

CURRICULUM VITAE

NAME: Jonathan Cohen

EDUCATION:

B.A. 1964 Brandies University
M.A. 1966 Washington University
Ph.D. 1977 Washington University

ACADEMIC APPOINTMENTS:

1964-68 Teaching Assistant, Washington University
1968-72 Instructor, University of Missouri, St. Louis
1974-76 Teaching Assistant, Washington University
1976-77 Instructor, Washington University
1977-79 Instructor, University of Georgia
1979-80 Visiting Lecturer, University of California, Santa Cruz
1980-86 Assistant Professor, University of Tennessee
1986-87 Visiting Assistant Professor, Carnegie-Mellon University
1987-90 Assistant Professor, DePaul University
1990-95 Associate Professor, DePaul University
1995- Professor, DePaul University

ADMINISTRATIVE APPOINTMENTS:

1995-98 Chairman of the Department of Mathematics.

SCHOLARLY PAPERS:

1. Jonathan Cohen, "*Multilinear singular integrals*", *Studia Math.*, Vol. 68, 3, (1980), pp. 261-280.
2. _____, and John Gosselin, "*On multilinear singular integrals on R^n* ", *Studia Mathematics*, T. LXXXII. (1982), 199-223.
3. _____, "*A sharp estimate for a multilinear singular integral in R^n* ", *Indiana U. Math J.*, 30, 5(1981), pp. 693-702.
4. _____, and John Gosselin, "*The Dirichlet Problem for biharmonic equation in a C^1 domain in the plane*", *Indiana University Math. J.*, Vol. 32, 5(1983), pp. 635-685.

5. _____, and John Gosselin, "*Adjoint boundary value problems for the biharmonic equation on C^1 domains in the plane*", Arkiv fur Math, Vol. 23 (1985), No. 2, pp.217-240.
6. _____, and John Gosselin, "*A BMO estimate for multilinear singular integrals*", Illinois Journal of Math., Vol. 30, No. 3, Fall 1986, pp. 445-464.
7. _____, and John Gosselin, "*Stress Potentials on C^1 domains*", Journal of Math Analysis and Applications, Vol. 125, No. 1, 1987 pp. 22-46.
8. _____, "*BMO Estimates for Biharmonic Multiple Layer Potentials*", Studia Math., T. XCI (1988), pp 109-123.
9. _____, "*Cauchy Formulae for Functions Analytic of Order 2 on C^1 domains with Applications to Elastostatics and Hydrostatics*", SIAM Journal of Math. Anal. and Appl., Vol. 20, No. 1, January 1989. pp 98-105.
10. _____, and Charles Coffman, "*Duals of Harmonic Bergman Spaces*", Proceedings of the American Math Society, Vol.110, Number 3, November 1990, pp. 697-704.
11. _____, J. Ash, C. Freiling, and D. Rinne, "*Generalizations of the Wave equation*", Transactions of the AMS, vol. 338, No.1, July 1993, pps. 57-75.
12. _____, J. Ash, C. Freiling, A.E. Gatto, D. Rinne, "*Generalized Derivatives*", in the book Partial Differential Equations with Minimal Smoothness Conditions, IMA Volumes in Mathematics and its applications, B. Dahlberg, E. Fabes, R. Fefferman, D. Jerison, C. Kenig, and J. Pipher, (eds.) , vol. 42, Springer-Verlag, New York, 1992, pp. 25-32.
13. _____, J.M. Ash, C. Freiling, L. Gluck, E. Rieders and G. Wang, "*Characterizations and Generalizations of Continuity*", Proc. Amer. Math. Soc., Vol. 121, No. 3, July 1994, pps. 833- 842.
14. _____, L. Drake, J. Rutledge, "*Wavelets Analysis in the Recruitment of Loudness Compensation*", IEEE Transactions on Signal Processing, Vol. 41, No. 12, December 1993, pps. 3306-3312.
15. _____, N. Whitmal and J. Rutledge, "*Wavelet Based Noise Reduction*", Conference Proceedings ICASSP 95. (These Proceedings are refereed in advance and about 40% are accepted).
16. _____, J. M. Ash and G. Wang, "On Strongly Interacting Internal Solitary Waves," to appear, Journal of Fourier Analysis and Applications, Volume 2, Number 5, 1996, pps. 507-517.

