



# Gennady Uraltsev

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## Curriculum Vitae

### Occupational field **Mathematics/Accademia**

**Current Position** HC Wang Assistant Professor (Postdoc)

Area of Research Harmonic Analysis, Time-Frequency Analysis

Affiliation Department of Mathematics - Cornell University

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### Publications

1. Uraltsev, G., 2019. "Uniform Bounds for the bilinear Hilbert transform in the Banach range". *draft*, in preparation.
2. Amenta, A. and Uraltsev, G., 2019. "The bilinear Hilbert transform in UMD spaces". *arXiv preprint arXiv:1909.06416*, submitted.
3. Amenta, A. and Uraltsev, G., 2019. "Banach-valued modulation invariant Carleson embeddings and outer- $L^p$  spaces: the Walsh case". *arXiv preprint arXiv:1905.08681*, submitted.
4. Di Plinio, F., Do, Y.Q. and Uraltsev, G.N., 2018. "Positive Sparse Domination of Variational Carleson Operators". *Annali della Scuola Normale Superiore di Pisa. Classe di scienze*, 18(4), pp.1443-1458 .
5. Uraltsev, G., 2016. "Variational Carleson embeddings into the upper 3-space". *arXiv preprint arXiv:1610.07657*, submitted.
6. C. Mantegazza , G. Mascellani, and G. Uraltsev, 2014. "On the distributional Hessian of the distance function". *Pacific Journal of Mathematics* 270.1: pp.151-166.

### PhD thesis

title *Time-Frequency Analysis of the Variational Carleson Operator using outer-measure  $L^p$  spaces*

supervisor Prof. Dr. Christoph Thiele

Institution Bonn International Graduate School - University of Bonn

### Master thesis

title *Multi-parameter Singular Integrals: Product and Flag Kernels*

supervisor Prof. Fulvio Ricci

Institution Pisa State University/Scuola Normale Superiore

Mathematics Department, Malott Hall – 14853, Ithaca – USA

✉ [guraltsev@math.cornell.edu](mailto:guraltsev@math.cornell.edu) • Nationality: Russia

## Bachelor thesis

title *Regularity of Minimizers of One-Dimensional Scalar Variational Problems with Lagrangians with Reduced Smoothness Conditions*  
supervisor Prof. Luigi Ambrosio  
Institution Pisa State University/Scuola Normale Superiore

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## Education

2013–2017

**PhD in Mathematics**, *Bonn International Graduate School, University of Bonn*, Bonn, Germany.

2011–2013 **Master of Science in Mathematics**, *Department of Pure and Applied Mathematics, University of Pisa*, Pisa, Italy, *110/110 Cum Laude*.

2011–2013 **Diploma of Mathematics (Class of Science)**, *Scuola Normale Superiore*, Pisa, Italy, *70/70*.

2008–2011 **Bachelor of Science in Mathematics**, *Department of Pure and Applied Mathematics, University of Pisa*, Pisa, Italy, *110/110 Cum Laude*.

2008–2011 **First level Diploma of Mathematics (Class of Science)**, *Scuola Normale Superiore*, Pisa, Italy.

## Selected Talks

- Oct 2019 **Washington University, St.Louis, Analysis seminar** *Invited speaker*: “Uniform bounds for the Bilinear Hilbert Transform”
- Dec 2017 **St. Petersburg Chebychev laboratory seminar** *Invited speaker*: “Uniform bounds for the Bilinear Hilbert Transform”
- Oct 2017 **NEAM 2017: Second Northeastern Analysis Meeting** – *Short talk*: “Uniform bounds for the Bilinear Hilbert Transform”
- June 2017 **Math Department, Delft University** *Invited speaker*: “Variational Carleson and beyond using embedding maps and iterated outer measure spaces”
- February 2017 **Math Department, Nantes University** *Invited speaker*: “Time-frequency analysis of modulation invariant operators using outer measure spaces”
- December 2016 **St. Petersburg Chebychev laboratory minicourse** *Invited speaker*: “Time-frequency analysis of modulation invariant operators using outer measure spaces”
- Nov 2016 - May 2017 **St. Petersburg Department of Steklov Institute of Mathematics of Russian Academy of Sciences** *Invited speaker*
- Math Department, Brown University** *Invited speaker*
- Math Department, Michigan State University** *Invited speaker*
- Math Department, Cornell University** *Invited speaker*
- Convegno nazionale di analisis armonica** *Invited speaker*
- “Variational Carleson and beyond using embedding maps and iterated outer measure spaces”
- Feb.-Mar. 2016 **Math Department, Yale University** *Invited speaker*

