

Curriculum Vitae of Friedrich (Fritz) Gesztesy

Department of Mathematics

Baylor University

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EDUCATION

Ph.D. 1976, University of Graz, Austria.

Ph.D. Thesis: “Renormalization, Nelson’s symmetry and energy densities in a field theory with quadratic interaction”.

Ph.D. Advisors: H. G. Latal (University of Graz, Austria) and L. Streit (University of Bielefeld, Germany).

FIELDS OF SPECIALIZATION

Mathematical Physics, Spectral Theory, Operator Theory, Differential Equations, Completely Integrable Systems.

POSITIONS HELD

Universitätsassistent (Assistant Professor) at the Institute for Theoretical Physics of the University of Graz, Austria, January 1977 to May 1982.

Universitätsdozent (Associate Professor) at the Institute for Theoretical Physics of the University of Graz, Austria, June 1982 to August 1988.

Professor of Mathematics at the University of Missouri, Columbia, MO 65211, USA, September 1988 to August 2016.

Luther M. Defoe Distinguished Professorship, Department of Mathematics, University of Missouri, Columbia, September 1996 to August 2001.

Mahala and Rose Houchins Distinguished Professorship, Department of Mathematics, University of Missouri, Columbia, January 2002 to August 2016.

Professor Emeritus, University of Missouri, since September 1, 2016.

Jean and Ralph Storm Professor of Mathematics, Baylor University, since August 2016.

PROFESSIONAL HONORS

Alexander von Humboldt Fellowship (University of Bielefeld, Germany, 1980–81 and 1983–84).

Max Kade Fellowship (California Institute of Technology, Pasadena, CA, USA, 1987–88).

Theodor Körner Award in Natural Sciences (Vienna) 1983.

Ludwig Boltzmann Award (Austrian Physical Society) 1987.

Invited One Hour Address at the AMS Meeting at the Louisiana State University, Baton Rouge, LA, USA, April 1996.

Election to the Royal Norwegian Society of Science and Letters, Trondheim, Norway, January 1, 2002.

Fellow of the American Mathematical Society (inaugural class, January 1, 2013).

SUPERVISED GRADUATE STUDENTS

University of Graz, Austria: M. Perusch (Ph.D., 1982) jointly with H. Mitter (Univ. of Graz); C. Nessmann (Ph.D., 1984); G. Karner (Ph.D., 1986).

University of Technology, Graz, Austria: K. Unterkofler (Masters, 1986 and Ph.D., 1989) jointly with W. Bulla (Univ. of Technology, Graz).

University of Louvain-La-Neuve, Belgium: J. Shabani (Ph.D., 1986) jointly with J.-P. Antoine (Univ. of Louvain, Belgium).

University of Missouri:

Masters: J. M. Nowell (1991); W. M. Sticka (1991); R. Ratnaseelan (1993); M. Ünal (1993); R. Dickson (1995); S. Timischl (1995) jointly with B. Thaller (Univ. of Graz).

Ph.D.: G. Teschl (1995); M. Ünal (1995); R. Ratnaseelan (1996); W. Renger (1996); W. M. Sticka (1996); M. Mystkowski (1997); R. Dickson (1998); V. Batchenko (2005); M. Zinchenko (2006); S. Sukhtaiev (2017) jointly with Y. Latushkin.

Baylor University:

Isaac Michael (Ph.D.) jointly with L. Littlejohn.

SUPERVISED POSTDOCS

Radu Cascaval (2000–2003), now at the University of Colorado at Colorado Springs, CO.

Kwang C. Shin (2002–2006), now at the University of West Georgia, Carrollton, GA.

Roger Nichols (2010–2012), now at the University of Tennessee at Chattanooga, TN.

MEMBERSHIPS

American Mathematical Society (AMS)
 International Association of Mathematical Physics (IAMP)
 Mathematical Association of America (MAA)

FUNDING

Various research grants over the years (Austrian National Science Foundation, University of Missouri Research Board, US National Science Foundation).

