

CURRICULUM VITAE: EMIL J. STRAUBE

EDUCATION:

- 1972-1977 Mathematics at ETH, Zurich
- 1977 Diploma in Mathematics (dipl. math. ETH), Diploma Thesis with Prof. A. Pfluger on: "Co-Analytic Toeplitz Operators on Weighted H^2 Spaces"
- August 1983 Doctorate in Mathematics at ETH, Dissertation: "Cauchy-Riemann Distributions and Boundary Values of Analytic Functions", Diss. ETH No. 7351, Professor K. Osterwalder, Advisor

POSITIONS HELD:

- 1983-1984 Visiting Research Scholar, Mathematics Department, Univ. of North Carolina at Chapel Hill, (funded by a research fellowship from the Swiss National Science Foundation)
- 1984-1986 Visiting Assistant Professor, Indiana University, Bloomington
- 1986-1987 Visiting Assistant Professor, University of Pittsburgh
- 1987-1991 Assistant Professor, Texas A&M University
- 1991-1996 Associate Professor, Texas A&M University
- 1996-present Professor, Texas A&M University
- Research visiting positions at: Forschungsinstitut für Mathematik, ETH Zurich, Switzerland
Max Planck Institut für Mathematik, Bonn, Germany,
Mathematical Sciences Research Institute, Berkeley, CA
Erwin Schrödinger Int. Inst. for Math. Physics, Vienna, Austria
University of Wuppertal, Wuppertal, Germany

GRANTS/FUNDING

- 1983-1984 Swiss National Science Foundation postdoctoral fellowship, sfr 32,000.-
- 1985 Indiana University Summer Faculty Fellowship, \$4,000.-
- 1990-1992 NSF: DMS-9002541 (Co-PI with H.P. Boas), \$61,000.-
- 1992-1994 NSF: DMS-9203514 (Co-PI with H.P. Boas), \$30,000.-
- 1995-1998 NSF: DMS-9500916 (Co-PI with H.P. Boas), \$165,915.-
- 1996-1999 NSF: DMS-9632028 (Co-PI with Boas, Cao, Lima-Filho, Pitts, Stiller, Thomas), \$400,334.-

- 1998-2001 NSF: DMS-9801539 (Co-PI with H.P. Boas), \$309,366.-
- 2001-2005 NSF: DMS-0100517 (Co-PI with H.P. Boas), \$255,000.-
- 2003-2005 Erwin Schrödinger Inst., Vienna, (Co-PI with F. Haslinger and H. Upmeyer), \$60,000.- (for Special Semester in Complex Analysis and Operator Theory)
- 2005-2008 NSF: DMS-0500842 (PI), \$122,133.-
- 2008-2011 NSF: DMS-0758534 (PI), \$286,926.-
- 2008-2010 Erwin Schrödinger Inst., Vienna, (Co-PI with F. Haslinger and B. Lamel), \$94,000.- (for Program ‘The $\bar{\partial}$ -Neumann Problem: Analysis, Geometry, and Potential Theory’, to be held Oct. 27 - Dec. 24, 2009)

HONORS AND AWARDS

- 1995 Bergman Prize (jointly with H.P. Boas) from the American Math. Society
- 1997 Dept. of Mathematics Outstanding Service Award
- 1998 Association of Former Students, Texas A&M, Distinguished Achievement Award in Research
- 1998 Dept. of Mathematics Outstanding Teaching Award
- 2005 Senior Research Fellowship, Erwin Schrödinger International Institute for Mathematical Physics, Vienna
- 2006 Invited Speaker at the International Congress of Mathematicians (ICM), Madrid
- 2007 AMS Invited Address, Spring Central Section Meeting, Miami University, Oxford, Ohio

CONFERENCE PRESENTATIONS, LECTURES, ETC (SINCE 1990)

- AMS meeting (Southeast section) in Fayetteville, Ark., March 23-24, 1990, invited talk in special session on Complex Analysis
- University of Düsseldorf, dept. colloquium, summer 1990
- Max Planck Institute, Bonn, 4 lectures, summer 1990
- Meeting on Partial Differential Equations in Complex Analysis, Oberwolfach, June 17-23, 1990, invited talk on ‘Sobolev estimates for the $\bar{\partial}$ -Neumann operator’
- University of Chicago, Complex Analysis Seminar, 1990
- University of Wisconsin, Analysis Seminar, 1990

