

Curriculum Vitae

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Education

National Taiwan University: 1977, B.S.
Princeton University: 1978, M.S.
Princeton University: 1981, Ph.D.
(Thesis Advisor - Joseph J. Kohn)

Positions Held

1992- Professor, University of Notre Dame
1987-1992 Associate Professor, University of Notre Dame
1986-1987 Assistant Professor, University of Houston
1983-1986 Assistant Professor, Texas A & M University
1981-1983 Visiting Assistant Professor, Purdue University

Visiting Positions

2008 Visiting Professor, Mittag-Leffler Institute, Sweden
2002 Visiting Professor, Institut Fourier, Université de Grenoble, France
2000 Visiting Professor, University of Chicago
2000 Visiting Professor, Institut Fourier, Université de Grenoble, France
1998 Visiting Professor, Université Du Littoral, France
1997 Visiting Professor, University of Bonn, Germany
1996 Visiting Professor, Mathematical Science Research Institute, Berkeley
1995 Visiting Professor, Max Planck Institut, Bonn, Germany
1994 Visiting Professor, Institut Fourier, Université de Grenoble, France
1993 Visiting Professor, University of Cambridge, England
1989 Visiting Associate Professor, University of Wisconsin, Madison

Editorial Board:

Associate Editor for the Proceedings of American Mathematical Society (2001-)
(Coordinating Editor for Analysis, 2009-)
Associate Editor for the Journal of Geometric Analysis (2008-)

Publications

1. M.-C. Shaw, *Hodge theory on domains with conic singularities*, Comm. Part. Diff. Equ. **8** (1983), 65-88.
2. M.-C. Shaw, *Hypoellipticity of a system of complex vector fields*, Duke Math. J. **50** (1983), 713-728.
3. A. Boggress and M.-C. Shaw, *A Kernel approach to the local solvability of the tangential Cauchy-Riemann equations*, Trans. Amer. Math. Society **289** (1985), 643-659.
4. M.-C. Shaw, *Global solvability and regularity for $\bar{\partial}$ on an annulus between two weakly pseudoconvex domains*, Trans. Amer. Math. Society **291** (1985), 255-267.
5. M.-C. Shaw, *L^2 estimates and existence theorems for the tangential Cauchy-Riemann complex.*, Invent. Math. **82** (1985), 133-150.
6. H. Boas and M.-C. Shaw, *Sobolev Estimates for the Lewy Operator on Weakly pseudoconvex boundaries*, Math. Annalen **274** (1986), 221-231.
7. M.-C. Shaw, *A simplification of Rosay's theorem on global solvability of tangential Cauchy-Riemann equations*, Illinois J. Math. **30** (1986), 465-467.
8. M.-C. Shaw, *Eigenfunctions of the nonlinear equation $\Delta u = vf(x, u) = 0$ in R^2* , Pacific J. Math. **129** (1987), 349-356.
9. M.-C. Shaw, *Hölder and L^p estimates for $\bar{\partial}_b$ on weakly pseudoconvex boundaries in \mathbb{C}^2* , Math. Annalen **279** (1988), 635-652.
10. M.-C. Shaw, *Prescribing zeros of functions in the Nevanlinna class on weakly pseudoconvex domains in \mathbb{C}^2* , Trans. Amer. Math. Society **648** (1989), 407-418.
11. M.-C. Shaw, *The range of the Tangential Cauchy-Riemann operator over a small ball*, J. Differential Equations **86** (1990), 183-195.
12. M.-C. Shaw, *L^p estimates for local solutions of $\bar{\partial}_b$ on strongly pseudoconvex CR manifolds*, Math. Annalen **288** (1990), 36-62.
13. M.-C. Shaw, *Optimal Hölder and L^p estimates for $\bar{\partial}_b$ on the boundaries of real ellipsoids in \mathbb{C}^n* , Trans. Amer. Math. Society **324** (1991), 213-234.
14. M.-C. Shaw, *Local solvability and estimates for $\bar{\partial}_b$ on CR manifolds*, Proceedings of A.M.S. Summer Research Institute on Several Complex Variables and Complex Geometry, Santa Cruz, volume 3 (1991), 335-345.
15. M.-C. Shaw, *L^2 existence theorem for the $\bar{\partial}_b$ -Neumann problem on strongly pseudoconvex CR manifolds*, J. Geometric Analysis **1** (1991), 139-163.
16. M.-C. Shaw, *Local Existence Theorems with Estimates for $\bar{\partial}_b$ on weakly pseudoconvex boundaries*, Math. Annalen **294** (1992), 677-700.
17. M.-C. Shaw, *Local and Semi-Global Existence Theorem for $\bar{\partial}_b$ on CR manifolds*, Contemporary Mathematics **137** (1992), 399-405.
18. M.-C. Shaw, *Semi-Global Existence Theorems of $\bar{\partial}_b$ for $(0, n - 2)$ forms on Pseudo-Convex boundaries in \mathbb{C}^n* , Astérisque, Société Mathématique de France, Colloque D'Analyse complexe et géométrie, Marseille (1993), 227-240.
19. M.-C. Shaw, *Integral Representation for $\bar{\partial}_b$ in CR manifolds*, Proceedings of the Geometric Complex Analysis conference, Hayama, Japan (1996), 535-549.
20. M.-C. Shaw, *Homotopy Formulas for $\bar{\partial}_b$ in CR manifolds with mixed Levi signatures*, Math. Zeit. **224** (1997), 113-136.
21. J. Michel and M.-C. Shaw, *Subelliptic estimates for the $\bar{\partial}$ - Neumann operator on piecewise smooth strictly pseudconvex domains*, Duke Math. J. **93** (1998), 115-128.
22. J. Michel and M.-C. Shaw, *C^∞ - regularity of solutions of the tangential CR-equations on weakly pseudoconvex manifolds*, Math. Ann. **311** (1998), 147-162.
23. J. Michel and M.-C. Shaw, *A decomposition problem on weakly pseudoconvex domains*, Math. Zeit. **230** (1999), 1-19.

