

+56-2-23544523

✉ mariel at mat.puc.cl

🌐 <http://www.mat.uc.cl/mariel/>

Facultad de Matemáticas  
Avda. Vicuña Mackenna 4860.  
Macul, Santiago, 6904441,  
Chile.

# Maríel Sáez Trumper

Pontificia Universidad Católica de Chile

## Research Interests

Geometric Analysis, Differential Geometry, Partial Differential Equations.

## Education

2000–2005 **Ph.D. in Mathematics**, *Stanford University*, California, USA.

Thesis title *On the relationship between the curve shortening flow and the parabolic Ginzburg-Landau.*

Adviser Rafe Mazzeo.

1994–2000 **Ingeniero Civil en Matemáticas (Professional degree)**, *Universidad de Chile*, Chile.

Undergraduate Thesis title *Estudio del fenómeno de extinción para una clase de Problemas Parabólicos con Difusión Rápida (English title: A study of the extinction phenomenon for a class of parabolic problems with fast diffusion).*

Adviser Manuel del Pino.

1994–1998 **Licenciatura en Ciencias de la Ingeniería mención Matemáticas**, *Universidad de Chile*, Chile.

## Honors and Awards

2015–2019 **Proyecto Fondecyt Regular 1150014 (Research Grant)**, *CONICYT*, Chile.

2011–2015 **Proyecto Fondecyt Regular 1110048 (Research Grant)**, *CONICYT*, Chile.

2010–2013 **Proyecto Anillo ACT-125, Center for Analysis of Partial Differential Equations (Research Grant)**, *Chile*.

2007–2010 **Proyecto Fondecyt 11070025 de Iniciación en Investigación (Research Grant)**, *CONICYT*, Chile.

2000 **Royden Fellowship**, *Stanford University*, USA.

1995–2000 **Outstanding Student Award**, *Facultad de Ciencias Físicas y Matemáticas*, *Universidad de Chile*, Chile.

1994 **Fellowship for Academic Excellence**, *Universidad de Chile*, Chile.

## Experience

- Wintersemester 2013 **Visiting professor**, *Freie Universität*, Berlin, Germany.
- 2012–present **Associate Professor**, *Pontificia Universidad Católica de Chile*, Chile.
- 2009 (declined) **Juniorprofessorin der Besoldungsgruppe W1 für das Fachgebiet Analysis, Geometrie und Mathematische Physik**, *Freie Universität*, Berlin, Germany.
- 2008–2012 **Assistant Professor**, *Pontificia Universidad Católica de Chile*, Chile.
- 2005–2008 **Postdoctoral Fellow**, *Max Planck Institute for Gravitational Physics (Albert Einstein Institute)*, Germany.

### Selected long term Academic visits

- January–February, April–May, 2016 **Research Member**, *Mathematical Sciences Research Institute (MSRI)*, Program *Differential Geometry*, Berkeley, USA.
- Wintersemester 2013–2014 **Visiting professor at Berlin Mathematical School**, *Freie Universität*, Germany.
- August–November, 2008 **Research Member**, *Mathematical Sciences Research Institute (MSRI)*, Program *Analysis on Singular Spaces*, Berkeley, USA.
- April–July, 2008 **Visiting Ph.D student**, *Swiss Federal Institute of Technology (ETH)*, Zürich, Switzerland.

