

Stefano Vigogna Curriculum Vitae

Johns Hopkins University
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Research interests

Data Analysis, Machine Learning, Abstract and Applied Harmonic Analysis.

Appointments

- Assistant Research Professor, Johns Hopkins University, Department of Mathematics, June 2016 - present.
- Visiting Assistant Professor, Duke University, Department of Mathematics, July 2015 - June 2016.
- Research Scholar, Duke University, Department of Mathematics, January 2015 - June 2015.

Visiting

- Academic Guest, ETH Zürich, hosted by Prof Philipp Grohs, Summer 2013.

Education

- PhD in Mathematics and Applications, Università di Genova, January 2012 - February 23, 2015.
Thesis: *Extended representations of reproducing kernel function spaces: coorbit spaces and localized frames.*
Supervisors: Prof Filippo De Mari, Prof Ernesto De Vito.
- Master degree in Mathematics, Università di Genova, October 2009 - July 27, 2011.
Thesis: *Generalized complex geometry.*
Supervisor: Prof Claudio Bartocci.
- Bachelor's degree in Mathematics, Università di Genova, October 2006 - September 30, 2009.
Thesis: *Developable surfaces.*
Supervisor: Prof Giacomo Monti Bragadin.

- Bachelor's degree in Philosophy, Università di Genova, October 2003 - October 9, 2006.

Thesis: *The vagabonds, or time discipline in the industrial age.*

Publications

- *Learning Adaptive Multiscale Approximations to Data and Functions near Low-Dimensional Sets*, (joint work with W. Liao and M. Maggioni), IEEE Information Theory (2016).
- *Continuous and discrete frames generated by the evolution flow of the Schrödinger equation*, (joint work with G. S. Alberti, S. Dahlke, F. De Mari and E. De Vito), Analysis and Applications (2016).
- *Coorbit spaces with voice in a Fréchet space*, (joint work with S. Dahlke, F. De Mari, E. De Vito, D. Labate, G. Steidl and G. Teschke), Journal of Fourier Analysis and Applications (2016).
- *Intrinsic localization of anisotropic frames II: α -molecules*, (joint work with P. Grohs), Journal of Fourier Analysis and Applications (2014).
- *Geometric classification of semidirect products in the maximal parabolic subgroup of $Sp(2, \mathbb{R})$* , (joint work with F. De Mari and E. De Vito), Analysis and Applications (2015).

Teaching

- Instructor of Honors Linear Algebra, Johns Hopkins University, Fall 2017.
- Instructor of Calculus, Johns Hopkins University, Spring 2017.
- Instructor of Advanced Calculus, Duke University, Spring 2016.
- Teaching Assistant of Geometry at the Faculty of Engineering, Università di Genova, January 2013 - December 2014.
- Freshmen Tutor for first year courses at the Faculty of Mathematics and Physics, Università di Genova, January 2010 - December 2014.
- Teacher of Mathematics for summer special programs, Liceo Scientifico M.L. King, July 2012.

Talks

- Pittsburgh, July 13, 2017:
Multiscale Regression on Intrinsically Low-dimensional Data.
SIAM Annual Meeting, Boosting and Learning in Mathematical Imaging Algorithms, SIAM.
- Pisa, January 22, 2016:
Learning functions on unknown manifolds embedded in high dimension.
Workshop su varietà reali e complesse: geometria, topologia e analisi armonica, Scuola Normale Superiore.
- Pisa, June 12, 2014:
Intrinsic localization of anisotropic frames.
XXXIV Convegno Nazionale di Analisi Armonica, Scuola Normale Superiore.
- Ströbl, June 4, 2014:
Coorbit spaces for non integrable representations.
Ströbl 14, Modern Time-Frequency Analysis, NuHAG, Universität Wien.
- Nashville, May 22, 2014:
Examples of coorbit spaces with non integrable kernel.
V International Conference on Computational Harmonic Analysis, Vanderbilt University.
- Alba, June 20, 2013:
Coorbit spaces with voice in a Fréchet space.
XXXIII Convegno Nazionale di Analisi Armonica, Politecnico di Torino.

Posters

- Los Angeles, October 24, 2016:
Learning Adaptive Multiscale Approximations to Data and Functions near Low-Dimensional Sets.
IPAM Workshop II: Collective Variables in Classical Mechanics.
University of California, Los Angeles.
- Durham NC, June 21, 2016:
Learning Adaptive Multiscale Approximations to Data and Functions near Low-Dimensional Sets.
2016 North-American School of Information Theory.
Duke University.
- Bonn, March 15, 2016:
Learning functions on unknown manifolds embedded in high dimension.
Workshop on Harmonic Analysis, Graphs and Learning.
Hausdorff Research Institute for Mathematics.

Workshops organized

- *Data Seminar*. Johns Hopkins University, Fall 2016 - Fall 2017.
- *Three courses on Applied Harmonic Analysis*. Università di Genova, September 2-6, 2013.

Community activities

Peer reviewer for the *Journal of Fourier Analysis and Applications*, *Journal of Approximation Theory* and the *International Journal of Wavelets, Multiresolution and Information Processing*.

Review Editor for *Frontiers in Applied Mathematics and Statistics*.

Programming skills

Basic knowledge of `c/c++`, good knowledge of MatLab and L^AT_EX.

Interests

Reading, music, cinema, traveling, sailing, sport. Attitude to writing and music (piano and guitar).