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**Math Department, Brown University** *Invited speaker*

“Time frequency analysis below local  $L^2$ : Iterated outer measure  $L^p$  spaces”

2013-2016 **Math Department, Bonn University** *speaker at research group seminar* (various topics)

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## Teaching experience

- Aug 2019 - Preparation course for Putnam math competition *Instructor*, Cornell University  
Dec 2019
- Jan 2019 - Topics in Analysis: Rough path theory and paracontrolled distributions for (stochastic) ODEs and PDEs *Instructor*, Cornell University  
May 2019
- Jan 2019 - Introduction to PDE *Instructor*, Cornell University  
May 2019
- Aug 2018 - Preparation course for Putnam math competition *Instructor*, Cornell University  
Dec 2018
- Aug 2018 - Real Analysis and Measure Theory *Instructor*, Cornell University  
Dec 2018
- Jan 2018 - Multivariable Calculus *Instructor*, Cornell University  
May 2018
- Aug 2017 - Preparation course for Putnam math competition *Instructor*, Cornell University  
Dec 2017
- Aug 2017 - Calculus I *Instructor*, Cornell University  
Dec 2017
- Oct 2014 - Introduction to Real and Harmonic Analysis *Teaching Assistant*, Universität Bonn,  
Feb 2015 Professor: Prof. Dr. Herbert Koch
- March 2016 - Complex Analysis *Course notes*, Universität Bonn, Professor: Prof. Dr. Christoph Thiele  
Sept 2016
- March 2015 - Analysis 2 *Course notes*, Universität Bonn, Professor: Prof. Dr. Christoph Thiele  
Sept 2015

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## Languages

- Russian C2 - Proficient– native language  
Italian C2 - Proficient  
English C2 - Proficient  
French B2 - Independent user  
German A2 - Basic user

### Certificates

- 2005 Certificate of Advanced English, University of Cambridge ESOL *Grade: A*
- 2012 TOEFL iBT *Reading: 30/30, Listening: 30/30, Speaking: 28/30, Writing: 30/30, Total: 118/120*

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## Computer skills

*Mathematics Department, Malott Hall – 14853, Ithaca – USA*

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**Administration of a computer cluster/ network administration** level: advanced.

**Using Linux** level: advanced.

**Using document markup software ( $\LaTeX$ , Office Suite Document Writing/Spreadsheet/Presentation):**  
level: medium.

## Awards and Scholarships

- Bonn International Graduate Full Scholarship for 3-years
- Scuola Normale Superiore: Full Scholarship Award winner for a 5-year term of studies in the Science Class of Scuola Normale Superiore di Pisa. Total scholarships: 30 per year

## Other

### Olympiads

- International Physics Olympiad 2008, Vietnam : member of the Italian team, Honourable Mention
- National Physics Olympiad 2008, Italy: Gold Medal
- National Mathematics Olympiad 2008, Italy: Gold Medal
- National Physics Olympiad 2007, Italy: Gold Medal

## References

Name Prof. Camil Muscalu

Position / Cornell (USA)

Organization

Email [camil@math.cornell.edu](mailto:camil@math.cornell.edu)

Name Prof. Dr. Christoph Thiele

Position / Bonn University (Germany)

Organization

Email [thiele@math.uni-bonn.de](mailto:thiele@math.uni-bonn.de)

Name Prof. Michael Lacey

Position / Georgia Institute of Technology (USA)

Organization

Email [lacey@math.gatech.edu](mailto:lacey@math.gatech.edu)

Name Prof. Francesco Di Plinio

Position / Washington University, St. Louis (USA)

Organization

Email [francesco.diplinio@wustl.edu](mailto:francesco.diplinio@wustl.edu)

Name Prof. Dr. Xiaodong Cao (teaching)

Position / Cornell (USA)  
Organization  
Email xiaodongcao@cornell.edu