### Selected short term Academic visits

- May 2016 **Invitation by Panagiota Daskalopoulos at Columbia University**, *New York*, USA.
- December 2015 **Invitation by Martin Li at Chinese University of Hong Kong**, *Hong Kong*, Hong Kong.
- September 2015 **Invitation by Laurent Hauswith at Université de Marne-la-Vallée**, *Paris*, France.
- September 2015 **Invitation by Enrico Valdinoci at Weierstrass institute**, *Berlin*, Germany.
- September 2015 **Invitation by María del Mar González at Universidad Politénica de Catalunya**, *Barcelona*, Spain.
- February 2015 **Invitation by Oliver Schnürer at Konstanz Universität**, *Konstanz*, Germany.
- January 2015 **Invitation by Alice Chang at Princeton University**, *Princeton*, USA.
- July 2014 **Invitation by María del Mar González at Universitat Politénica de Catalunya**, *Barcelona*, Spain.
- March 2014 **Invitation by Laurent Hauswith at Université de Marne-la-Vallée**, *Paris*, France.
- April 2014 **Invitation by Felix Schulze at University College London**, *London*, UK.
- February 2014 **Invitation by Ben Andrews and Julie Clutterbuck at Australian National University**, *Canberra*, Australia.
- January 2014 **Invitation by Francisco Martin at Universidad de Granada**, *Granada*, Spain.
- February 2013 **Invitation by Enrico Valdinoci at Università degli Studi di Milano**, Seminar Talk, *Milan*, Italy.
- January 2013 **Invitation by María del Mar González at Universitat Politénica de Catalunya**, *Barcelona*, Spain.
- January 2013 **Invitation by Rafe Mazzeo at Stanford University**, *Stanford*, USA.
- September 2012 **Invitation by Valeria Banica at Université d'Evry Val d'Essonnen**, *Évry*, France.

- September 2012 **Invitation by María del Mar González at Universitat Politècnica de Catalunya, Barcelona, Spain.**
- September 2012 **Invitation by Felix Schulze at Freie Universität, Berlin, Germany.**
- September 2012 **Invitation by Oliver Schnürer at Konstanz Universität, Konstanz, Germany.**
- September 2011 **Invitation by Barış Çoskünezer at Koç University, Istanbul, Turkey.**
- September 2011 **Invitation by Felix Schulze at Freie Universität, Berlin, Germany.**
- September 2011 **Invitation by Oliver Schürer at Konstanz Universität, Konstanz, Germany.**
- September 2011 **Invitation by María del Mar González at Universitat Politècnica de Catalunya, Barcelona, Spain.**
- November 2011 **Invitation by Rafe Mazzeo at Stanford University.**
- October 2010 **Invitation by Oliver Schnürer at Konstanz Universität, Konstanz, Germany.**
- February 2010 **Invitation by Oliver Schnürer at Konstanz Universität, Konstanz, Germany.**
- October 2009 **Invitation by Rafe Mazzeo at Stanford University, Stanford, USA.**
- August 2009 **Invitation by Felix Schulze at Freie Universität, Berlin, Germany.**
- August 2009 **Invitation by Gerhard Huisken at Max Planck Institute for Gravitational physics (Geometric Analysis Group), Potsdam, Germany.**
- November 2008 **Invitation by Rafe Mazzeo at Stanford University, Stanford, USA.**
- July 2008 **Invitation by Didier Smets at Paris VII, Paris, France.**
- July 2008 **Invitation by Gerhard Huisken at Max Planck Institute for Gravitational physics (Geometric Analysis Group), Potsdam, Germany.**
- December 2007 **Invitation by Juan Jose Velazquez at Universidad Complutense de Madrid, Madrid, Spain.**
- May 2006 **Invitation by Juan Jose Velazquez at Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany.**
- February 2006 **Invitation by Julio Rossi at Consejo Superior de Investigaciones Científicas(CSIC), Madrid, Spain.**

## Selected Academic Talks (seminars and conferences)

- August 2016 **Seminario de análisis y geometría, PUC, Santiago, Chile.**
- August 2016 **Seminario CAPDE, Santiago, Chile.**
- July 2016 **V Congreso Latino Americano de Matematicas (CLAM), session *Avances en Ecuaciones Diferenciales Parciales no lineales-Ecuaciones Diferenciales Parciales elípticas*, Barranquilla, Colombia.**
- July 2016 **School of Differential Geometry, Instituto de Matematica Pura e Aplicada (IMPA), Minicourse, Rio de Janeiro, Brazil.**
- May 2016 **Columbia University, Seminar talk, New York, USA.**
- April 2016 **University of California at Santa Cruz, Seminar talk, Santa Cruz, USA.**
- Febrero 2016 **Mathematical Research Science Institute (MSRI), Seminar talk, Berkeley, USA.**
- December 2015 **Chinese University of Hong Kong, Seminar talk, Hong Kong.**
- December 2015 **3rd Chile-Japan Workshop, Osaka, Japon.**
- November 2015 **LXXXIV encuentro Somachi, Conference talk, Pucon, Chile.**
- September 2015 **Universidad Politècnica de Catalunya, Seminar talk, Barcelona, Spain.**
- July 2015 **Coloquio Brasileiro, Instituto de Matematica Pura e Aplicada (IMPA), Rio de Janeiro, Brazil.**
- February 2015 **Nonlinear elliptic PDEs at the End of the World, Punta Arenas, Chile.**
- February 2015 **Konstanz Universität, Seminar talk, Konstanz, Germany.**