EDITORIAL ACTIVITY

Editor in Chief, *Journal of Spectral Theory* (European Mathematical Society), since October 10, 2014, on the Editorial Board since its foundation in April 2010.
 Co-Editor, *de Gruyter Studies in Mathematics* (de Gruyter), since June 2010.
 Editorial Board, *Operators and Matrices* (Element), since April 2006.
 Editorial Board (since December 2013), Advisory Board (February 2011 – November 2013), *Methods of Functional Analysis and Topology (MFAT)*, Kiev, Ukraine.
 Associate Editor, *Operator Theory: Advances and Applications* (Birkhäuser, Springer), since 2010.
 Editorial Board, *Complex Analysis and Operator Theory* (Birkhäuser, Springer), since May 2016.
 Advisory Editorial Board, *Advances in Operator Theory*, Tusi Mathematical Research Group (TMRG), since September 2016.
 Co-Editor (January 2008 – December 2011), Advisory Board (November 2002 – December 2007), *Mathematische Nachrichten* (Wiley–VCH).
 Associate Editor, *Journal of Mathematical Analysis and Applications* (Academic Press – Elsevier), April 1999 – February 2006.
 Editorial Board, *International Journal of Differential Equations* (Hindawi), July 2009 – August 2011.
 Editorial Board, *International Journal of Mathematics and Mathematical Sciences* (Hindawi), July 2009 – August 2011.

VISITING POSITIONS

Alexander von Humboldt Research Fellow at the Faculty of Physics of the University of Bielefeld, FRG, November 1980 to October 1981 and September 1983 to August 1984.
 Research position at the Institute for Theoretical Physics of the University of Leuven, Belgium, October 1983 to February 1984.

Research position at the Centre de Physique Théorique, CNRS-Luminy, Marseille, France, June 1984 to August 1984.

Research position at the LPTHE-Orsay, Université de Paris XI, Paris, France, March 1986 to August 1986.

Max Kade Research Fellow at the Department of Mathematics, Caltech, Pasadena, USA, September 1987 to August 1988.

Visiting Professor at the Institute for Theoretical Physics at the University of Leuven, Belgium, June and July 1989.

Visiting Professor at the BiBoS - Research Center of the University of Bielefeld, Germany, May and June 1990.

Visiting Professor at the Department of Mathematical Sciences, University of Trondheim - NTH, Norway, July 1990.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 20 to August 20, 1991.

Visiting Professor at the Department of Mathematical Sciences, University of Trondheim - NTH, Norway, May 19 to June 19, 1992.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, August 1-14, 1992.

Visiting Professor at the Department of Mathematical Sciences, University of Trondheim - NTH, Norway, May 20 to June 20, 1993.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 1 to August 15, 1993.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, June 5 to July 10, 1994.

Visiting Professor at the Department of Mathematical Sciences, University of Trondheim - NTH, July 21 to August 21, 1994.

Visiting Professor at the Institute of Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, USA, May 16 to June 17, 1995.

Visiting Professor at the Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Austria, June 21 to July 8, 1995.

Visiting the Mathematical Research Institute at Oberwolfach, Germany, July 9 to July 15, 1995.

Visiting Professor at the Department of Mathematical Sciences, University of Trondheim - NTH, July 19 to August 19, 1995.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, May 20 to June 20, 1996.

Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 20 to August 22, 1997.

Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 28 to July 14, 1998.

- Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 20 to August 21, 1998.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 24 to June 30, 1999.
- Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 20 to August 20, 1999.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 22 to July 3, 2000.
- Visiting Professor at the CCM, Universidade da Madeira, Portugal, July 10 to August 1, 2000.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 23 to July 3, 2001.
- Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, July 18 to August 17, 2001.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 26 to July 25, 2002.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, June 19 26 to July 18, 2003.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 26 to July 27, 2004.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 26 to July 30, 2005.
- Invited participant in the “Wave Motion Program” at the Mittag–Leffler Institute (Djursholm, Sweden), October 1–15, 2005.
- Visiting Professor at the Department of Mathematics, Caltech, Pasadena, USA, August 15 to November 30, 2005.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 10 to July 11, 2006.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 26 to July 8, 2007.
- Visiting Professor at the the Faculty of Mathematics of the University of Vienna, Austria, February 29 to June 6, 2008.
- Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, June 6 to July 12, 2008.
- Member of the Research Group in “Nonlinear Partial Differential Equations” at the Centre for Advanced Study (CAS) at the Norwegian Academy of Science and Letters, Oslo, Norway, May 25 to June 30, 2009.
- Visiting Professor at the the Faculty of Mathematics of the University of Vienna, Austria, July 9 to August 18, 2009.
- Visiting Professor at the Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, Austria, October 4–11, 2009.

