

CURRICULUM VITAE

MAGDALENA MUSAT

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PERSONAL DATA

Born on May 16, 1970, in Bucharest, Romania. Citizen of Romania and Italy.

EDUCATION

- 05/1997–10/2002 Ph. D. Mathematics, University of Illinois at Urbana-Champaign.
Dissertation: *On the operator space UMD property and non-commutative martingale inequalities*. Advisors: Donald Burkholder and Marius Junge.
- 08/1995–05/1997 M. S. Mathematics, University of Illinois at Urbana-Champaign.
- 09/1988–06/1993 Diploma in Mathematics, University of Bucharest, Romania.
Thesis title: *The Analytic Radon-Nikodym property in Banach spaces*.

ACADEMIC POSITIONS

- 08/2009– Lektor (Freja Stipend), University of Copenhagen, Denmark.
- 07/2008–07/2009 Lektor, University of Southern Denmark, Odense, Denmark.
- 01/2007–06/2007 Postdoc, University of Southern Denmark, Odense, Denmark.
- 01/2006–06/2006 Postdoc, University of Southern Denmark, Odense, Denmark.
- 08/2005–08/2009 Assistant Professor, University of Memphis.
- 07/2004–06/2005 Visiting Assistant Professor, University of California, San Diego.
- 07/2002–06/2004 S. E. Warschawski Visiting Assistant Professor, University of California, San Diego.
- 08/1995–05/2002 Teaching Assistant, Research Assistant, Fellow, University of Illinois at Urbana-Champaign. Research support during Summer 1997-2000, 2002.

AWARDS

NSF Grant DMS-0703869, July 1, 2007–June 30, 2010, Amount: \$ 93,178.

AWM Mentoring Travel Grant award to work with Uffe Haagerup at the Fields Institute, Toronto, Canada, for one month during August and October, 2007. Amount: \$ 3,000.

Recipient of an NSF U.S. Junior Oberwolfach Fellow award for the workshop on C^* -Algebren, Mathematisches Forschungsinstitut Oberwolfach, Germany, 2005.

PUBLICATIONS

1. *Factorization and dilation problems for completely positive maps on von Neumann algebras*, with Uffe Haagerup, *Comm. Math. Phys.*, to appear.
2. *Classification of hyperfinite factors up to completely bounded isomorphism of their preduals*, with Uffe Haagerup, *J. Reine Angew. Math.* 630 (2009), 141-176.
3. *The Effros-Ruan conjecture for bilinear maps on C^* -algebras*, with Uffe Haagerup, *Invent. Math.* 174 (2008), no. 1, 139-163.
4. *On the best constants in noncommutative Khintchine-type inequalities*, with Uffe Haagerup, *J. Funct. Anal.* 250 (2007), no. 2, 588-624.
5. *A noncommutative version of the John-Nirenberg theorem*, with Marius Junge, *Trans. Amer. Math. Soc.* 359 (2007), no. 1, 115-142.
6. *On the operator space UMD property for noncommutative L_p -spaces*, *Indiana Univ. Math. J.* 55 (2006), no. 6, 1857-1892.
7. *The condenser problem*, with Jürgen Bliedtner, *Potential Anal.* 21 (2004), 177-192.
8. *Interpolation between non-commutative BMO and non-commutative L_p -spaces*, *J. Funct. Anal.* 202 (2003), 195-225.
9. *On strong Darboux property*, *Stud. Cerc. Mat.* 44 (1992), no. 4, 305-307.

PREPRINTS AND PAPERS IN PREPARATION

1. *An asymptotic property of factorizable completely positive maps and the Connes embedding problem*, with Uffe Haagerup, In preparation.
2. *Finite dimensional approximations of hyperfinite martingales*, In preparation.
3. *Notes on noncommutative L_p -spaces (the tracial case)*, with Bruce Driver, Preprint, 2005.

CONFERENCES ORGANIZED

Von Neumann algebras and group actions: Master Class (January 25–29, 2010) and Workshop (February 1–5, 2010) at the University of Copenhagen. Co-organizer with Uffe Haagerup.

