

## CURRICULUM VITA

**Xiaojun Huang**

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### I. GENERAL INFORMATION

**Citizenship:** U.S.A.

**Phone Number:** 732-445-2390(ext 3488) (office); 732-445-5530 (fax).

**Education:** Ph.D. in Mathematics, Washington University, August, 1994.

### II. PROFESSIONAL EXPERIENCES:

#### 1. Regular Position:

Graduate Student, Washington University, 1989- 1994.

L. E. Dickson Instructor of Mathematics, The University of Chicago, 1994- 1997.

Postdoctoral Fellow, Mathematical Sciences Research Institute at Berkeley, 1995- 1996.

Tenure-track Assistant Professor, Rutgers University at New Brunswick, 1997- 2000.

Associate Professor, Rutgers University at New Brunswick, 2000-2005.

Professor of Mathematics, Rutgers University at New Brunswick, 2005-present.

#### 2. Visiting Professorship at the Following Institutes:

University of Rouen, France, June-July, 2002.

University of Chicago, October-December, 2002.

University of California at San Diego, March-June, 2002 and February- March, 2006.

Harvard University, March, 2006- June, 2006.

#### 3. National Science Foundation Supports and Teaching Awards

1. Awardee of the NSF Research Grant DMS-1101481, June, 2011-May, 2014, \$ 375,000.  
(Supported in the highly recommended category<sup>1</sup>)

2. Awardee of the NSF Research Grant DMS-0801056, June, 2008 - July, 2011, \$195,000.  
(Supported in the highly recommended category)

3. Awardee of the NSF Research Grant DMS-0500626, June, 2005 - July, 2008, \$125,000.

4. Awardee of the NSF Research Grant DMS-0200689, June, 2002 - June, 2005, \$93,000.

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<sup>1</sup>Each year, less than 10% of the top research proposals submitted to the National Science Foundation are supported in the highly recommended for funding category.

5. Awardee of the NSF Research Grant DMS-9970439, June, 1999 - June, 2002, \$77,000. **(Supported in the highly recommended category)**
  6. Awardee of the NSF Postdoctoral Fellowship Grant-9627423, September, 1996 - June, 1999, \$75,000.
  7. Awardee of the NSF Research Grant DMS-9500881, July, 1995- July, 1997, \$37,000.
  8. Awardee of the NSF Conference Grant on the International Conference on Several Complex Variables, Complex Geometry and Partial Differential Equations, DMS-0901662, \$18,450.
- Rutgers Research Council Grant, September, 1997-2003.  
Teaching Award from the Provost of the University of Chicago in 1995.

### III. PUBLICATIONS

#### 1. Articles published or accepted for publication in the refereed journals

- [1] S. Baouendi, P. Ebenfelt and Xiaojun Huang, Holomorphic maps between hyperquadrics with small difference in signature, Accepted for publication in *American Journal of Mathematics*, 2010.
- [2] J. Faran, Xiaojun Huang, Shanyu Ji and Y. Zhang, A criterion for a rational map to be equivalent to a polynomial map, *Pure and Applied Mathematics Quarterly* Volume 6, Number 3 (Special Issue: In honor of Joseph J. Kohn) 829-842, 2010.
- [3] Xiaojun Huang and Wanke Yin, A codimension two CR singular submanifold that is formally equivalent to a symmetric quadric, *Int. Math. Res. Not. IMRN* 2009, no. 15, 2789–2828.
- [4] Xiaojun Huang and Wanke Yin, A Bishop surface with a vanishing Bishop invariant, *Invent. Math.* 176 (2009), no. 3, 461–520.
- [5] Xiaojun Huang and Yuan Zhang, Monotonicity for the Chern-Moser-Weyl curvature tensor and CR embeddings, *Science in China Series A: Mathematics* Dec., 2009, Vol. 52, No. 12, 111. (Special Issue: In honor of Tongde-Zhong on the occasion of his 80th birthday.)
- [6] S. Baouendi, P. Ebenfelt and Xiaojun Huang, Super-rigidity for CR embeddings of real hypersurfaces into hyperquadrics, *Advances in Math.* 219, no. 5, 1427–1445, 2008.