17. _____, N. Whitmal and J. Rutledge, "*Wavelet-based reduction of correlated noise for digital hearing aids*", IEEE Engineering in Biology and Medicine Magazine, Volume 15, Number 5, September/October 1966, pps. 88-96.
18. _____, N. Whitmal and J. Rutledge, "*Reduction of Autoregressive noise with shift-invariant wavelet-packets*", IEEE Signal Processing Society International Symposium on Time-Frequency and Time-Scale Analysis, June 18-21, Paris, France.
19. _____, with David Cohen, "*An Alternative Approach to second order linear ordinary differential equations*", unpublished preprint.
20. _____, N. Whitmal, J. Rutledge, "Denoising Speech Signals for Digital Hearing Aids: A Wavelet Based Approach", to appear in "*Wavelets and Multiscale Analysis: Theory and Applications*", Birkhauser.
21. _____, J. Bona and G. Wang, "Global Well Posedness for a System of KdV Equations", (in preparation).

BOOKS:

1. Jonathan Cohen and Ahmed Zayed (Editors), "*Wavelets and Multiscale Analysis: Theory and Applications*", Birkhauser, (to appear).

PARTICIPATION IN SCHOLARLY MEETINGS:

- 1974 Harmonic Analysis Conference, DePaul University
- 1975 AMS Regional Conference, St. Louis, Mo.
- 1977 AMS National Meeting, St. Louis, Mo.
- 1978 AMS Summer Conference on Harmonic Analysis, Williamstown, Ma.
- 1978 AMS National Meeting, Atlanta, Ga.
- 1979 AMS National Meeting, Biloxi, Mississippi
- 1980 AMS National Meeting, San Antonio, Texas
- 1981 Zygmund Conference, University of Chicago
- 1982 Riviere Conference, University of Minnesota
- 1982 AMS Regional Meeting, College Park, Maryland

- 1983 AMS Regional Meeting, Evanston, Illinois
- 1984 AMS Regional Meeting, San Diego, California
- 1985 A.P. Calderon Conference, **University of Chicago**
- 1985 AMS Summer Conference, Arcata, California
- 1985 AMS Regional Meeting, Columbia, Mo.
- 1986 AMS National Meeting
- 1987 NSF sponsored conference on harmonic analysis, University of Georgia
- 1987 Spent month of December at the Mathematics Science Research Institute, Berkeley, California
- 1988 Mathematics Science Research Institute international conference on harmonic analysis
- 1988 NSF sponsored regional conference on non-linear partial differential equations, Loyola University, Chicago
- 1988 AMS Special Session, Lawrence, Kansas
- 1989 Zygmund Lecture Conference in harmonic analysis, March 10-13
- 1989 PDE Conference, Northwestern University, March 20-24
- 1989 DePaul Conference on Numerical and Computational Aspects of Harmonic Analysis, May (Organizer)
- 1989 Special Session of the AMS on Numerical methods in harmonic analysis, May (organizer)
- 1989 Midwest PDE Conference, Argonne National Lab, Nov. 89
- 1990 University of Chicago Workshop on elliptic pdes, March 1990
- 1990 Midwest pde conference, May, 1990
- 1990 NSF-CBMS Week conference on Wavelets, Lowell, Ma. June 1990
- 1990 SIAM national meeting, Chicago, July 1990
- 1992 AMS regional meeting in Springfield, MO, March