- January 2015 **Princeton University**, *Seminar talk*, Princeton, USA.
- October 2014 **Semana de la Matemática 2014 at PUCV**.
- April 2014 **Jornadas de Matemáticas de la Zona Sur**, *Temuco*, Chile.
- April 2014 **University College London**, *Seminar talk*, London, UK.
- February 2014 **Conference Geometric Invariance and nonlinear PDE**, *Kioloa*, Australia.
- January 2014 **Universidad de Granada**, *Seminar talk*, Granada, Spain.
- August 2013 **I Conference of the Americas**, *Guanajuato*, Mexico.
- February 2013 **Università deli Studi di Milano**, *Seminar Talk*, Milan, Italy.
- January 2013 **Universitat Politècnica de Catalunya**, *Seminar talk*, Barcelona, Spain.
- November 2012 **LXXXI Encuentro Somachi**, *Olmué*, Chile.
- August 2012 **IV CLAM conference**, *Cordoba*, Argentina.
- July 2012 **9th AIMS Conference on Dynamical Systems, Differential Equations and Applications**, *Orlando*, USA.
- January 2012 **IX Americas Conference on Differential Equations**, *Trujillo*, Perú.
- September 2011 **Universitat Politècnica de Catalunya**, *Seminar talk*, Barcelona, Spain.
- September 2011 **Conference on Geometric Evolution Equations**, *University of Konstanz*, Germany.
- January 2011 **Analyse géométrique (in honor of Rafe Mazzeo)**, *Centre International de Rencontres Mathématiques (CIRM)*, Luminy, France.
- January 2011 **Connections for Women: Free Boundary Problems, Theory and Applications**, Berkeley, USA.
- December 2010 **First Sino-Chilean conference Conference on Nonlinear Elliptic and Parabolic Equations**, *Wuhan*, China .
- September 2010 **Konstanz Universität**, *Seminar talk*, Konstanz, Germany.
- September 2010 **Workshop Extrinsic Geometric Flows**, *Universidad de Valencia*, Spain.
- December 2009 **Chile-Japan workshop**, *Tokyo*, Japan .
- October 2009 **Stanford University**, *Seminar talk*, Stanford, USA.
- October 2009 **VIII Americas Conference on Differential Equations**, *Plenary talk*, Mexico.
- May 2009 **Universidad de Concepción**, *Colloquium*, Concepción, Chile.
- May 2009 **Universidad de Talca**, *Colloquium*, Talca, Chile.
- February 2009 **Freie Universität**, *Oberseminar (Geometric Analysis Group)*, Berlin, Germany.
- January 2009 **First winter school at IMDEA on PDEs and inequalities**, *Madrid*, Spain.
- January 2009 **Max Planck Institute for Gravitational Physics (AEI)**, *Geometric Analysis Seminar*, Potsdam, Germany.
- May 2008 **Symposia on Analysis of Geometric evolution (SAGE)**, *Austin, Texas*, USA.
- April 2008 **Seminario EDP Santiago**, *Seminar talk*, Santiago, Chile.
- June 2008 **Universidad Federico Santa María**, *Seminar talk*, Valparaiso, Chile.
- February 2008 **Universität Freiburg**, *Seminar talk*, Freiburg, Germany.
- December 2007 **Universidad Complutense de Madrid**, *Madrid*, Spain.
- January 2007 **Workshop**, *Universidad Católica de Chile*, Santiago, Chile.
- February 2006 **Oberseminar**, *Freie Universität*, Berlin, Germany.
- July 2006 **Workshop Calculus of Variations**, *Mathematisches Forschungsinstitut Oberwolfach*, Germany.
- May 2006 **Max Planck Institute for Mathematics in the Sciences**, *Seminar talk*, Leipzig, Germany.
- March 2006 **Max Planck Institute for Gravitational Physics (Albert Einstein Institute)**, *Seminar talk*, Potsdam, Germany.
- February 2006 **Universidad Autónoma de Madrid**, *Seminar talk*, Madrid, Spain.

