Curriculum Vitae
Fritz Gesztesy

Education

1972–1976   University of Graz, Austria, Ph.D. 1976 (Advisors: H. G. Latal, Univ. of Graz, Austria and L. Streit, Univ. of Bielefeld, Germany).

Positions Held

1977–1982   Assistant Professor at the Institute for Theoretical Physics of the University of Graz, Austria.

1982–1988   Associate Professor at the Institute for Theoretical Physics of the University of Graz, Austria.

1988–2016   Professor of Mathematics at the University of Missouri, Columbia, MO.

1996–2001   Luther M. Defoe Distinguished Professorship, Department of Mathematics, University of Missouri, Columbia, MO.

2002–2016   M. & R. Houchins Distinguished Professorship, Department of Mathematics, University of Missouri, Columbia, MO.

2016–   Jean and Ralph Storm Professor of Mathematics, Baylor University, Waco, TX.

Professional Honors

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

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

Ludwig Boltzmann Award (Austrian Physical Society) 1987.

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.

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).

Honorary Doctorate, Technical University of Graz, Austria, March 2022.

Election to the European Academy of Sciences, September 2024.

Fields of Specialization

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

Selected Editorial Activity

Editorial Board, *Operators and Matrices* (Element), since April 2006.

Associate Editor, *Operator Theory: Advances and Applications* (Birkhäuser), since 2010.

Co-Editor, *de Gruyter Studies in Mathematics* (de Gruyter), since June 2010.

Editorial Board, *Methods of Functional Analysis and Topology* (*MFAT*), Kiev, Ukraine, since December 2013.

Editor in Chief, *Journal of Spectral Theory* (European Math. Soc.), October 2014 – October 2024.

7 Masters Students and 17 PhD Students

Selected Publications (out of approximately 320)

1. Limits of soliton solutions; with W. Karwowski and Z. Zhao. Duke Math. J. **68**, 101–150 (1992).

2. The xi function; with B. Simon. Acta Math. **176**, 49–71 (1996).

3. Picard potentials and Hill's equation on a torus, with R. Weikard. Acta Math. **176**, 73–107 (1996).

4. A characterization of all elliptic solutions of the AKNS hierarchy; with R. Weikard. Acta Math. **181**, 63–108 (1998).

5. A new approach to inverse spectral theory, II. General real potentials and the connection to the spectral measure; with B. Simon. Ann. of Math. **152**, 593–643 (2000).

6. Spectral analysis of Darboux transformations for the focusing NS hierarchy"; with R. C. Cascaval, H. Holden, and Y. Latushkin. J. Analyse Math. **93**, 139–197 (2004).

7. Spectral properties of a class of reflectionless Schrödinger operators; with P. Yuditskii. J. Funct. Anal. **241**, 486–527 (2006).

8. Evans functions, Jost functions, and Fredholm determinants; with Y. Latushkin and K. A. Makarov. Arch. Rat. Mech. Anal. **186**, 361–421 (2007).

9. Spectral theory for perturbed Krein Laplacians in nonsmooth domains; with M. Ashbaugh, M. Mitrea, and G. Teschl. Adv. Math. **223**, 1372–1467 (2010).

10. The index formula and the spectral shift function for relatively trace class perturbations; with Y. Latushkin, K. A. Makarov, F. Sukochev, and Y. Tomilov. Adv. Math. **227**, 319–420 (2011).

11. Renormalized oscillation theory for Hamiltonian systems; with M. Zinchenko. Adv. Math. **311**, 569–597 (2017).

12. Spectral shift functions and Dirichlet-to-Neumann maps; with J. Behrndt and S. Nakamura, Math. Ann. 371, 1255-1300 (2018).

13. Sturm–Liouville M-functions in terms of Green's functions; with R. Nichols. J. Diff. Eq. **412**, 709–757 (2024).

Books

1. Solvable Models in Quantum Mechanics, 2nd edition; with S. Albeverio, R. Høegh-Krohn, and H. Holden. AMS–Chelsea Series, Amer. Math. Soc., 2005, 488 pages. With an appendix by P. Exner.

2. Soliton Equations and Their Algebro-Geometric Solutions. Vol. I: $(1+1)$-Dimensional Continuous Models; with H. Holden. Cambridge Studies in Advanced Mathematics, Vol. 79, Cambridge Univ. Press, Cambridge, 2003, 505 pages.

3. Soliton Equations and Their Algebro-Geometric Solutions. Vol. II: $(1+1)$-Dimensional Discrete Models; with H. Holden, J. Michor, and G. Teschl. Cambridge Studies in Advanced Mathematics, Vol. 114, Cambridge Univ. Press, Cambridge, 2008, 438 pages.

4. Sturm–Liouville Operators, Their Spectral Theory, and Some Applications; with R. Nichols and M. Zinchenko, Colloquium Publications, Vol. 67, Amer. Math. Soc., Providence, RI, 2024.

For additional details, see:
https://math.artsandsciences.baylor.edu/person/fritz-gesztesy-phd