

## LOREDANA LANZANI

llanzani@syr.edu  
Department of Mathematics  
Syracuse University  
Syracuse, NY 13244-1150

### RESEARCH INTERESTS

Harmonic Analysis; PDEs; One and Several Complex Variables.

### EDUCATION

B.S. Mathematics (Laurea)	U. of Rome II (Italy)	1989
Ph.D. Mathematics	Purdue University	1997

### PROFESSIONAL EXPERIENCE

Professor	Syracuse University	2014 – present
Program Director (Analysis)	NSF-DMS	2011 – 2013
Professor	University of Arkansas	2008 – 2014
Associate Professor	University of Arkansas	2003 – 2008
Assistant Professor	University of Arkansas	1997 – 2003
Teaching Assistant	Purdue University	1990 – 1997
Research Fellow	I.N.d'A.M. (Italy)	1989 – 1990
Visiting Positions	Princeton University	2013; 2011; 2004; 2001; 1999
	U. of Michigan	2005; 2003
	U. of New South Wales	2004; 2003
	CRM (Barcelona, Spain)	2009; 2003
	CRM (Pisa, Italy)	2010; 2004
	University of Kentucky	2000
	Courant Institute	1997

### AWARDS

PI, National Science Foundation Individual Research Award (DMS-1001304)	2010 – 2015
PI, National Science Foundation Individual Research Award (DMS-0700815)	2007 – 2010
PI, National Science Foundation Individual Research Award (DMS-0101212)	2001 – 2006
co-PI, <i>Arkansas Spring Lecture Series</i> NSF Conference Award (DMS-0751330)	2009
co-PI, <i>Arkansas Spring Lecture Series</i> NSF Conference Award (DMS-0751330)	2008
co-PI, <i>Arkansas Spring Lecture Series</i> NSF Conference Award (DMS-0100599)	2001
co-PI, <i>Arkansas Spring Lecture Series</i> NSF Conference Award (DMS-0070592)	2000
co-PI, <i>Arkansas Spring Lecture Series</i> NSF Conference Award (DMS-9971763)	1999

<i>SILO/SURF Undergraduate Research Award</i> University of Arkansas (Students: Jill Crisler; Erin R. Mason ; Laura J. Fields)	2011; 2003 2001
<i>Fulbright College Research Semester</i> University of Arkansas	2004
<i>Fulbright College Research Summer</i> University of Arkansas	2005; 2001
<i>AWM Travel Mentoring Award</i>	2001 – 2003
<i>Arkansas Science And Technology Authority Research Award</i>	1998
<i>Student Travel Award</i> AWM	1996
<i>Research Foundation Graduate Research Award</i> Purdue University	1994
<i>I.N.d'A.M. Graduate Research Fellowship</i> University of Rome I (Italy)	1989–1993

## HONORS

<i>AWM Research Symposium</i> showcase lecture – section in Harmonic Analysis	2013
<i>AWM Colloquium</i> invited speaker UC San Diego	2012
<i>Mathematical Sciences Outstanding Alumnus</i> Purdue University	2011
<i>NSF-VIGRE Graduate Colloquium</i> Louisiana State	2011
<i>NSF-VIGRE Undergraduate Colloquium</i> Louisiana State	2011
<i>2010 Praire Seminar</i> (U. Kansas) senior speaker	2010
<i>Virginia L. Chatelain Memorial Lecture</i> (Kansas State)	2009
<i>Teaching Academy Award</i> (Student: Jessica L. Tush)	2009
<i>Robert C. &amp; Sandra Connor Endowed Faculty Fellowship</i> U. of Arkansas	2008
<i>Kedy Award for Excellence in Teaching</i> Purdue University	1996

## Ph.D. STUDENTS

Belen Espinosa	(Ph.D. 2013 University of Arkansas)
Jeanine Myers ( <i>co-advised with A. Raich</i> )	(Ph.D. 2013 University of Arkansas)
Jennifer Paulk	(Ph.D. 2010 University of Arkansas)

## UNDERGRADUATE STUDENTS (Honors theses)

Jill Crisler	(BS 2011 University of Arkansas)
Samantha Meadors	(BS 2010 University of Arkansas)
Jessica Tush	(BS 2009 University of Arkansas)
Erin Mason	(BS 2003 University of Arkansas)
Rebecca Caldwell	(BS 2002 University of Arkansas)
Laura J. Fields	(BS 2001 University of Arkansas)
Zane Chrisman	(BS 1998 University of Arkansas)