INVITED AND CONTRIBUTED TALKS

- May 18–22, 2011 **Great Plains Operator Theory Symposium**, Arizona State University, Tempe, Arizona. (Invited talk)
- April 9, 2011 **Wabash Modern Analysis Seminar**, Wabash College, Crawfordsville, Indiana. (Invited talk)
- Nov. 10, 2010 **Thematic Program on Quantum Information Theory**, Mittag-Leffler Institute, Stockholm, Sweden. (Invited talk)
Title: *Factorizable maps and the asymptotic quantum Birkhoff property.*

- Sept. 10, 2010 **Thematic Program on Quantum Information Theory**, Mittag-Leffler Institute, Stockholm, Sweden. (Invited talk)
Title: *On the asymptotic quantum Birkhoff conjecture.*
- June 27–July 2, 2010 **Noncommutative L_p -spaces, Operator Spaces and Applications**, International Research Station for Mathematical Innovation and Discovery, Banff, Canada. (Invited talk)
Title: *Factorization and dilation problems for completely positive maps on von Neumann algebras.*
- May 9–18, 2010 **Noncommutative Geometry and Operator Algebras**, Vanderbilt University, Nashville. (Invited talk)
Title: *Factorization and dilation problems for completely positive maps on von Neumann algebras.*
- March 7–13, 2010 **C^* -Algebren**, Mathematisches Forschungsinstitut Oberwolfach, Germany. (Invited talk)
Title: *Factorization and dilation problems for completely positive maps on von Neumann algebras.*
- Sept. 29–Oct. 2, 2009 **Conference in connection with the Midterm Review of EU grant NCG**, University of Copenhagen, Denmark. (Invited talk)
Title: *Factorization and dilation problems for completely positive maps on von Neumann algebras.*
- Aug. 17–23, 2008 **C^* -Algebren**, Mathematisches Forschungsinstitut Oberwolfach, Germany. (Invited talk)
Title: *The Effros-Ruan conjecture for bilinear maps on C^* -algebras..*
- July 21–27, 2008 **International Workshop on Operator Theory and Applications**, College of William and Mary, Williamsburg, Virginia. (Invited talk)
Title: *Grothendieck inequalities—from classical to noncommutative.*
- June 16–21, 2008 **Great Plains Operator Theory Symposium**, University of Cincinnati, Ohio. (Invited talk)
Title: *Noncommutative Khintchine-type inequalities and applications.*
- May 16–18, 2008 **International Conference on Interdisciplinary Mathematics and Statistical Techniques**, University of Memphis. (Invited talk)
Title: *On the best constants in noncommutative Khintchine-type inequalities.*
- Dec. 15–18, 2007 **Danish-Norwegian Workshop**, Oslo, Norway. (Invited talk)
Title: *The Effros-Ruan conjecture for bilinear maps on C^* -algebras.*
- Dec. 11–15, 2007 **Workshop on Operator Spaces and Quantum Groups**, Fields Institute, Toronto, Canada. (Invited talk)
Title: *The Effros-Ruan conjecture for bilinear maps on C^* -algebras.*
- Oct. 29–Nov. 2, 2007 **Workshop on von Neumann algebras**, Fields Institute, Toronto, Canada. (Invited talk)
Title: *Classification of hyperfinite factors up to completely bounded isomorphism of their preduals.*
- Sept. 29–30, 2007 **The Fifth East Coast Operator Algebras Symposium**, Wellesley College, Boston, Massachusetts. (Invited talk)
Title: *Classification of hyperfinite factors up to completely bounded isomorphism of their preduals.*