- 1992 AAAS special session on "Wavelets", Chicago, February
- 1993 Lectures of Carlos Kenig, on partial differential equations, December, 1993, DePaul.
- 1994 Lecture of Robert Fefferman, June 1994, DePaul
- 1994 Midwest PDE Conference, UIC, November 1994
- 1995 AMS regional meeting, Chicago, March, 1995 (organizer of a special session)
- 1996 Conference on harmonic analysis in honor of Alberto Calderon's 75th birthday, University of Chicago, February, 1996.
- 1996 National meeting of the American Statistical Society, special sessions on wavelets, Chicago, Illinois, August, 1996.
- 1996 Third International Symposium on Time-frequency, Time-scale Analysis, Paris, France, June 1996.
- 1997 AMS regional math meeting, October 1997, special session on harmonic analysis and its applications.
- 1999 Conference on harmonic analysis in honor of Mitch Taibleson
- 2000 NSF-CBMS Conference on wavelets and beyond.
- 2002 Calderon Zygmund Lectures, University of Chicago, speaker Terence Tao
- 2002 Charles Amick Lectures, University of Chicago, speaker, Ingrid Daubechies on Wavelets
- 2002 Midwest PDE conference, fall 2002
- 2002 Harmonic Analysis Conference in honor of Steve Vagi, December, 2002
- 2003 Conference in honor of Ronald Coifman and Yves Meyer, Paris, June, 2003
- 2003 Conference on Wavelets in Statistics, Northwestern University, October, 2003
- 2003 Conference in honor of Raphy Coifman and Yves Meyer, University of Paris, Orsay, Summer, 2003.
- 2004 Conference about wavelets in statistics, Northwestern University, fall 2003
- 2004 Conference on harmonic analysis in honor of Carlos Kenig, October 2004

- 2004 AMS regional conference at Northwestern, special session on PDE, fall 2004
- 2007 AMS regional conference at DePaul University, October 2007
- 2009 Attended conference on Fluid Dynamics, Athens Georgia, March 2009.

OTHER PROFESSIONAL ACTIVITIES:

Writing reviews for Math Reviews. Refereeing papers for the Proceedings and the Transactions of the American Mathematics Society.

Participant and lecturer in DePaul analysis seminar.

Attended Calderon-Zygmund seminar at the University of Chicago on a regular basis.

Attended a course on non-linear partial differential equations at Northwestern University taught by Neil Trudinger, Spring 1989.

Attended course in processing speech signals at Northwestern University, Winter 1992.

Attended course in digital signal processing at Northwestern University, Fall 1992.

Attended acoustic perception course at Northwestern School of communication and speech.

Member of Masters committee of Laura Drake, department of electrical engineering and computer science, Northwestern University

Member of the Ph.D. committees of Mark Banham and Nate Whitmal, Northwestern University, department of electrical engineering and computer science.

Co-organized a special session of the AMS meeting in October 2007 (with Ahmed Zayed).

AWARDS AND RECOGNITION:

NSF Grant - Research Associate, Summer 1978.

AMS Summer Institute of Harmonic Analysis, Williamstown, MA, 1978 - given support to attend the conference.

AMS Research conference in Harmonic Analysis - Arcata, CA, 1985. Received support to attend.

NSF grant to support conference at DePaul May 18, 19.

CSUI Grant to support conference at DePaul May 18, 19.

NSF support to attend NSF-CBMS conference on Wavelets, 1990.

DePaul Summer Support 1988, 1990, 1992, 1994, 1996.

Faculty development leave from DePaul, Fall Quarter, 1992

NSF support to attend NSF/CBMS Conference on wavelets and beyond

DePaul summer grant for 2003

NSF funds to attend a ten lecture NSF conference on dispersive equations, June 2005, Las Cruces, New Mexico.

DePaul leave for a year to work with Jerry Bona, UIC, 2005-2006

NSF grant received for funding a 3 day conference May 15-17, 2009 at DePaul.

INVITED ADDRESSES:

1976 Talk entitled Commutators of Singular Integrals, DePaul University, Chicago, Illinois.

1979 Multilinear Singular integrals, Annual Meeting of the A.M.S., Biloxi, Miss.

1979 Singular integrals and partial differential equations, Colloquium, University of Georgia.

1979 Applications of multilinear singular integrals to partial differential equations, Colloquium, University of California, Santa Cruz, California.