January 2000 **Workshop on Nonlinear Analysis**, *Valparaiso*, Chile.

## Workshops and Conferences attended (selected)

- July 2016 **School of Differential Geometry**, *Instituto de Matematica Pura e Aplicada (IMPA)*, Rio de Janeiro, Brazil.
- July 2016 **V Congreso Latino Americano de Matematicas (CLAM)**, *Barranquilla*, Colombia.
- April 2015 **CIMPA-ICTP Minimal Surfaces, overdetermined problems and geometric analysis (organizer)**, *Santiago*, Chile.
- December 2015 **3rd Chile-Japan Workshop**, *Osaka*, Japon.
- November 2015 **LXXXIV encuentro Somachi**, *Conference talk*, Pucon, Chile.
- July 2015 **Coloquio Brasileiro**, *Instituto de Matematica Pura e Aplicada (IMPA)*, Rio de Janeiro, Brazil.
- February 2015 **Nonlinear elliptic PDEs at the End of the World**, *Punta Arenas*, Chile.
- August 2014 **International Congress of Mathematicians**, *Seoul*, Korea.
- July 2014 **Geometric Analysis Conference**, *Lisbon*, Portugal.
- April 2014 **Jornadas de Matemáticas de la Zona Sur**, *Temuco*, Chile.
- February 2014 **Conference Geometric Invariance and nonlinear PDE**, *Kioloa*, Australia.
- August 2013 **I Conference of the Americas**, *Guanajuato*, Mexico.
- November 2013 **LXXXII Encuentro Anual Sociedad Matemática de Chile (Organizer of the PDE session)**, *Olmué*, Chile.
- July 2013 **IAS/Park City Mathematics Institute (PCMI) Summer program**, *Utah*, USA.
- July 2012 **Second Sino-Chilean conference Conference on Nonlinear Elliptic and Parabolic Equations (organizer)**, *Santiago*, Chile.
- November 2012 **LXXXI Encuentro Somachi**, *Olmué*, Chile.
- August 2012 **IV CLAM conference**, *Cordoba*, Argentina.
- July 2012 **9th AIMS Conference on Dynamical Systems, Differential Equations and Applications**, *Orlando*, USA.
- January 2012 **IX Americas Conference on Differential Equations**, *Trujillo*, Perú.
- November 2011 **LXXX Encuentro Anual Sociedad Matemática de Chile (Organizer of the PDE session)**, *Olmué*, Chile.
- September 2011 **Conference on Geometric Evolution Equations**, *University of Konstanz*, Germany.
- January 2011 **Analyse géométrique (in honor of Rafe Mazzeo)**, *Centre International de Rencontres Mathématiques (CIRM)*, Luminy, France.
- January 2011 **Connections for Women: Free Boundary Problems, Theory and Applications**, *Berkeley*, USA.
- December 2010 **First Sino-Chilean conference Conference on Nonlinear Elliptic and Parabolic Equations**, *Wuhan*, China .
- September 2010 **Workshop Extrinsic Geometric Flows**, *Universidad de Valencia*, Spain.
- December 2009 **Chile-Japan workshop**, *Tokyo*, Japan .
- October 2009 **VIII Americas Conference on Differential Equations**, *Mexico*.
- January 2009 **First winter school at IMDEA on PDEs and inequalities**, *Madrid*, Spain.
- June-July 2008 **Clay Mathematics Institute 2008 Summer School: Evolution Equations**, *Zürich*, Switzerland.
- May 2008 **Symposia on Analysis of Geometric evolution (SAGE)**, *Austin, Texas*, USA.
- July 2008 **Calculus of Variations**, *Mathematisches Forschungsinstitut Oberwolfach*, Germany.