## RESEARCH

### Articles

18. Lanzani L., Myers J. and Raich S. A., *Taylor Series of Conformal Mappings onto Symmetric Quadrilaterals*, Cplx. Vbls & Ellipt. Eqns., to appear.
17. Lanzani L. and Stein E. M., *The Cauchy Integral in  $\mathbb{C}^n$  for domains with minimal smoothness*, Adv. Math. **264** (2014) 776 – 830.
16. Lanzani L. and Stein E. M., *Cauchy-type integrals in several complex variables*, Bull. Math. Sci. **3** (2) (2013), 241-285. DOI: 10.1007/s13373-013-0038-y.
15. Lanzani L. *Higher Order analogues of the exterior derivative complex*, Bull. IMAS (New Series) **8** (3) (2013) 389 – 398.
14. Lanzani L. and Raich A. S. *On Div-Curl for higher order*, Advances in Analysis: the Legacy of E. M. Stein, Princeton U. Press (2013), ISBN: 9780691159416.
13. Lanzani L. and Stein E. M. *The Bergman projection in  $L^p$  for domains with minimal smoothness*, Illinois J. of Math. (invited submission) **56** (1) (2013) 127 – 154.
12. Barrett, D. E. and Lanzani L., *The Leray transform on weighted boundary spaces for convex Reinhardt domains*, J. Funct. Analysis **257** (9) (2009), 2780-2819.
11. Koenig, K. and Lanzani, L. *Bergman vs. Szegő via Conformal Mapping*, Indiana Univ. Math. J. **58**, no. 2 (2009), 969-997.
10. Lanzani, L. *Cauchy Integrals for non-smooth domains:  $\mathbb{C}^n$  vs.  $\mathbb{C}$  – the effect of dimension*, Oberwolfach Reports **32** (2008), 55-60.
9. Brown, R., Capogna, L. and Lanzani, L. *On the Mixed Boundary Value Problem for Laplace's Operator on Lipschitz Planar Domains*, Math. Annalen, **342** (2008), 91-124.
8. Lanzani, L. and Mendez, O. *The Poisson Problem for the Laplacian with Robin Boundary Condition in Non-Smooth Domains*. Revista Mat. Iberoamer. **22** (2006) 181-204.
7. Lanzani, L. and Stein, E. M. *A note on Div-Curl inequalities*, Mathematics Research Letters **12** (2005), 57-61.
6. Lanzani, L. Shen, Z., *On the Robin Problem for the Laplace Equation in  $C^1$  and Lipschitz Domains in  $\mathbb{R}^n$* , Comm. Part. Diff. Eq. **29** (2004), 91-109.
5. Lanzani, L. and Stein, E. M., *Szegő and Bergman Projections on Non-Smooth Planar Domains*. J. Geom. Anal. **14** (2004), 63-86.
4. Bernstein, S. and Lanzani, L., *Szegő Projections for Hardy Spaces of Monogenic Functions and Applications*. Int. J. of Math. and Math. Sc., **29** (2002), 613-627.
3. Lanzani, L. *The  $Cl_n$ -Valued Robin Boundary Value Problem on Lipschitz Domains in  $\mathbb{R}^n$* , Clifford Analysis and its Appl. NATO ARW Series (2001), Kluwer, 183-192.
2. Lanzani, L. *Cauchy Transform and Hardy Spaces for Rough Planar Domains* Contemp. Math., **251** (2000), 409-428.
1. Lanzani, L., *Szegő Projection Versus Potential Theory For Non-Smooth Planar Domains* Indiana Univ. Math. J. **48** (1999), 537-556.

## Books

Capogna, L., Kenig, C., Lanzani, L., *Recent Progress in Harmonic Measure: the Geometric and the Analytic Points of View*, AMS University Lecture Series (book), **35** (2005), ISBN: 0821827286.

co-Editor, *Harmonic Analysis and Boundary Value Problems: Selected Papers from the 25th University of Arkansas Spring Lecture Series*, Contemp. Math. **277** (2001).