24. J. Michel and M.-C. Shaw, *The $\bar{\partial}$ and $\bar{\partial}_b$ problems on nonsmooth domains*, *Analysis and Geometry in Several Complex Variables*, Birkhauser, Boston, 1999, pp. 159-192.
25. J. Michel and M.-C. Shaw, *The $\bar{\partial}$ problem on domains with piecewise smooth boundaries with applications*, *Trans. Amer. Math. Soc.* **311** (1999), 4365-4380.
26. J. Michel and M.-C. Shaw, *The $\bar{\partial}$ -Neumann operator on Lipschitz pseudoconvex domains with plurisubharmonic defining functions*, *Duke Math. J.* **108** (2001), 421-448.
27. M.-C. Shaw, *Boundary value problems on nonsmooth domains in complex analysis*, *Proceedings of the second International Congress of Chinese Mathematicians*, 2001, 421-431.
28. S.-C. Chen and M.-C. Shaw, *Partial Differential Equations in Several Complex Variables AMS/IP Studies in Advanced Mathematics, Vol. 19*, Amer. Math. Soc., Providence, RI, International Press, Boston, MA, 2001.
29. M.-C. Shaw, *L^2 estimates and existence theorems for $\bar{\partial}_b$ on Lipschitz boundaries*, *Math. Zeit.* **244** (2003), 91-123.
30. J. Cao, M.-C. Shaw and L. Wang, *Estimates for the $\bar{\partial}$ -Neumann problem and nonexistence of Levi-flat hypersurfaces in $\mathbb{C}P^n$* , *Math. Zeit* **248** (2004), 183-221; Erratum, 223-225.
31. M.-C. Shaw and L. Wang, *Hölder and L^p estimates for \square_b on CR manifolds with higher codimension*, *Math. Ann.* **331** (2005), 297-343.
32. C. Laurent-Thiébaud and M.-C. Shaw, *Boundary Hölder and L^p Estimates for local solutions of the tangential Cauchy-Riemann equation*, *Trans. Amer. Math. Soc.* **357** (2005), 151-177.
33. J. Cao and M.-C. Shaw, *The smoothness of Riemannian submersions with nonnegative sectional curvature*, *Communication in Contemporary Mathematics* vol 7 (2005), 1-8.
34. M.-C. Shaw, *Boundary value problems on Lipschitz domains in \mathbb{R}^n or \mathbb{C}^n* , *Comptem. Math. Geometric Analysis of PDE and Several Complex Variables*, 368 (2005), Amer. Math. Soc., Providence, RI, 375-404.
35. J. Cao and M.-C. Shaw, *A new proof of the Takeuchi theorem*, *Proceedings of "CR Geometry and PDEs" Trento, Italy, Interdisciplinare di Matematica*, 4 (2005), 65-72.
36. J. Cao and M.-C. Shaw, *$\bar{\partial}$ -Cauchy problem and nonexistence of Lipschitz Levi-flat hypersurfaces in $\mathbb{C}P^n$ with $n \geq 3$* , *Math. Zeit.* vol 256 (2007), 175-192.
37. P. Harrington and M.-C. Shaw, *The Strong Oka's Lemma, bounded plurisubharmonic functions and the $\bar{\partial}$ -Neumann problem*, *Asian J. Math.* vol 11 (2007), 127-140.
38. M.-C. Shaw, *Estimates and existence theorems for $\bar{\partial}$ in complex projective spaces*, *Proceedings of 4th International congress of Chinese mathematicians, Volume 2* (2008), International Press, Somerville, Ma, 545-558.
39. M.-C. Shaw and L. Wang, *Maximal L^2 and pointwise Hölder estimates for \square_b on CR manifolds of class C^2* , *Comm. Part. Diff. Equations* vol 33 (2008), 1690-1710.
40. D. Mitrea, M. Mitrea and M.-C. Shaw, *Traces of differential forms on Lipschitz domains, the boundary de Rham complex and Hodge decompositions*, *Indiana University Mathematical Journal* vol 57 (2008), 2061-2096.

Preprints

41. M.-C. Shaw, *Embedding compact strongly pseudoconvex CR manifolds of class $C^{3,\alpha}$* , *Journal of Pure and Applied Mathematics Quarterly*, to appear.
42. I. Mitrea, M. Mitrea and M.-C. Shaw, *On the interplay between several complex analysis, geometric measure theory and harmonic analysis*, Submitted.
43. M.-C. Shaw, *The closed range property for $\bar{\partial}$ on domains with pseudoconcave boundary*, Submitted.

Book

So-Chin Chen and Mei-Chi Shaw, *Partial Differential Equations in Several Complex Variables*
AMS/IP Studies in Advanced Mathematics, Vol. 19, Amer. Math. Soc., Providence, RI, In-
ternational Press, Boston, MA, 2001.

Book Reveiws: Math. Reviews: 2001m:32071 (Reveiwed by H. Boas). Also see Bulletin Amer.
Math. Society, Volume 40, Number 4, pages 529-533 (Reviewed by S. Krantz).