Visiting Professor at the Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, Austria, January 27 – February 4 and June 30 – July 19, 2011.

Visiting Professor at the the Faculty of Mathematics of the University of Vienna, Austria, July 8 – 21, 2014.

Participated in the Research-in-Teams Project, “Scattering Theory and Non-Commutative Analysis”, with A. Carey (ANU, Canberra, Australia), D. Potapov and F. Sukochev (both USNW, Sydney, Australia), at the Erwin Schrödinger International Institute for Mathematical Physics, University of Vienna, Austria, June 22 – July 22, 2014.

Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, May 21 – June 5, 2015.

Visiting Professor at the Institute for Numerical Mathematics of the Technical University of Graz, Austria, June 22 – July 1, 2015.

Visiting Professor at the Department of Mathematics, University College London, UK, June 9–29, 2016.

Visiting Professor at the Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim, Norway, June 29 – July 11, 2016.

INVITED TALKS at CONFERENCES and INVITED WORKSHOP PARTICIPATIONS

2nd Western States Mathematical Physics Conference, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “Threshold behavior of scattering amplitudes in quantum mechanics”, April 1983.

Bielefeld Encounters in Physics and Mathematics V: Mathematics and Physics at ZiF 1983, ZiF, Univ. of Bielefeld, FRG, on “Low-energy scattering for charged particles”, September 1983.

Workshop: *Resonances - Models and Phenomena*, ZiF, Univ. of Bielefeld, FRG, on “Perturbation theory for resonances in terms of Fredholm determinants”, April 1984.

Schrödinger Operators, Aarhus 1985, Dept. of Mathematics, Univ. of Aarhus, Denmark, on “Scattering theory for one-dimensional systems with nontrivial spatial asymptotics”, October 1985.

8th Autumn School on the Models and Methods in Few-Body Physics, INIC, Lisboa, Portugal, on “On stationary two-body scattering theory in two dimensions”, October 1986.

7th Western States Mathematical Physics Conference, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “The construction of solutions of the modified Korteweg-deVries equation using commutation formulas”, February 1988.

Nordic Summer School in Mathematics 1988: Schrödinger Operators, Aarhus University Center, Sandbjerg Slot, Denmark, on “Commutation formulas”, August 1988.

Ideas and Methods in Mathematical Physics (Dedicated to the memory of Raphael Hoegh-Krohn 1938–1988), Department of Mathematics, University of Oslo, Norway, on “Non-uniqueness in inverse spectral problems”, September 1988.

International Conference on Differential Equations and Applications, Department of Mathematics, University of Graz, Austria, on “Commutation methods applied to nonlinear wave equations”, June 1989.

26th Midwest P.D.E. Conference, Argonne National Laboratory, Illinois, USA, on “Explicit construction of solutions of the modified Kadomtsev-Petviashvili and related equations”, November 1989.

9th Western States Mathematical Physics Conference, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “On the (modified) Toda lattice”, February 1990.

UAB International Conference on Differential Equations and Mathematical Physics, Dept. of Mathematics, University of Alabama at Birmingham, USA, on “Miura-type transformations for various nonlinear evolution equations”, March 1990.

XXVII Winter School of Theoretical Physics - Karpacz, Institute for Theoretical Physics, University of Wroclaw, Poland, on “(m)KdV-solitons relative to quasi-periodic backgrounds”, February 1991.

Georgia Tech - UAB International Conference on Differential Equations and Mathematical Physics, School of Mathematics, Georgia Tech, Atlanta, USA, on “Spectral deformations and soliton equations”, March 1992.

LSU Conference on Evolution Equations, Dept. of Mathematics, Louisiana State University, Baton Rouge, USA, on “New trace formulas for Schrödinger operators”, January 1993.

12th Annual Western States Mathematical Physics Meeting, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “New trace formulas for Schrödinger operators with applications to the KdV hierarchy”, February 1993.

Conference on Differential Equations, Department of Mathematics, Ohio University, Athens, OH, USA, on “New trace formulas for Schrödinger operators with applications to inverse spectral problems”, August 1993.

International Conference on Applications of Operator Theory, Institute of Industrial Mathematical Sciences (IIMS), University of Manitoba, Winnipeg, Canada, on “Trace formulas and inverse spectral theory for Schrödinger operators”, October 1994.

14th Annual Western States Mathematical Physics Meeting, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “Spectral deformations of one-dimensional Schrödinger operators”, February 1995.