AMS meeting in Tampa, Fl., March 22-23, 1991, invited talk in special session on Several Complex Variables

University of Wuppertal, 2 seminar talks, May 1992

Swiss Federal Institute of Technology, Zürich, analysis seminar, June 1992

University of Michigan, Analysis Seminar, 2 talks, Jan. 1993

AMS meeting in Manhattan, KS, March 25-26, 1994, invited talk in special session on Several Complex Variables and Partial Differential Equations

3rd Analysis Colloquium, University of Bern, Switzerland, August 1994

AMS meeting in Stillwater, OK, October 1994, invited talk in special session on Several Complex Variables

Special Program in Several Complex Variables, MSRI Berkeley (1995-96), 2 lectures, Sept. 1995

Workshop on Analytic and PDE Methods in Several Complex Variables, MSRI Berkeley, Nov. 6-10, 1995

AMS meeting in Orlando, Florida, Jan. 10-13, 1996, special session on Analytic Methods in Several Complex Variables

AMS meeting in Iowa City, Iowa, March 22-23, 1996, special session on Several Complex Variables

AMS meeting in Memphis, Tennessee, March 1997, Special Session on Complex Analysis

International Conference on Complex Analysis and Applications, July 1997, Stefan Banach Center, Warsaw, Poland

AMS meeting in Philadelphia, PA, April 1998, Special Session in PDEs in Complex Analysis

International Conference on Real Methods in Complex Analysis, March 1999, Oberwolfach, Germany

AMS/Sociedad Matematica Mexicana joint meeting in Denton, TX, May 1999, Special Session in Complex Analysis

International Conference on Complex Analysis and Geometry, Ohio State Univ., June 1999

AMS meeting in Salt Lake City, Utah, Sept. 1999, Special Session in Complex Variables and Operator Theory

Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, Nov. 1999

AMS meeting at Notre Dame, IN, April 2000, Special Session on Several Complex Variables

Workshop on Analytic Methods in Several Complex Variables, May 2000, Univ. of Hong Kong, Hong Kong, China

Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, Nov. 2000

AMS/Sociedad Matematica Mexicana meeting in Morelia, Mexico, May 2001, Special Session on Complex Analysis

AMS meeting in Irvine, CA, Nov. 2001, Special Session in Harmonic and Complex Analysis

Univ. of Wyoming, Laramie, March 2002, departmental colloquium

International Conference on Several Complex Variables and Complex Geometry (in honor of the 70th birthdays of R. Gunning and J. Kohn), Princeton University, Sept. 2002

International conference: Relle Methoden in der komplexen Analysis, Oberwolfach, Germany, Feb. 2003

Midwest Several Complex Variables Conference, Syracuse University, Oct. 10-12, 2003

American Mathematical Society, Special Session on Banach Algebras and Several Complex Variables, Chapel Hill, North Carolina, Oct. 24-25, 2003

US-Hong Kong Conference on Recent Developments in Several Complex Variables, Cauchy-Riemann Geometry, and Complex Algebraic Geometry in honor of Y.-T. Siu's 60th birthday, University of Hong Kong, Nov. 20-24, 2003

University of California at San Diego, departmental Analysis Seminar, March 2, 2004

Sixth International Joint Meeting of the American Math. Society and the Sociedad Matematica Mexicana, Special Session on Complex Analysis and Operator Theory, Houston, TX, May 12-15, 2004

American Mathematical Society, Special Session in Several Complex Variables and CR Geometry, Albuquerque, NM, Oct. 16-17, 2004

AMS/MAA Joint Mathematics Meeting, Special Session in Complex and Functional Analysis, Atlanta, Georgia, Jan. 5-8, 2005

International Conference on Several Complex Variables, in honor of Sheng Gong's 75th birthday, Chinese University of Science and Technology, Hefei, China, June 20-24, 2005

Workshop: Complex Analysis and Partial Differential Equations, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, Oct. 24-28, 2005

