
City: **Berlin**
Country: Germany
Title: *Non-linearities and quaternionic holomorphic functions*
Presentation: Invited talk

Date(No): 15.07.10(**141**)
Occasion: IWOTA Session: Hypercomplex operator theory
Location: Technical University of Berlin
City: **Berlin**
Country: Germany
Title: *Non-linearities and quaternionic holomorphic functions*
Presentation: Invited lecture

Date(No): 28.07.10(**142**)
Occasion: Symposium in Complex and Hypercomplex Analysis and related Topics (Malonek's 60th birthday)
Location: University of Aveiro
City: **Aveiro**
Country: Portugal
Title: *From Phragmen-Lindelöf type problems to basics of Clifford analysis*
Presentation: Invited talk

Date(No): 19.09.10(**143**)
Occasion: ICNAAM: 7.Symposium on Clifford Analysis and Applications
Location: Hotel Rhodos Palace
City: **Rhodos**
Country: Greece
Title: *Application of quaternionic analysis for a class of non-linear boundary value problems*
Presentation: Talk

Date(No): 11.10.10 (**144**)
 Occasion: International Symposium on Complex and Hypercomplex Analysis
 (Shapiro's 65th birthday)
 Location: IPN Mexico-City
 City: **Mexico-City**
 Country: Mexico
 Title: *Quaternionic analysis on non-linear flow problems*
 Presentation: Invited lecture

Date(No): 04.12.10(**146**)
 Occasion: 70th birthday of Richard Delanghe
 Location: University of Ghent
 City: **Ghent**
 Country: Belgium
 Title: *Clifford analysis – a laudation to the 70th birthday of Richard Delanghe
 – the father of Clifford analysis*
 Presentation: Laudation

Date(No): 23.03.11(**147**)
 Occasion: Research stay (invitation by Tao Qian)
 Location: University of Macao
 City: **Macao**
 Country: Macao
 Title: *Quaternionic holomorphic functions and their applications to non-linear bvp's*
 Presentation: Institutional Seminar

Date(No): 29.03.11(**148**)
 Occasion: Workshop Functional Analysis and Operator Theory
 (70th birthday of B. Silbermann)
 Location: Waldhotel Stephanshöhe
 City: **Altenberg**
 Country: Germany
 Title: *Norm estimations of the modified Teodorescu transform
 with applications to a multidimensional equation of Airy's type*
 Presentation: Talk (with H.T.Le, A. Schlichting)

Date(No): 01.04.11(**149**)
 Occasion: Workshop on Clifford analysis and differential geometry
 (65th birthday of V. Soucek)
 Location: Charles University Prague
 City: **Prague**
 Country: Czechia
 Title: *Some new aspects on elementary functions and special orthonormal systems*
 Presentation: Invited talk (with J. Morais, H.T. Le, T. Qian, L.B. Wang)

Date(No): 19.04.11(**150**)
Occasion: 82. Annual Meeting of the GAMM (Session : Applied Operator Theory)
Location: Casino
City: **Graz**
Country: Austria
Title: *Electrodynamics and Quaternions*
Presentation: Talk

Date(No): 16.07.11 (**151**)
Occasion: ICCA9 (14.07. – 20.07.)
Location: Bauhaus University of Weimar
City: **Weimar**
Country: Germany
Title: *Nonlinear extension problem in annular domains*
Presentation: Talk

Date(No): 19.09.11(**152**)
Occasion: ICNAAM 2011
Location: G-Hotels Halkidiki
City: **Halkidiki**
Country: Greece
Title: *A metaharmonic boundary value problem with quaternionic analysis*
Presentation: Talk

Date(No): 27.10.11(**153**)
Occasion: Collatz-Seminar (invitation by G. Opfer)
Location: University of Hamburg
City: **Hamburg**
Country: Germany
Title: *An operator calculus over quaternion- (Clifford valued) functions and its applications to higher-dimensional bvp's*
Presentation: Institutional Seminar

Date(No): 20.03.12(**154**)
Occasion: Telesio-Galilei Academy of Science – Medal Awards Ceremony 2012
Location: Toulouse University
City: **Toulouse**
Country: France
Title: *Some aspects of hypercomplex analysis and its applications – past and presence*
Presentation: Lecture