IMA Workshop on Multiparticle Quantum Scattering with Applications to Nuclear, Atomic and Molecular Physics, Institute of Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, USA, on “Trace formulas and inverse spectral problems for Schrödinger operators”, June 1995.

Conference on Schrödingeroperatoren, Mathematical Research Institute at Oberwolfach, Germany, on “Isospectral deformations”, July 1995.

Invited One Hour Address at the *AMS Meeting at the Louisiana State University*, Baton Rouge, LA, USA, “Variations on a theme of Picard”, April 1996.

- Plenary lecture at the conference on *Aspects of Spectral Theory*, University and Technical University of Vienna, Austria, “Trace formulas and inverse spectral theory”, July 1996.
- 17th Annual Western States Mathematical Physics Meeting*, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “Some applications of operator-valued Herglotz functions”, February 1998.
- International conference on *Mathematical Results in Quantum Mechanics*, Technical University of Prague, Czech Republic, “Uniqueness theorems for Schrödinger operators”, June 1998.
- International Conference on *Mathematical Physics and Stochastic Analysis*, Instituto Superior Técnico, Lisbon, Portugal, “The spectral shift operator”, October 1998.
- International Conference on *Operator Theory and its Applications to Scientific and Industrial Problems*, Institute of Industrial Mathematical Sciences (IIMS), University of Manitoba, Winnipeg, Canada, on “The spectral shift operator”, October 1998.
- International Conference on *Infinite Dimensional (Stochastic) Analysis and Quantum Physics*, Max Planck Institute for Mathematics in the Sciences in Leipzig, Germany, on “Completely integrable systems in the infinite genus limit”, January 1999.
- North British Functional Analysis Seminar*, University of Edinburgh, Scotland, on “Applications of Herglotz operators”, May 1999.
- Workshop on *Singular Integrals and Complex Analysis*, Department of Mathematics, University of Trondheim, Norway, on “On integrable systems in the infinite genus limit”, June 2000.
- Soliton Equations: Applications and Theory*, University of Colorado, Colorado Springs, on “On algebro-geometric matrix-valued KdV solutions”, August 2001.
- m-Function and Related Topics Conference*, Cardiff University, UK, on “Weyl–Titchmarsh matrices, trace formulas, and Borg-type theorems”, July 2004.
- Operator Theory, Analysis and Mathematical Physics*, OTAMP 2006, Technical University of Lund, Sweden, on “Some applications of (modified) Fredholm determinants, or, variations on a theme of Jost and Pais”, June 2006.
- 21st Max Born Symposium on Theoretical Physics*, University of Wrocław, Poland, on “Some applications of (modified) Fredholm determinants, or, variations on a theme of Jost and Pais”, June 2006.
- Operator Theory in Quantum Physics*, Prague, Czech Republic, on “Dirichlet-to-Neumann maps, modified Fredholm determinants, and some applications”, September 9–14, 2006.
- Modern Analysis and Applications (MAA 07)*, dedicated to the Mark Krein centenary, Odessa, Ukraine, on “Some applications of Dirichlet-to-Neumann maps”, April 2007.
- Operator Theory, Analysis and Mathematical Physics* OTAMP 2008, Institute of Mathematics of the Polish Academy of Sciences, Bedlewo, Poland, on “Robin-to-Dirichlet maps and Krein-type resolvent formulas for Schrödinger operators on bounded Lipschitz domains”, June 2008.

14th International Conference on Difference Equations and Applications, Istanbul, Turkey, on “Borg–Marchenko-type uniqueness results for CMV operators with matrix-valued coefficients”, July 2008.

27th Annual Western States Mathematical Physics Meeting, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “Spectral theory and Weyl asymptotics for perturbed Krein Laplacians”, February 2009.

CAS Lecture Series on Nonlinear Partial Differential Equations, at the Centre for Advanced Study (CAS) at the Norwegian Academy of Science and Letters, Oslo, Norway, on “Spectral theory and Weyl-type asymptotics for perturbed Krein Laplacians” (two hours), June 2009.

CAS Lecture Series on Nonlinear Partial Differential Equations, at the Centre for Advanced Study (CAS) at the Norwegian Academy of Science and Letters, Oslo, Norway, on “Fredholm indices, the spectral shift function, and relative trace class perturbations” (two hours), June 2009.