- [7] Xiaojun Huang and Shanyu Ji, On the CR umbilical points on real ellipsoids in complex two-spaces, *Transactions of American Mathematical Society* (359) No.3, 1191-1204, 2007.
- [8] Xiaojun Huang, On the isolated complex singularities and their CR links, *Sciences in China* Vol 49 (11), 1441-1450, 2006.
- [9] Xiaojun Huang, S. Ji and Dekang Xu, A new gap phenomenon for proper holomorphic maps from  $\mathbf{B}^n$  into  $\mathbf{B}^N$ , *Math. Res. Letts.* Vol 13, 515-529, 2006.
- [10] Xiaojun Huang, S. Luk and S. S. T. Yau, On a CR family of compact strongly pseudoconvex CR manifolds, *Jour. of Diff. Geom.* Vol. 72, 353-379, 2006.
- [11] S. M. Baouendi and Xiaojun Huang, Super-rigidity for holomorphic mappings between hyperquadrics with positive signatures, *Jour. of Diff. Geom.* Vol. 69, 379-398, 2005.
- [12] P. Ebenfelt, Xiaojun Huang and D. Zaitsev, The equivalence problem and rigidity for hypersurfaces embedded into hyperquadrics, *American Jour. of Math.* Vol 127, 129-168, 2005.
- [13] Xiaojun Huang, S. Ji and D. Xu, several results for holomorphic mappings from  $\mathbf{B}^n$  into  $\mathbf{B}^N$ , *Contemporary Math.*, a special issue in honor of F. Trèves, 267-293, 2005.
- [14] P. Ebenfelt, Xiaojun Huang and D. Zaitsev, Rigidity of CR-immersions into spheres, *Comm. in Analysis and Geometry* Vol 12 (No. 3), 629-668, 2004.
- [15] Xiaojun Huang, On a semi-linearity property for holomorphic maps, *Asian Jour. of Math.* Vol 7, No. 4, 463-492, 2003.( A special issue in honor of Professor Y-T Siu's 60th birthday).
- [16] Xiaojun Huang, H. S. Luk and S. S. T. Yau, Punctured local holomorphic De Rham Cohomology, *Jour. of the Japanese Math. Soc.* 55 (2003), 633-640.
- [17] Xiaojun Huang and Shanyu Ji, Cartan-Chern-Moser theory on algebraic hypersurfaces and an application to the study of automorphism groups of algebraic domains, *Annales. de L'Inst. Fourier* 52 (2002), 1793-1831.
- [18] Xiaojun Huang and Shanyu Ji, Mapping  $\mathbf{B}^n$  into  $\mathbf{B}^{2n-1}$ , *Invent Math.* 145 (2), 219-250, 2001.
- [19] Xiaojun Huang, Shanyu Ji and S. S. T. Yau, An example of a real analytic strongly pseudoconvex hypersurface which is not holomorphically equivalent to any algebraic hypersurfaces, *Arkiv for Math* 39, 2001, 75-93.

- [20] Xiaojun Huang, A removable singularity property for CR mappings between real analytic hypersurfaces, *Comm in Partial Differential Equations* 25, 299-317 (2000).
- [21] Xiaojun Huang, J. Merker and F. Meylan, Mappings between degenerate real analytic hypersurfaces in  $\mathbf{C}^n$ , *Contemporary Math.* 251, 321-338 (2000).
- [22] Xiaojun Huang, On a linearity problem of proper holomorphic maps between balls in complex spaces of different dimensions, *Jour. of Diff. Geom.* 51 (No. 1), 13-33 (1999)
- [23] Xiaojun Huang and Shanyu Ji, Global holomorphic extension of a local map and a Riemann mapping theorem for algebraic domains, *Mathematical Research Letters* 5, 247-260 (1998).
- [24] Xiaojun Huang, On an  $n$ -manifold in  $\mathbf{C}^n$  near an elliptic complex tangent, *Jour. of the Amer. Math. Soc.*, Vol 11 (3), 669-692 (1998).
- [25] Xiaojun Huang, Schwarz reflection principle in complex spaces of dimension two, *Comm. in PDE* (21), 1781-1828 (1996).
- [26] M. S. Baouendi, Xiaojun Huang and L. Rothschild, Regularity of CR mappings between algebraic hypersurfaces, *Invent. Math.* 125 (1996), 13-36.
- [27] Xiaojun Huang and Yifei Pan, A remark on the holomorphic proper self mappings of domains in  $\mathbf{C}^n$ , *Complex Variables* 31(1996), 81-85.
- [28] Xiaojun Huang and Yifei Pan, Proper holomorphic mappings between real analytic domains in  $\mathbf{C}^n$ , *Duke Math. J.* 82 (1996), 437-446.
- [29] Xiaojun Huang and Steve Krantz, On a problem of Moser, *Duke Math. J.*, Vol 78 (1995), 213-228.
- [30] M. S. Baouendi, Xiaojun Huang and L. Rothschild, Non-vanishing of the differential of holomorphic mappings at boundary points, *Math. Res. Lett.* 2 (1995), 737-751.
- [31] Xiaojun Huang, A rigidity problem for holomorphic mappings on a class of weakly pseudoconvex domains, *Canadian J. of Math.*, Vol 47 (1995), 405-420.
- [32] Xiaojun Huang, S. Krantz, D. Ma and Yifei Pan, A localized Hopf lemma for holomorphic functions, *Complex Variables* 26 (1995), 273-276.
- [33] Xiaojun Huang, On the mapping problem for algebraic real hypersurfaces in complex spaces of different dimensions, *Annales de L'Institut Fourier* 44 (1994), 433-463.