- June 25–29, 2007 **Operator spaces, Non-commutative L_p -spaces and Applications**, CIRM Marseille, France. (Invited talk)
Title: *Classification of hyperfinite factors up to completely bounded isomorphism of their preduals.*
- June 26–27, 2006 **Noncommutative and matrix-valued analysis**, Centre Emile Borel-Institut Henri Poincaré, Paris, France. (Invited talk)
Title: *Martingale inequalities in vector-valued noncommutative L_p -spaces.*
- March 1–6, 2006 **Southeastern Analysis Meeting XXII**, University of Florida, Gainesville. (Plenary talk).
Title: *Interpolation techniques and a noncommutative version of the John-Nirenberg theorem.*
Special Session on noncommutative measure theory (Invited talk):
On L_p -boundedness of vector-valued noncommutative martingale transforms.
- Aug. 10–17, 2005 **International Conference on Operator Algebras and Mathematical Physics**, Bucharest, Romania.
Title: *Finite dimensional approximations of hyperfinite martingales.*
- Aug. 2–6, 2004 **Concentration week on Non-commutative L_p -spaces**, Texas A&M. (Invited talk).
Title: *Finite dimensional approximations of hyperfinite martingales.*
- May 26–30, 2004 **Great Plains Operator Theory Symposium**, Texas A&M, College Station.
Title: *Interpolation techniques and inequalities for non-commutative martingales.*
- March 26–27, 2004 **AMS Spring Central Sectional Meeting**, Athens, OH. (Invited talk)
Special Session on Recent Trends in Infinite Dimensional Banach Space Theory.
Title: *Interpolation techniques for non-commutative martingales.*
- Nov. 23, 2003 **Southern California Probability Symposium**, IPAM, UCLA, Los Angeles. (Invited talk).
Title: *Interpolation techniques and inequalities for non-commutative martingales.*
- May 28–June 1, 2003 **Great Plains Operator Theory Symposium**, UIUC, Urbana.
Title: *A version of the John-Nirenberg theorem for non-commutative martingales.*
- July 10–11, 2002 **Mini-conference on operator spaces**, Texas A&M, College Station. (Invited talk).
Title: *On the operator space UMD property.*
- Dec. 8–10, 2001 **Canadian Mathematical Society Winter Meeting, 2001**, Toronto, Canada. (Invited talk).
Title: *Non-commutative BMO and a version of the John-Nirenberg theorem.*
- Oct. 5–9, 2001 **Trends in Banach Spaces and Operator Theory**, University of Memphis. (Invited talk).
Title: *Interpolation between non-commutative L_p and non-commutative BMO.*
- June 13–17, 2001 **Great Plains Operator Theory Symposium**, University of New Hampshire.
Title: *Interpolation between non-commutative L_p and non-commutative BMO.*
- Jan. 22–26, 2001 **Free Probability and Non-commutative Banach spaces**, MSRI, Berkeley. (Invited talk).
Title: *Approximation of hyperfinite martingales by finite dimensional martingales.*
- Oct. 14–15, 2000 **Wabash Modern Analysis Miniconference**, IUPUI, Indianapolis.
Title: *On the operator space UMD property for non-commutative L_p -spaces.*

OTHER CONFERENCES ATTENDED

- April 25–30, 2011 **EU–NCG 4th Annual Meeting**, Institute of Mathematics of the Romanian Academy, Bucharest, Romania.
- Jan. 31–Feb. 4, 2011 **Brazilian Operator Algebras Symposium**, Universidade Federal de Santa Catarina, Florianopolis, Brazil.
- Oct. 9–10, 2010 **American Mathematical Society Fall Western Section Meeting**, University of California, Los Angeles.
- Apr. 9–11, 2009 **Operator Algebras - In celebration of Uffe Haagerup's 60th Birthday**, Copenhagen, Denmark.
- Dec. 12–15, 2008 **Danish-Norwegian Workshop**, Oslo, Norway.
- May 5–14, 2008 **Noncommutative Geometry and Operator Algebras**, Vanderbilt University, Nashville.
- March 23–28, 2008 **Topics on von Neumann Algebras**, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada.
- Sept. 7–9, 2007 **Wabash Modern Analysis Miniconference**, IUPUI, Indianapolis.
- Sept. 30–Oct. 1, 2006 **The Fourth East Coast Operator Algebras Symposium**, Georgia Tech, Atlanta, Georgia.
- Sept. 16–21, 2006 **Topics on von Neumann Algebras**, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada.
- June 19–23, 2006 **Free Analysis**, American Institute of Mathematics, Palo Alto, California.
- April 19–23, 2006 **Operator Algebras and Applications**, University of Southern Denmark, Odense, Denmark.
- Aug. 28–Sept. 3, 2005 **C^* -Algebren**, Mathematisches Forschungsinstitut Oberwolfach, Germany. Recipient of an NSF U.S. Junior Oberwolfach Fellow award.
- July 4–29, 2005 **Summer School on Mathematical Statistical Physics**, Les Houches, France. (Participation with financial support from Courant Institute.)
- May 6–18, 2005 **Noncommutative Geometry and Operator Algebras**, Vanderbilt University, Nashville.
- Sept. 17–18, 2004 **Extramural Modern Analysis Miniconference**, IUPUI, Indianapolis.
- Oct. 17–18, 2003 **Midwest Probability Colloquium**, Northwestern University, Evanston.
- Aug. 5–10, 2003 **Workshop in Linear Analysis and Probability**, Texas A&M.
- April 15–18, 2003 **Applications of Random Matrices to Problems in Operator Algebras**, Distinguished Lectures by Uffe Haagerup, University of California, Irvine.
- Sept. 21–22, 2002 **Extramural Modern Analysis Miniconference**, IUPUI, Indianapolis.
- Feb. 23, 2002 **Wabash Analysis Seminar**, Wabash College, Indiana.
- Oct. 27, 2001 **Wabash Analysis Seminar**, Wabash College, Indiana.
- Oct. 18, 2001 **Midwest Probability Colloquium**, University of Chicago.
- Aug. 28–Sept. 2, 2000 **Introductory Workshop in Operator Algebras**, MSRI, Berkeley. (Participation with financial support from the Clay Institute).
- June 30, 2000 **Rückblick und Perspektive**, Universität Eichstätt, Germany. Potential theory meeting in honor of the retirement of Prof. Aurel Cornea.