Workshop on *Quanta and Geometry*, Erwin Schrödinger International Institute for Mathematical Physics (ESI), on “Fredholm indices, the spectral shift function, and relative trace class perturbations”, October, 2009.

Workshop on *Complex Analysis, Differential Equations, and Applications*, Department of Mathematics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, on “Trace formulas, perturbation determinants, and some applications”, September, 2010.

Workshop on *Noncommutative Geometry, Scattering Theory and the Witten Index*, Erwin Schrödinger International Institute for Mathematical Physics (ESI), on “The index formula and the spectral shift function for relatively trace class perturbations”, and “Index regularizations and the Witten index”, February, 2011.

Workshop on *Noncommutative Geometry, Scattering Theory and the Witten Index*, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Austria, on “On a generalization of the spectral problem underlying the Camassa–Holm hierarchy”, February, 2011.

International Conference on *Complex Analysis, Operator Theory, and Approximation*, University of Linz, Austria, on “A generalization of the spectral problem underlying the Camassa–Holm hierarchy”, July, 2011.

Workshop on *Inverse Problems in One Dimension* at the International Center for Mathematical Sciences (ICMS), Edinburgh, UK, on “Boundary data maps and some of their applications”, October, 2011.

International Conference on *Dissipative Spectral Theory: Operator Theory, PDEs and Numerics*, School of Mathematics, Cardiff University, UK, on “A trace formula and stability of square root domains for non-self-adjoint operators”, May, 2012.

70th Midwest PDE Seminar, University of Memphis, TN, on “Positivity preserving operators and heat kernel and Green’s function bounds for second order elliptic operators with Robin-type boundary conditions”, November 2012.

- 30th Annual Western States Mathematical Physics Meeting*, Dept. of Mathematics, California Institute of Technology, Pasadena, USA, on “A trace formula and square root domains for non-self-adjoint operators”, February 2012.
- SouthEastern Analysis Meeting (SEAM2013)*, Virginia Polytechnic Institute, Blacksburg, VA, on “Positivity preserving operators and heat kernel bounds for 2nd order elliptic partial differential operators with Robin-type boundary conditions”, March 14–15, 2013.
- Operator Semigroups meet Complex Analysis, Harmonic Analysis and Mathematical Physics*, Herrnhut, Germany, on “Spectral shift functions and some of their applications in mathematical physics”, June 3–7, 2013.
- Quantum Spectra and Transport*, at The Hebrew University of Jerusalem, Israel, on “Spectral shift functions and some of their applications in mathematical physics”, June 30–July 4, 2013.
- QMATH12, Mathematical Results in Quantum Mechanics*, at the Humboldt University of Berlin, Germany, on “The Krein–von Neumann extension: spectral properties, Weyl asymptotics”, September 10–13, 2013.
- Workshop, *Modern aspects of the Titchmarsh–Weyl m -function and its multidimensional analogues*, Institut Mittag–Leffler, Djursholm, Sweden, on “Operator-valued Herglotz–Nevanlinna functions and models for self-adjoint extensions”, June 2–6, 2014.
- Oberwolfach workshop on *Spectral Theory and Weyl Functions*, Oberwolfach, Germany, January 4–10, 2015, on “Titchmarsh–Weyl m -functions and (ordinary) differential operators”.
- Workshop *Periodic and Other Ergodic Problems* at the Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, on “Some connections between Weyl–Titchmarsh theory, oscillation theory, and density of states”, March 23 – 27, 2015.
- Workshop, *Complex and Harmonic Analysis, Differential Equations, Numerical Methods*, Department of Mathematics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, on “Factorizations of analytic operator-valued functions and eigenvalue multiplicity questions”, June 2–5, 2015.
- Workshop, *Mathematical aspects of physics with non-self-adjoint operators*, American Institute of Mathematics (AIM), San Jose, CA, USA, June 8–12, 2015.
- International Conference, *Mathematical Physics Days in Hagen 2016*, Fernuniversität, Hagen, on “A bound for the eigenvalue counting function for Krein–von Neumann extensions for elliptic 2nd order partial differential operators on bounded sets”, May 17–19, 2016.
- Workshop, *Dirichlet-to-Neumann Maps: Spectral Theory, Inverse Problems and Applications*, BIRS, Oaxaca, Mexico, on “Dirichlet-to-Neumann maps, a generalized index of unbounded meromorphic operator-valued functions, and some applications”, May 29–June 3, 2016. i
- International Conference, *Frontiers in Mathematical Physics. In honour of Barry Simon’s 70th birthday*, CRM, Montreal, on “Eigenvalue counting function bounds for the

Krein–von Neumann extension associated with uniformly elliptic PDEs”, August 28 – September 1, 2016.