## Invited talks

- 2015: East China Normal U.; BIRS-CMO (Mexico); Cornell U.; ESI (Austria).
- 2014: Virginia Commonwealth U.; Syracuse U.; CUNY-Lehman College; Indiana U.; George Mason U.; Academia Sinica (Taiwan); U. Bologna (Italy).
- 2013: Rutgers U.; Workshop in SCV and PDE, Serra Negra (Brazil); U. British Columbia; George Washington U.; UC Santa Clara; UC Irvine; AMS meeting #1093; UPenn; Joint Mathematics meeting (San Diego); U. Kentucky; UMass - Boston; Princeton U.; Northeastern U.
- 2012: Academia Sinica (Taiwan); U. Addis Ababa (Ethiopia); U. Minnesota; UC-Irvine; UC-San Diego; AMS meeting #1081; Georgetown U.; George Washington U.
- 2011: Columbia U.; Washington U.; Workshop in PDE and SCV (Brazil); Purdue U.; Louisiana State U.
- 2010: CRM Pisa (Italy); Brown U.; Marrakech (Morocco); U. Kansas; Harmonic Analysis conference, Gargnano (Italy).
- 2009: AMS meeting #1047; U. Virginia; Trento (Italy); CRM Barcelona (Spain); Rouen (France); Kansas State U.; ESI (Austria); CMS (Canada).
- 2008: U. Kentucky; Ohio State U.; Oberwolfach (Germany).
- 2007: Calderon-Zygmund Seminar (Chicago); AMS meeting #1025; Georgia Tech; SCV Fest (Ann Arbor); Washington U.; Workshop in PDEs and SCV (Brazil); Banach Center (Poland); U. Rome II (Italy); AMS meeting # 1031.
- 2006: Midwest PDE Seminar (UIC); AMS meeting # 1015; U. of Notre Dame; Banff International Research Station (Canada);
- 2005: AMS meeting #1004; ESI (Austria); Oberwolfach (Germany); U. Western Ontario;
- 2004: Centro De Giorgi (Pisa, Italy); U. of Toronto; AMS meeting #1000;
- 2003: U. of Barcelona (Spain); U. of New South Wales; U. of Michigan.
- 2002: U. of Kentucky; U. of Wisconsin; AMS Meeting #982.
- 2001: Oklahoma State; U. of Michigan; CMFT, Aveiro (Portugal); Workshop on PDE, S. Paulo (Brasil); AMS meetings: #964; #967; #972.
- 2000: NATO Advanced Research Workshop, Prague; AMS meeting #953; Weimar Bauhaus Universitat (Germany).
- 1999: ANU (Canberra); Rutgers; Temple; AMS meetings: #939; #945; #946.
- 1998: U. of Kansas; AMS meeting #933.

### Graduate mini-courses

Academia Sinica (Taiwan)		2012
<i>Singular Integral Techniques in Several Complex Variables</i>		
International Workshop in SCV and PDEs, Serra Negra (Brazil)		2011
<i>The <math>L^p</math>-regularity problem for the Bergman Projection</i>		

## SYNERGISTIC ACTIVITIES

### Editorial Boards

Associate Editor: *Complex Analysis and its Synergies*, a Springer journal.

### Service for the American Mathematical Society

<i>Centennial Fellowship</i>	Member, Selection Committee	2009–2011
<i>Southeastern Sectional Meetings</i>	Member, Invited Address Selection Committee	2006–2008

### Service for the National Science Foundation

<i>Division of Mathematical Sciences</i>	Program Director (Analysis)	2011–2013
<i>Office of International Science and Engineering</i>	Member, Committee of Visitors	2011
<i>Division of Mathematical Sciences</i>	Panelist, Disciplinary Panels	2002–2009
<i>Division of Education and Human Resources</i>	Panelist, Disciplinary Panels	2004–2011

### Outreach

Post-Doc Committee		2015–
<i>Women in Science &amp; Engineering (WiSE) Syracuse University Chapter</i>		
Co-Advisor with C. Miller		2014–
<i>Syracuse Women in Mathematics (SWiM)</i>		
Faculty advisor of student registered organization		2002–2014
<i>Arkansas Women in Statistics and Mathematics</i> (AWSM, pronounced “awesome”) <a href="http://www.uark.edu/rso/aws/">http://www.uark.edu/rso/aws/</a>		
Speaker, <i>Career Options for Women in the Mathematical Sciences</i>		2013
IMA Special Workshop		
Panelist, <i>Panel on Careers for Women in the Mathematical Sciences</i>		2012
IMA Workshop for Women in Analysis and PDE		
Panelist, <i>Panel on Mentoring, Collaborating and Writing</i>		2011
Conference Honoring Eli Stein, Princeton University		
Expository talks; outreach events sponsored by student registered organizations		
CUNY-Lehman College	( <i>HRM Workshop Talk</i> )	2013
UC-San Diego	( <i>AWM colloquium</i> )	2012