Erwin Schrödinger International Institute for Mathematical Physics, Vienna, 'Lectures on the \mathcal{L}^2 -Sobolev theory of the $\bar{\partial}$ -Neumann problem', approx. 28 hrs of lectures, May-June and Oct.-Nov. 2005

Masaryk University, Brno, Czech Republic, departmental colloquium, Nov. 9, 2005

Second Brazilian School of Differential Equations, IMPA, Rio de Janeiro, Jan. 23-27, 2006

Degenerate Structures in Complex Analysis, International conference in honor of Klas Diederich, Bergisch Gladbach, Germany, May22 - May26, 2006

International Conference on Several Complex Variables in honor of Qi-Keng Lu's 80th birthday, Chinese Academy of Sciences, Beijing, June 5 - June 9, 2006

International Conference in PDE, Complex Analysis, and Differential Geometry in honor of Salah Baouendi, University of Notre Dame, June 11-16, 2006

International Congress of Mathematicians (ICM), Madrid, invited lecture in Analysis Section, Aug. 22 - 30, 2006

AMS meeting at University of Arkansas, Special session on Boundary Operators in Real and Complex Domains, Nov.3-4, 2006

AMS meeting at Miami University, Oxford, Ohio, Invited Address, March 16-17, 2007

University of Missouri-Rolla, departmental colloquium, April 13, 2007

Georgetown University, departmental colloquium, April 27, 2007

Joint Intl. Meeting of AMS and Polish Math. Soc., Special session on Complex Analysis and Operator Theory, July 31-Aug. 3, 2007

IV Workshop on Geometric Analysis on PDEs and Several Complex Variables, Serra Negra, Brazil, Aug.6-11, 2007

AMS meeting at Rutgers-New Brunswick, Special session on Geometric Analysis of Complex Laplacians, Oct.6-7, 2007

AMS meeting at Louisiana State Univ., Baton Rouge LA, Special session on Harmonic Analysis and PDEs in Real and Complex Domains, March 28-30, 2008

Workshop on Problems Related to the Bergman Kernel, Institute of Mathematics, Chinese Academy of Sciences, Beijing, June 9-13, 2008

Colloquium at Institute of Mathematics, Chinese Academy of Sciences, June 13, 2008

Conference on Analysis and Geometry of Several Complex Variables, Mathematics Inst. of Romanian Academy (IMAR), Bucharest, Romania, June 24-28, 2008

Workshop/Conference on CR Geometry, PDEs, and Invariant Theory, Prague, Czech Republic, in honor of J.J.Kohn, June 30-July 4, 2008

Conference on Several Complex Variables and its Connections with PDEs and Geometry, in honor of Linda Rothschild, Fribourg, Switzerland, July 7-11, 2008

AMS meeting at the University of Illinois, Urbana-Champaign, Special session on Holomorphic and CR Mappings, March 27-29, 2009

University of Houston, Complex Analysis and Complex Geometry Seminar, Nov. 11, 2009

LIST OF PUBLICATIONS

1. “On the Existence of Invariant, Absolutely Continuous Measures”, *Comm. Math. Phys.* **81** (1981), 27–30.
2. “CR-Distributions and Analytic Continuation at Generating Edges”, *Math. Z.* **189** (1985), 131–142.
3. “Harmonic and Analytic Functions Admitting a Distribution Boundary Value”, *Ann. Scuola Norm. Sup. Pisa* **11**, Nr. 4 (1984-1985), 559–591.
4. (with J. Cima) “Boundary Uniqueness Theorems in C^n ”, *Trans. Am. Math. Soc.* **294**(1) (1986), 333–339.
5. “Exact Regularity of Bergman, Szegő and Sobolev Space Projections in Non Pseudoconvex Domains”, *Math. Z.* **192** (1986), 117–128.
6. “Orthogonal Projections onto Subspaces of the Harmonic Bergman Space”, *Pacific J. Math.* **123**(2) (1986), 465–476.
7. “Power Series with Integer Coefficients in Several Variables”, *Comment. Math. Helv.* **62** (1987), 602–615.
8. (with J. Conway and J. Dudziak) “Isometrically Removable Sets for Functions in the Hardy Space are Polar”, *Mich. Math. J.* **34** (1987), 267–273.
9. (with H.P. Boas) “Integral Inequalities of Hardy and Poincaré Type”, *Proc. Amer. Math. Soc.* **103**, Nr. 1 (1988), 172–176.
10. (with H.P. Boas and S.-S. Chen) “Exact Regularity of Bergman and Szegő Projections on Domains with Partially Transverse Symmetries”, *Manuscripta Math.* **62** (1988), 467–475.
11. (with H.P. Boas) “Complete Hartogs Domains in C^2 Have Regular Bergman and Szegő Projections”, *Math. Z.* **201** (1989), 441–454.

