

# Curriculum Vitae - Bogdan Teodor Udrea

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## Personal Information

Citizenship: Romanian.  
Born: August 25, 1975, Constanta, Romania.  
U.S. Visa Status: Legal Permanent Resident.  
Languages: English, French, Romanian.

## Research Interests

Classification and structural properties of von Neumann algebras.

## Employment

2020 - **Scientific Researcher III**  
Institute of Mathematics of the Romanian Academy

2015 - July 2018 **Visiting Assistant Professor**  
Department of Mathematics, University of Iowa

2012 - 2015 **J. L. Doob Research Assistant Professor**  
Department of Mathematics, University of Illinois at Urbana-Champaign

2006 - 2012 **Graduate Teaching Assistant**  
Department of Mathematics, University of Iowa

2005 - 2006 **Researcher**  
Institute of mathematics of the Romanian Academy

2003 - 2005 **Junior Researcher**  
Institute of Mathematics of the Romanian Academy

## Prizes and awards

“Simion Stoilow” Prize of the Romanian Academy (2021).

## Education

- Ph. D., Mathematics** University of Iowa, July 2012.  
*Thesis Title:* Applications of deformation rigidity theory in von Neumann algebras.  
*Advisor:* Paul Muhly; *co-advisor:* Ionut Chifan.
- M.S., Mathematics** SNSB, Bucharest, June 2004.
- M.S., Philosophy** University of Bucharest, June 2004.
- M.S., Mathematics** University of Bucharest, February 2004.
- B.S., Mathematics** University of Bucharest, February 2001.

## Research Publications

1. Aurelian Gheondea and Bogdan Udrea, *Partially Positive Semidefinite Maps on  $*$ -Semigroupoids and Linearisations*, e-print arXiv:2302.13107, submitted for publication in **Journal of Mathematical Analysis and Applications**.
2. Ionut Chifan and Bogdan Udrea, *Some rigidity results for  $II_1$  factors arising from wreath products of property (T) groups*, **Journal of Functional Analysis** 278 (2020), 108419.
3. Marius Junge and Bogdan Udrea, *Generalized  $q$ -gaussian von Neumann algebras with coefficients, III. Unique prime factorization results*, **Romanian Journal of Pure and Applied mathematics**, Vol. LXIV (2019), no.1.
4. Marius Junge and Bogdan Udrea, *Generalized  $q$ -gaussian von Neumann algebras with coefficients, II. Absence of central sequences*, **Mathematical Reports**, Vol. 22 (72), No. 3–4, 2020.
5. Marius Junge and Bogdan Udrea, *Generalized  $q$ -gaussian von Neumann algebras with coefficients, I. Relative strong solidity*, **Analysis & PDE**, Vol. 12 (2019), no.7, 1397–1463.
6. Marius Junge, Stephen Longfield and Bogdan Udrea, *Some classification results for generalized  $q$ -gaussian algebras*, submitted.
7. Ionut Chifan, Thomas Sinclair and Bogdan Udrea, *Inner amenability for groups and central sequences in factors*, **Ergodic Theory and Dynamical Systems**, 36 (2016), no.4, 1106-1129.
8. Ionut Chifan, Thomas Sinclair and Bogdan Udrea, *On the structural theory of type  $II_1$  factors of negatively curved groups, II. Actions by product groups.*, **Advances in Mathematics**, 245 (2013), 208-236.
9. Bogdan Udrea, *Applications of deformation rigidity theory in von Neumann algebras*, Ph.D. Thesis, University of Iowa 2012.
10. Bogdan Udrea, *A proof of a result of Sakai*, **Mathematical Reports**, 7 (57) 2005, no.4, 355-357.

## Teaching Experience

### University of Iowa:

1. Instructor for MATH:2550 (Engineering Math III: Matrix Algebra) and MATH:1850 (Single Variable Calculus) (Spring 2018)
2. Instructor for MATH:2850 (Multivariable Calculus) and MATH:1440 (Math for Biological Sciences) (Fall 2017)
3. Instructor for MATH:1860 (Single Variable Calculus II) (Spring 2017)
4. Instructor for MATH:2560 (Engineering Math IV: Differential Equations) (Fall 2016).
5. Instructor for MATH:4040 (Matrix Theory) and MATH:4210 (Foundations of Analysis) (Spring 2016).
6. Instructor for MATH:2850 (Multivariable Calculus) (Fall 2015).
7. Instructor for the Qualifying Exam Preparation Seminar (Summer 2011).
8. TA for Introduction to Analysis II (graduate course) (Spring 2011, Spring 2010).
9. TA for Introduction to Analysis I (graduate course) (Fall 2011, Fall 2010).
10. TA for Calculus II (Summer 2009, Summer 2008).
11. TA for Calculus for the Biological Sciences (Fall 2009, Summer 2008).
12. TA for Engineering Math: Single Variable Calculus (Spring 2009, Fall 2008, Spring 2008, Fall 2007).

### University of Illinois at Urbana-Champaign:

1. Instructor for MATH 286 - *Introduction to Differential Equations Plus.* (Fall 2012 / Fall 2013 / Fall 2014 / Spring 2015).
2. Instructor for MATH 285 - *Introduction to Differential Equations.* (Spring 2013 / Spring 2014).

## Selected Conference Presentations

1. The structural properties of the generalized  $q$ -gaussian von Neumann algebras with coefficients (plenary speaker), GPOTS, University of Illinois at Urbana-Champaign, Urbana, May 2016.
2. Generalized  $q$ -gaussian von Neumann algebras with coefficients and their structural properties (invited talk), AMS Sectional Meeting, University of Memphis, Memphis, October 2015.
3. Generalized  $q$ -gaussian von Neumann algebras with coefficients and their structural properties (invited speaker), ECOAS 2015, University of Iowa, Iowa City, October 2015.
4. Some rigidity results for generalized  $q$ -gaussian algebras, Wabash miniconference, IUPUI Indianapolis, September 2014.
5. Some rigidity results for generalized  $q$ -gaussian algebras (invited talk), AMS Joint Meetings, University of Wisconsin, Eau Claire, September 2014.
6. Some rigidity results for generalized  $q$ -gaussian algebras (invited talk), Operator Theory Seminar, University of Iowa, Iowa City, May 2014.
7. Some rigidity results for generalized  $q$ -gaussian algebras (invited talk), Analysis Seminar, Purdue University, West Lafayette, April 2014.

8. Inner amenability for groups and central sequences in factors (invited talk), AMS Joint Meetings, Baltimore, January 2014.
9. Inner amenability for groups and central sequences in factors, Wabash miniconference, IUPUI, Indianapolis, September 2013.
10. New examples of von Neumann algebras with unique Cartan subalgebra and  $W^*$ -superrigidity (invited talk), Analysis Seminar, UIUC, November 2011.
11. New examples of von Neumann algebras with unique Cartan subalgebra, Wabash Conference, IUPUI, Indianapolis, September 2011.
12. New examples of von Neumann algebras with unique Cartan subalgebra, GPOTS, Arizona State University, Tempe, May 2011.

Last updated: September 6, 2023