LA State University	( <i>VIGRE undergraduate colloquium</i> )	2011
LA State University	( <i>VIGRE graduate colloquium</i> )	2011
Purdue University	( <i>AWM chapter event</i> )	2011
Introduced and organized the <i>Lunch for Women in Mathematics</i> as one of two showcase outreach activities at the Arkansas Spring Lecture Series in the Mathematical Sciences		2002–2014
Introduced the <i>Evening Public Lecture</i> as one of two showcase outreach activities at the Arkansas Spring Lecture Series in the Mathematical Sciences		2000–2014
<i>Why I became a mathematician: essay to appear in I, Mathematician</i> (book), S. Krantz Ed., Mathematical Association of America (2015).		

### Conference Organization

Lead Organizer, *Workshop in Real Analysis, Complex Analysis and Boundary Value problems*, Banff International Research Station (2010).

Co-organizer with S. Tabachnikov and V. Retakh of the 1999 *Arkansas Spring Lecture Series* (principal speakers: M. Lyubich and J. Milnor).

Co-organizer with L. Capogna of the *Arkansas Spring Lecture Series* for the years: 2000 (principal speaker: C. Kenig); 2001 (principal speakers: L. Caffarelli and R. de la Llave), 2002 (principal speaker: M. Christ), 2008 (principal speaker: A. Chang), 2009 (principal speaker: M. Lacey).

Co-organizer with P. Harrington of the 2013 *Arkansas Spring Lecture Series* (principal speaker: C. Fefferman).

Co-organizer with Z. Shen of a Special Session on *Harmonic Analysis and Partial Differential Equations in Real and Complex Domains*, AMS meeting #1037 (March 2008).

Co-organizer with D. Barrett of a Special Session on *Boundary Operators in Real and Complex Domains*, AMS meeting #1022 (October 2006).

### Service for Syracuse University (highlights)

<i>Mathematics Department</i>	Member, Calculus Coordination Committee	2015
<i>Mathematics Department</i>	Chair, Faculty Search Committee	2014
<i>Mathematics Department</i>	Chair, Hiring Committee	2014

### Service for the University of Arkansas (highlights)

<i>Fulbright College of Arts &amp; Sciences</i>	Member, Core Curriculum Review Committee	2008
<i>Sponsored Research Office</i>	Member, SRO Evaluation Committee	2007
<i>Fulbright College of Arts &amp; Sciences</i>	Member, 5-Year Strategic Plan Committee (Subcomm. on Diversity & Programs abroad)	2006
<i>Mullins Library</i>	Broker, MathSciNet Subscription	1998

*Department of Mathematical Sciences:*

Personnel Document Committee	2010
Departmental Website Developer and Editor	2004; 2009; 2010
Undergraduate Committee	2009; 2010
Graduate Committee	1998; 1999; 2000; 2001
Hiring Committee	1999; 2000; 2007; 2008
Advisor to Tenure and Promotion Committee	2010
Tenure and Promotion Committee	2009
Chair, Department Chair Selection Committee	2008
<i>Survey of Math Grad. Programs at the 50 Benchmark Institutions</i> Task Force	2007
Pre-Tenure Review Committee	2005; 2006
Chair, Arkansas Spring Lecture Series Committee	2000 – present
Arkansas Spring Lecture Series Committee	1997; 1998; 1999
Chair, <i>Vision for 2010</i> Committee	2002
Graduate Program Review Committee	2001
Course coordinator for Math 3404	1998 – 2004
Course coordinator for Math 2116	2000 – 2010
<i>Math News from Around the World</i> Bulletin Board Developer and Manager	2002 – present
Organizer, Analysis Seminar	1997 – 2007
Colloquium Fund Committee	2001

**Reviewer:**

I routinely serve as reviewer for several professional journals, including *Communications in Partial Differential Equations*, *Duke Mathematical Journal*, *Journal of Functional Analysis*.