12. “Interpolation between Sobolev and between Lipschitz Spaces of Analytic Functions on Starshaped Domains”, *Trans. Amer. Math. Soc.* **316**, Nr. 2 (1989), 653–671.
13. (with H.P. Boas) “Equivalence of Regularity for the Bergman Projection and the $\bar{\partial}$ -Neumann Operator”, *Manuscripta Math.* **67** (1990), 25–33.
14. (with H.P. Boas) “Sobolev Estimates for the $\bar{\partial}$ -Neumann Operator on Domains in \mathbb{C}^n Admitting a Defining Function that is Plurisubharmonic on the Boundary”, *Math. Z.* **206** (1991), 81–88.
15. (with H.P. Boas) “Sobolev Estimates for the Complex Green Operator on a Class of Weakly Pseudoconvex Boundaries”, *Commun. in Partial Differential Equations* **16(10)** (1991), 1573–1582.
16. (with H.P. Boas) “The Bergman Projection on Hartogs Domains in \mathbb{C}^2 ”, *Trans. Amer. Math. Soc.* **331**, Nr. 2 (1992), 529–540.
17. (with H.P. Boas) “On Equality of Line Type and Variety Type of Real Hypersurfaces in \mathbb{C}^n ”, *J. Geometric Analysis* **2**, Nr. 2 (1992), 95–98.
18. (with H.P. Boas) “De Rham Cohomology of Manifolds Containing the Points of Infinite Type, and Sobolev Estimates for the $\bar{\partial}$ -Neumann Problem”, *J. Geometric Analysis* **3**, Nr. 3 (1993), 225–235.
19. “A Remark on Hölder Smoothing and Subellipticity of the $\bar{\partial}$ -Neumann Operator”, *Commun. Partial Diff. Equations*, **20(1&2)** (1995), 267–275.
20. (with H.P. Boas and J. Yu) “Boundary Limits of the Bergman Kernel and Metric”, *Michigan Math. Journal*, **42**, Nr. 3 (1995), 449–461.
21. (with H.P. Boas) “Global Regularity of the $\bar{\partial}$ -Neumann Problem: a Survey of the \mathcal{L}^2 -Sobolev Theory”, invited survey for *Current Developments in Several Complex Variables*, Proceedings of Special Year in Several Complex Variables at MSRI Berkeley, 1995–1996, pp. 79–111, Y.T. Siu and M. Schneider (eds.), Cambridge University Press, 1999.
22. “Plurisubharmonic functions and subellipticity of the $\bar{\partial}$ -Neumann problem on non-smooth domains”, *Math. Research Lett.* **4** (1997), 459–467.
23. (with S. Fu) “Compactness of the $\bar{\partial}$ -Neumann Problem on Convex Domains”, *Journal of Functional Analysis* **159** (1998), 629–641.
24. (with H.P. Boas and S. Fu) “The Bergman Kernel Function: Explicit Formulas and Zeroes”, *Proceedings of the Amer. Math. Soc.* **127**, Nr. 3 (1999), 805–811.
25. (with S. Fu), “Compactness in the $\bar{\partial}$ -Neumann Problem”, invited contribution (I was a Principal Speaker) to *Complex Analysis and Geometry*, J.McNeal ed., Ohio State Univ. Math. Res. Inst. Publ. **9** (2001), 141–160.