1981 Dirichlet problem for the biharmonic equation in the plane, Harmonic Analysis Conference, University of Chicago.

1982 Boundary values of biharmonic functions, annual Riviere Conference, University of Minnesota.

1983 Stress Potentials on C^1 domains, Southeastern Differential Equations Conference, Knoxville, Tennessee.

1983 Stress Potentials on C^1 domains, AMS Conference, Evanston, Illinois.

- 1983 Stress potentials on C^1 domains, Washington University, St. Louis, Missouri.
- 1983 Stress potentials on C^1 domains, Southern Illinois University, Carbondale, Illinois.
- 1984 Stress Potentials on C^1 domains, Colloquium, University of Tennessee, Knoxville, TN.
- 1985 The Complex Stress Function, Barrett Lectures Conference, University of Tennessee.
- 1985 BMO Estimates for Biharmonic Multiple Layer Potentials, special session on Harmonic analysis, AMS regional meeting, Columbia, Missouri.
- 1986 Singular integrals and boundary value problems, DePaul University, Chicago, Illinois.
- 1986 Singular integrals and partial differential equations, Kent State University, Kent, Ohio.
- 1986 Singular integrals and boundary value problems, Cleveland State University, Cleveland, Ohio.
- 1986 Singular integrals and boundary value problems, University of Missouri, Columbia, Missouri.
- 1987 Cauchy Formulae for Functions analytic of order 2, NSF Conference on Harmonic Analysis, University of Georgia, Athens, Georgia.
- 1987 The Cauchy integral, the commutator series and applications to partial differential equations, Colloquium, Carnegie Mellon University, Pittsburgh, PA.
- 1988 Cauchy Formula on C^1 domains with applications to elastostatics and hydrostatics, Analysis Seminar, University of Chicago
- 1988 Duals of harmonic Bergman spaces, special session AMS meeting, Lawrence, Kansas
- 1989 Duals of harmonic Bergman spaces, PDE seminar, Northwestern University, Evanston, Illinois
- 1990 Generalized Derivatives and uniqueness of trigonometric series, University of Chicago workshop on elliptic PDEs on non-smooth domains.
- 1992 Special Session on harmonic analysis at the AMS regional meeting, Springfield, MO.
- 1992 Colloquium at Washington University, St. Louis on "Wavelet analysis in recruitment of loudness compensation."
- 1992 Lectures on wavelet analysis, Northwestern signal processing seminar, Fall quarter.

- 1993 Lectured on wavelet packet analysis, speech processing group, Northwestern University Electrical Engineer department.
- 1995 “Wavelet analysis in recruitment of loudness compensation”, Special session of the AMS regional meeting, Chicago, Illinois, March 1995.
- 1996 Colloquium, department of electrical engineering, IIT, on “Denoising speech signals using wavelets.”
- 1996 DePaul University science faculty seminar on “denoising with wavelets.”
- 1997 AMS regional conference, Milwaukee, Wisconsin, October 1997, special session on harmonic analysis and its applications, “denoising with wavelets”.
- 2006 Lecture at UIC on global well posedness for a system of kdv equations
- 2006 One hour lecture at the Midwest PDE conference, April 2006, UIC.
- 2009 Half hour lecture on “Global well-posedness for a system of KdV equations”, conference on Fluid Dynamics, Athens Georgia, March, 2009.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS AND OFFICIAL POSITIONS:

Member of the American Mathematical Society

Member of SIAM

SERVICE

- University:** University Research Council, 1993-1995
 Intellectual Property Committee of the URC.
 Faculty Council Alternate 1999-2000, 2003-2005, 2007-2008
 Faculty Council: elected to three year term 2000-2003
 Ad-hoc Best Practices Committee for Faculty Council
 Ad-hoc Committee of Faculty Council on faculty input into admissions and financial aid.
 Committee on Committees
 LA&S brown bag lunch group working on faculty governance
 University Athletic Board
 Academic subcommittee of the University Athletic Board
- College:** NSM committee of the liberal studies program. 1987-88.
 Faculty Council representative on committee discussing a governing structure for the college of Liberal Arts and Science 2002/2003.

Department: Colloquium

Graduate Committee 1987-1991

ICTM 1990-present

Hiring 1989, 1990, 1993, 1994, 2002-03, 2003-04, 2006-2007, 2008-2009

Personnel Committee 1994, 2000, 2004, 2009

Academic Program Review 2009

Committee to form a Masters in Pure Math 2008,2009,2010

BMS 1990-1992

Department Chairman, 1995-1998

Assessment of Faculty, 2002

Precalculus and Placement 2002

Department Strategic Planning Committee 2004, 2009,2010

Liberal Studies Committee

Community: Judge, Chicago Public School Academic Olympics, 1990

Organizer for the ICTM regional math contest, 1991, 1992, 1993, 1994,
1996,1997. 1998.

Luncheon for high school students, AAAS convention, 1993