Texas Analysis and Mathematical Physics Symposium 2016, Rice University, TX, USA, on “Eigenvalue counting function bounds for the Krein–von Neumann extension associated with uniformly elliptic PDEs”, October 21–23, 2016.

Spectral Days 2017, University of Stuttgart, Germany, on “On factorizations of differential operators and Hardy–Rellich-type inequalities”, April 3–7, 2017.

Workshop, *Herglotz–Nevanlinna Functions and Their Applications*, Institut Mittag–Leffler, Djursholm, Sweden, on “Nevanlinna–Herglotz functions and some applications to spectral theory”, May 8–12, 2017.

VIIIth Workshop and Summer School on *Analysis and Mathematical Physics*, Research Institute of Applied Mathematics and Systems, UNAM, Cuernavaca and Mexico City, Mexico, on “Applications of Spectral Shift Functions I, II, III”, May 29–June 2, 2017.

Focused Research Group on *Extensions of index theory inspired by scattering theory*, organized by A. Carey (ANU, Canberra) and F. Gesztesy. Additional participants: J. Kaad (Univ. of Southern Denmark, Odense), G. Levitina (UNSW Sydney) R. Nichols (Univ. of Tennessee at Chattanooga, USA), F. Sukochev (UNSW, Sydney), Banff International Research Station, Banff, Canada, June 18–25, 2017.

International Conference, *IWOTA 2017*, Technical University of Chemnitz, Germany, on “Spectral shift functions and Dirichlet-to-Neumann maps”, August 14–18, 2017.

The Fifth Najman Conference on Spectral Theory and Differential Equations, Opatija, Croatia, on “On factorizations of differential operators and Hardy–Rellich-type inequalities”, September 10–15, 2017.

COLLOQUIA, SEMINARS, and RESEARCH PRESENTATIONS at the following UNIVERSITIES and RESEARCH INSTITUTIONS

University of Arizona (Tucson, AZ, USA)

Banff International Research Station (Banff, Canada)

University of Bath (UK)

Baylor University (Waco, TX, USA)

University of Bielefeld (Germany)

University of Bochum (Germany)

University of Bonn (Germany)

University of Braunschweig (Germany)

California Institute of Technology (Pasadena, CA, USA)

University of Colorado (Boulder, CO, USA)

University of Colorado (Colorado Springs, CO, USA)

Erwin Schrödinger Institute (ESI) (Vienna, Austria)

Georgia Institute of Technology (Atlanta, GA, USA)
University of Göttingen (Germany)
University of Graz (Austria)
Technical University of Graz (Austria)
University of Illinois at Chicago (Chicago, IL, USA)
Indiana University–Purdue University Indianapolis (Indianapolis, IN, USA)
University of California at Irvine (Irvine, CA, USA)
Kansas State University (Manhattan, KS USA),
University of Kentucky (Lexington, KY, USA)
University of Leuven (Belgium)
King’s College, London (UK)
University of Louvain-la-Neuve (Belgium)
Louisiana State University (Baton Rouge, LA, USA)
University of Marseille, Luminy (France)
University of Michigan (Ann Arbor, MI, USA)
IMA, University of Minnesota (Minneapolis, MN, USA)
Missouri University of Science and Technology (Rolla, MO, USA)
Mittag–Leffler Institute (Djursholm, Sweden)
University of Nantes (France)
University of New Mexico (Albuquerque, NM, USA)
Oberwolfach Mathematical Institute (Oberwolfach–Walke, Germany)
Ohio State University (Columbus, OH, USA)
University of Central Florida (Orlando, FL, USA)
Université Paris-Sud, LPTHE-Orsay, Paris (France),
University of Oslo (Norway)
Centre for Advanced Study (CAS), Norwegian Academy of Science and Letters, Oslo (Norway)
University of Osnabrück (Germany)
University of Oxford, St. John’s College (UK)
Charles University Prague (Czech Republic)
Doppler Institute, Prague (Czech Republic)
Rice University (Houston, TX, USA)
University of Stuttgart (Germany)
University of Tennessee at Chattanooga (TN, USA)
Texas A & M University (TX, USA)
University of Trondheim (Norway)
Tulane University (New Orleans, LA, USA)