26. “Good Stein Neighborhood Bases and Regularity of the $\bar{\partial}$ -Neumann Problem”, *Illinois J. Math.* **45**, Nr. 3 (2001), 865–871.
27. (with M. Sucheston) “Plurisubharmonic Defining Functions, Good Vector Fields, and Exactness of a Certain One Form”, *Monatshefte für Mathematik* **136** (2002), 249–258.
28. (with S. Fu), “Semi-Classical Analysis of Schrödinger Operators and Compactness in the $\bar{\partial}$ -Neumann Problem”, *Journal of Mathematical Analysis and Applications* **271** (2002), 267–282, correction in **280** (2003), 195–196.
29. (with M. Sucheston) “Levi Foliations in Pseudoconvex Boundaries and Vector Fields that Commute Approximately with $\bar{\partial}$ ”, *Transactions of the American Math. Society* **355**, Nr. 1 (2003), 143–154.
30. “Geometric conditions which imply compactness of the $\bar{\partial}$ -Neumann operator”, *Annales de l’Institut Fourier* **54**, fasc. 3 (2004), 699–710.
31. (with Sonmez Sahutoglu) “Analytic Discs, Plurisubharmonic Hulls, and Non-Compactness of the d-bar-Neumann Operator”, *Mathematische Annalen* **334** (2006), 809–820.
32. “Aspects of the \mathcal{L}^2 -Sobolev Theory of the $\bar{\partial}$ -Neumann Problem”, *Proceedings of the International Congress of Mathematicians, Madrid, Spain, vol.2* (2006) European Math. Soc., 2006, 1453–1478.
33. (with Samangi Munasinghe) “Complex Tangential Flows and Compactness of the $\bar{\partial}$ -Neumann Operator”, *Pacific J. Math.* **232** (2007), 343–354.
34. “A Sufficient Condition for Global Regularity of the d-bar-Neumann Operator”, *Advances in Math.* **217** (2008), 1072–1095.
35. (with A. Raich) “Compactness of the Complex Green Operator”, *Math. Res. Lett.* **15**, no. 4 (2008), 761–778.
36. (with M. Çelik) “Observations Regarding Compactness in the $\bar{\partial}$ -Neumann Problem”, *Complex Variables and Elliptic Equations* **54**, no. 3-4 (2009), 173–186.
37. “Lectures on the \mathcal{L}^2 -Sobolev Theory of the $\bar{\partial}$ -Neumann Problem”, monograph (ca. 250 p.), *ESI Lectures in Mathematics and Physics*, European Math. Soc., to appear.
38. (co-editor, with P. Ebenfelt, N. Hungerbühler, J. Kohn, and N. Mok) “Complex Analysis: several complex variables and connections with PDEs and geometry” (Fribourg 2008), *Trends in Mathematics*, Birkhäuser Verlag, to appear.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Mathematical Society (AMS)

Société Mathématique Suisse

European Mathematical Society

GRADUATE TEACHING AT A&M

-CLASSES

Math 601, 602, 611, 612, 617, 618, 663, 685, 689, 691.

-PH. D. STUDENTS

Marcel Sucheston, Dec. 2000 (Ph. D. awarded posthumously)

Sönmez Şahutoğlu, May 2006, post-doc at University of Michigan 2006–09, Assistant Professor, University of Toledo, Sept. 2009–present

Samangi Munasinghe, Aug. 2006, post-doc at College of the Holy Cross 2006–07, post-doc at University of Arkansas 2007–10

Mehmet Çelik, May 2008, Assistant Professor at University of Arkansas-Fort Smith, 2008–present

Mustafa Ayyürü, current

Yue Zhang, current

-POST-DOCS CO-MENTORED (MOSTLY WITH BOAS, SOME WITH BOGESS)

1993-96: *Jiye Yu* (Ph.D. 1993, Washington Univ., now in industry)

1996-98: *Siqi Fu* (Ph.D. 1994, Washington Univ., awarded an AMS Centennial Fellowship in 2000, now Associate Professor at Rutgers-New Brunswick)

1997-99: *Marshall Whittlesey* (Ph.D. 1997, Brown Univ., now Assistant Professor at Cal. State San Marcos)

1998-2000: *Rich Stankewitz* (Ph.D. 1998, Univ. of Illinois, now Associate Professor at Ball State University)