- August 2007 **Analysis and Geometric Singularities**, *Matematisches Forschungsinstitut Oberwolfach*, Oberwolfach, Germany.
- March 2007 **Geometric Evolution Equations**, *Mathematical Sciences Research Institute (MSRI)*, Berkeley, USA.
- June 2006 **Oberwolfach-Seminar: Singularities for Nonlinear Evolution Equations**, *Matematisches Forschungsinstitut Oberwolfach*, Oberwolfach, Germany.
- July 2006 **Calculus of Variations**, *Matematisches Forschungsinstitut Oberwolfach*, Oberwolfach, Germany.
- August 2003 **International conference on the Unity of Mathematics**, *Organized by MIT, Harvard and Rutgers University*, Cambridge, MA, USA.
- July 2000 **II Simposio Internacional en ecuaciones no lineales y problemas de frontera libre**, *Buenos Aires*, Argentina.
- January 2000 **Workshop on Nonlinear Analysis**, *Valparaiso*, Chile.
- January 1999 **Summer School, CIMPA**, *U. de la Frontera*, Temuco, Chile.

## Teaching

### Teaching at Pontificia Universidad Católica

- MAT1206 **Introducción al Álgebra**, *Second semester 2016*.
- MPG3970 **Geometría Diferencial**, *Second semester 2016*.
- MAT1206 **Introducción al Álgebra**, *First Semester 2015*.
- IMT0100 **Introducción a la ingeniería matemática**, *First Semester 2015*.
- MAT1206 **Introducción al Álgebra**, *Second Semester 2014*.
- MAT2515 **Análisis Real**, *Second Semester 2014*.
- MAT1206 **Introducción al Álgebra**, *First Semester 2013*.
- MAT1600 **Introducción al Cálculo**, *First Semester 2013*.
- MAT1492 **Álgebra e introducción al cálculo**, *First Semester 2013*.
- MPG3950 **Variable Compleja (graduate level)**, *First Semester 2012*.
- MAT1600 **Introducción al cálculo**, *First Semester 2012*.
- MAT1630 **Cálculo III**, *First Semester 2012*.
- MAT110E **Álgebra**, *First Semester 2011*.
- MPG 3100 **Análisis Real (graduate level)**, *First Semester 2011*.
- MAT1203 **Álgebra lineal**, *First Semester 2011*.
- MAT1620 **Cálculo II**, *First Semester 2010*.
- MAT1519 **Cálculo II**, *First Semester 2010*.
- MAT2515 **Análisis Real**, *First Semester 2010*.
- MAT1523 **Cálculo III**, *First Semester 2009*.
- MPG31030 **Ecuaciones en derivadas parciales (graduate level)**, *First Semester 2009*.
- MAT110E **Álgebra**, *First Semester 2008*.
- MAT1600 **Introducción al cálculo**, *First Semester 2008*.

### Other Teaching and Mentoring experience

- School of Differential Geometry**, *Minicourse " Geometric flows "*, July 2016.
- Berlin Mathematical School (BMS)**, *Partial Differential Equations II*, Wintersemester 2013.

**Stanfordo University Math Camp (SUMaC)**, *Counselor 2001, 2003, 2004.*

**Stanford University**, *Teaching assistant for several courses, 2000-2005.*

**Universidad de Chile**, *Teaching assistant for several courses, 1996-2000.*

## Languages

Spanish **Native**

English **Fluent**

German **Intermediate**

French, Turkish **Basic**

## Other Information

Citizenship **Chilean.**

2007–present **Reviewer for the AMS.**

2014–present **Coordinator of the mathematics section at "Programa de formación de capital humano", Conicyt, Chile.**

2016-present **Member of the study group for Fondecyt grant.**

2011-2013 **Member of the graduate studies committee.**

2014-2017 **Director of the department of Mathematics at P. Universidad Católica de Chile.**

2014-2017 **Director of the department of Mathematics at P. Universidad Católica de Chile.**

Refereeing duties **Several journals including Calculus of variations, Journal für die Reine und Angewandte Mathematik (Crelle's Journal), Communications in Partial Differential , Communications in Analysis and Geometry, Discrete and Continuous Dynamical System - A, Journal of Geometric Analysis.**

Graduate Students **Karen Corrales (Ph.d 2015), José Gabriel Torres (Master 2015).**