- [34] Xiaojun Huang, A non-degeneracy property of extremal mappings and iterates of holomorphic self-mappings, *Annali Scuola Norm. Sup. Pisa*, Serie IV. Vol. XXI (1994), 399-419.
- [35] Xiaojun Huang, A preservation principle of extremal mappings near a strongly pseudoconvex point and its applications, *Illinois J. of Math.* 38 (1994), 283-303.
- [36] Xiaojun Huang and Steve Krantz, A unique continuation problem for holomorphic mappings, *Comm in Part. Diff. Equ.* 18 (1993), 241-263.
- [37] Xiaojun Huang and Yifei Pan, Proper holomorphic self-mappings of Hartogs domains in  $\mathbf{C}^2$ , *Michigan Math. J.* 40 (1993), 211-217.
- [38] Xiaojun Huang, Some applications of Bell's theorem to weakly pseudoconvex domains, *Pacific J. of Math.* 158 (1993), 305-315.

### Research Papers in Fracture Mechanics

- [39] Xiaojun Huang, The mathematical model for an incomplete welding with a crack in the interface, *Acta Mathematica Scientia*, The first special issue of 1992, (S1 1992).
- [40] Xiaojun Huang, Stress distributions for two dissimilar half planes welding along their boundary with periodic cracks in their interface, *Journal of Nanjing University of Aeronautics & Astronautics*, the third issue of 1987.
- [41] Xiaojun Huang, On the stress distribution in bonded dissimilar materials with cracks along a circular interface. *J. Wuhan Univ. Natur. Sci. Ed.*, 1987, no. 4, 25-30.

## 2. Published conference proceedings, lecture notes and books edited

- [42] Xiaojun Huang, Shanyu Ji and Wanke Yin, Recent Progress on Two Problems in Several Complex Variables, *Proceedings of the 4th International Congress of Chinese Mathematicians* (Vol 1), 563-576, December, 2007.
- [43] Xiaojun Huang and Shanyu Ji, On some rigidity problems in Cauchy-Riemann Geometry, Proceeding on the 10th Anniversary of the Mathematical Institute in the East China Normal University, AMS/IP Studies in Advanced Mathematics, Volume 39, 89-107, 2007.
- [44] Xiaojun Huang, Lectures on the Local Equivalence Problems for Real Submanifolds in Complex Manifolds, *Lecture Notes in Mathematics 1848* (C.I.M.E. Subseries), Springer-Verlag, 2004, 109-163.

- [45] Xiaojun Huang and P. Ebenfelt, On a generalized reflection principle in 2-spaces, *Complex Analysis and Geometry*, Ohio State Univ. Math. Res. Publ. 9, Walter De Gruyter, 2001, 125-140.
- [46] Xiaojun Huang, On some problems in several complex variables and CR geometry, *Proceedings of the first ICCM* (edited by L. Yang and S. T. Yau), AMS/IP Stud. Adv. Math. 20, 383-396, 2001.
- [47] Co-editor in chief for the AMS book series *Contemporary Mathematics, Volume 400 (2006)*, entitled on *Recent development of some problems in Several Complex variables and Partial Differential Equations*.

### 3. Preprints

- [48] Xiaojun Huang and Wanke Yin, On the equivalence problem for Bishop surfaces, preprint, 2009.
- [49] Xiaojun Huang, Shanyu Ji and Wanke Yin, On the third gap for proper holomorphic maps between balls, preprint, 2009. (65 pages)
- [50] Xiaojun Huang, Chern-Moser theory and equivalence problem in Several Complex Variables, *Book Series on Mathematics and Culture*, invited expository article for a special issue on the occasion of the 100th birthday of Prof. S.S.Chern. (In the final preparation)