1999-2001: *Eugene Mihailescu* (Ph.D. 1999, Univ. of Michigan, went to Inst. of Mathematics, Romanian Academy of Sciences)

2001-04: *Dariush Ehsani* (Ph.D. 2001, Univ. of Michigan, now Assistant Professor at Penn State Lehigh Valley)

2003-06: *Dan Jupiter* (Ph.D. 2003, Univ. of Michigan, now a postdoctoral Research Associate in the Department of Systems Biology and Translational Medicine, Texas A&M Health Science Center)

2005-08: *Andrew Raich* (Ph.D. 2005, Univ. of Wisconsin, now Assistant Professor at University of Arkansas)

SERVICE

OUTSIDE A&M

- AMS Meeting in Indianapolis, April 11-12, 1986. Organizer; special session on Several Complex Variables

- AMS meeting in Denton, TX, Nov. 2-3, 1990. Organizer; special session in Several Complex Variables.

- AMS meeting in College Station, Texas, Oct. 22-23, 1993, organizer; special session in Several Complex Variables

- AMS Annual Meeting, San Antonio, TX, Jan. 1999, co-organizer of Special Session in Several Complex Variables

- Program in Complex Analysis, Operator Theory, and Applications to Mathematical Physics, Erwin Schrödinger Intl. Inst. for Math. Physics, Vienna, Fall 2005, organizer (with F. Haslinger and H. Upmeyer)
- AMS meeting in Oxford, Ohio, March 16-17, 2007, organizer (with J. McNeal); special session on PDE Methods in Several Complex Variables
- Member of Scientific Committee (with J.J.Kohn, P.Ebenfelt, and F.Forstneric) and Editorial Board of proceedings (with N.Mok, N.Hungerbühler, J.J.Kohn, and P.Ebenfelt), Several Complex Variables and Connections with PDEs, Fribourg, Switzerland, July 7-11, 2008
- Program on The $\bar{\partial}$ -Neumann Problem: Analysis, Geometry, and Potential Theory, Erwin Schrödinger Intl. Inst. for Math. Physics, Vienna, Oct.27–Dec.23, 2009, organizer (with F. Haslinger and B. Lamel)
- referee for various journals, NSF, and Austrian Academy of Sciences
- NSF panels (2)
- Associate Editor, Journal of Mathematical Analysis and Applications, since 2001

UNIVERSITY

- Council of Principal Investigators, Fall 1999-Summer 2001
- College of Science Research Committee, Spring 1999-Spring 2002
- College of Science Promotion and Tenure Advisory Committee, Fall 2000- Fall 2003
- College of Science Undergraduate Curriculum Committee, Fall 2004-Fall 2007
- Faculty Senate, Fall 2004-Fall 2007
- College of Science Faculty Advisory Committee, Fall 2007 - present
- Chair, Fall 2008 - present
- Council of Principal Investigators, Fall 2009 - present

DEPARTMENT

- Undergraduate Advisor, 1991-92
- Member, Space Committee, 1992-93
- Member, Frontiers Committee, 1992-93
- Member, Undergraduate Program Committee, 1992-93
- Member, Awards Committee, 1993-95
- Member, P&T Subcommittee, 1993-95
- Chair, P&T Subcommittee, 1994-95
- Organizer, Geometry-Analysis-Topology Seminar (with H.-D. Cao and P. Lima-Filho), 1994-2000
- Executive Committee, Jan. 96-Nov. 97
- Member, Subcommittee P, Spring 98-Spring 2000
- Chair, Subcommittee P, Spring 99-Spring 2000
- Member, Undergraduate Program Committee, Fall 2000-Fall 2002
- Executive Committee, Fall 2001-Fall 2003
- Organizer, Several Complex Variables Seminar, Spring 1998 - Spring 2004
- Graduate Program Committee, Fall 2002-Fall 2004
- Subcommittee P, Spring 2004-Spring 2006
- Undergraduate Scholarship Committee, Fall 2004 - Fall 2006
- Executive Committee, Fall 2006 - Fall 2008

Awards Committee, Fall 2008 - present

Post-Doc Search Committee, Fall 2009 - present