University of Vienna (Austria)

Technical University of Vienna (Austria)

Virginia Polytechnic Institute (Blacksburg, VA, USA)

Western Michigan University (Kalamazoo, MI, USA)

University of Wrocław (Poland)

Yale University (New Haven, CT, USA)

Publications

- [1] “Energiedichten und Renormierung im Modell einer Feldtheorie mit quadratischer Wechselwirkung”. Dissertation, University of Graz, Austria, 1976.

1978:

- [2] “Renormalization, Nelson’s symmetry and energy densities in a field theory with quadratic interaction”; with H. Latal. *Rep. Math. Phys.* **14**, 215–224 (1978).
- [3] “Electrons in logarithmic potentials I. Solution of the Schrödinger equation”; with L. Pittner. *J. Phys.* **11**, 679–686 (1978).
- [4] “Electrons in logarithmic potentials II. Solution of the Dirac equation”; with L. Pittner. *J. Phys. A* **11**, 687–695 (1978).
- [5] “On the commutation relation $[A,B]=-i\mathbf{I}$ ”; with L. Pittner. *Lett. Nuovo Cim.* **22**, 332–335 (1978).
- [6] “Uncertainty relations and quadratic forms”; with L. Pittner. *J. Phys. A* **11**, 1765–1770 (1978).

1979:

- [7] “On the Friedrichs extension of ordinary differential operators with strongly singular potentials”; with L. Pittner. *Acta Phys. Austriaca* **51**, 259–268 (1979).
- [8] “Diffraction of non-relativistic electron waves by a cylindrical capacitor”; with L. Pittner. *J. Phys. A* **12**, 1091–1104 (1979).
- [9] “Diffraction of relativistic electron waves by a cylindrical capacitor”; with L. Pittner. *J. Phys. A* **12**, 2247–2254 (1979).
- [10] “On systems of periodic differential equations”; with W. Becker and H. Mitter. *Lett. Math. Phys.* **3**, 249–253 (1979).

1980:

- [11] “A generalization of the virial theorem for strongly singular potentials”; with L. Pittner. *Rep. Math. Phys.* **18**, 149–162 (1980).
- [12] “On the one-dimensional Coulomb Hamiltonian”. *J. Phys. A* **13**, 867–875 (1980).
- [13] “An efficient method for the summation of partial wave amplitudes for long-range potentials”; with C. B. Lang. *Phys. Lett.* **79A**, 295–297 (1980).
- [14] “On the high-energy behavior of scattering phase shifts for Coulomb-like potentials”; with W. Plessas and B. Thaller. *J. Phys.* **A13**, 2659–2671 (1980).

1981:

- [15] “On the Abel-summability of partial wave amplitudes for Coulomb-type interactions”; with C. B. Lang. *J. Math. Phys.* **22**, 312–319 (1981).
- [16] “Born expansions for Coulomb-type interactions”; with B. Thaller. *J. Phys.* **A14**, 639–657 (1981).
- [17] “A note on quasiperiodic states”; with H. Mitter. *J. Phys.* **A14**, L79–L83 (1981).
- [18] “On the universal low energy limit in nonrelativistic scattering theory”; with S. Albeverio and R. Høegh-Krohn. *Acta Phys. Austriaca Suppl.* **23**, 577–585 (1981).

1982:

- [19] “On the structure of Coulomb-type scattering amplitudes”. *J. Math. Phys.* **23**, 74–82 (1982).
- [20] “The low energy expansion in nonrelativistic scattering theory”; with S. Albeverio and R. Høegh-Krohn. *Ann. Inst. H. Poincaré A* **37**, 1–28 (1982).
- [21] “Spectral concentration in the nonrelativistic limit”; with H. Grosse and B. Thaller. *Phys. Lett.* **116B**, 155–157 (1982).

1983:

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AMS NOTICES CONTRIBUTION

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KALTON MEMORIAL WEBSITE

Established the Nigel J. Kalton Memorial Website: <http://kaltonmemorial.missouri.edu/>

CITATIONS

MathSciNet displays 3857 citations by 1521 authors.

Google Scholar Citations: 10939, h-index: 53.

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