- Jan. 10–12, 2000 **Colloque sur les Probabilités Libres**, Institut Henri Poincaré, Paris, France.
- Jan. 6–7, 2000 **Conference on Operator Spaces**, Institut Poincaré, Paris, France.
- Nov. 18–19, 1999 **Conference sur les espaces L_p non-commutatifs**, Paris, France.
- Oct. 1999 **Midwest Probability Colloquium**, Northwestern University, Evanston.
- March 18–21, 1999 **American Mathematical Society Sectional Meeting**, UIUC, Urbana.
Special Workshop on Operator Spaces.
- Nov. 2–7, 1998 **International Conference on Potential Theory**, Tunis, Tunisia.
Prof. Jürgen Bliedtner, Universität Frankfurt, Germany, gave a one hour
invited talk on our joint work on *The condenser problem*.
- Oct. 1997 **Midwest Probability Colloquium**, Northwestern University, Evanston.

SEMINAR TALKS

- December, 2010 **Operator Algebras seminar**, University of Copenhagen.
- June, 2010 **Functional Analysis seminar**, UCLA, Los Angeles.
- October, 2008 **Analysis seminar**, University of Illinois, Urbana.
- February, 2008 **Analysis seminar**, University of Memphis.
- October, 2007 **Analysis seminar**, University of Memphis.
- June, 2007 **Operator Algebras seminar**, University of Southern Denmark, Odense.
- June, 2007 **Operator Algebras seminar**, University of Oslo, Norway.
- May, 2007 **Functional Analysis seminar**, Université de Franche-Comté, Besancon, France.
- March, 2007 **Operator Algebras seminar**, University of Southern Denmark, Odense.
- November, 2006 **Analysis seminar**, University of Memphis.
- October, 2006 **Analysis seminar**, University of Memphis.
- August, 2006 **Operator Algebras seminar**, University of Southern Denmark, Odense.
- May, 2006 **Functional Analysis seminar**, University of Newcastle, Newcastle, UK.
- February, 2006 **Operator Algebras seminar**, University of Southern Denmark, Odense.
- November, 2005 **Operator Algebras seminar**, Vanderbilt University, Nashville.
- December, 2004 **Probability seminar**, University of California, San Diego.
- May, 2004 **Analysis seminar**, University of California, Irvine.
- November, 2003 **Probability seminar**, University of California, San Diego.
- February, 2003 **Analysis seminar**, University of California, Irvine.
- December, 2002 **Probability seminar**, University of California, San Diego.
- May, 2002 **Analysis seminar**, Queens University, Kingston, Canada.
- November, 2001 **Seminar on Non-commutative L_p spaces**, University of Illinois, Urbana.
- October, 2001 **Seminar on Non-commutative L_p spaces**, University of Illinois, Urbana.
- May, 2001 **Analysis seminar**, J. W. Goethe Universität, Frankfurt, Germany.
- June, 2000 **Analysis seminar**, J. W. Goethe Universität, Frankfurt, Germany.
- June, 1998 **Analysis seminar**, J. W. Goethe Universität, Frankfurt, Germany.

PROFESSIONAL VISITS

- May 25–July 9, 2011 Trimester on **Von Neumann algebras and ergodic theory of group actions**, Institut Henri Poincaré, Paris.
- Nov. 8–12, 2010 Thematic Program on **Quantum Information Theory**, Mittag-Leffler Institute, Stockholm, Sweden.
- Sept. 19–24, 2010 Thematic Program on **Quantum Information Theory**, Mittag-Leffler Institute, Stockholm, Sweden.
- April 23–July 5, 2010 University of California, Los Angeles.
- Fall 2007 Thematic Program on **Operator Algebras**, Fields Institute, Toronto, Canada.

REFEREE WORK

Referee for the Journal of the American Mathematical Society.
Reviewer for Mathematical Reviews (2003-present).

MEMBERSHIPS

Member of the American Mathematical Society (1995-present).
Member of the American Women in Mathematics Association (2005-present).

Ph. D. STUDENTS

Tim de Laat (2013, expected), Joint supervision with Uffe Haagerup.

BACHELOR STUDENTS AND PROJECTS SUPERVISED

- Isak Wulff Mottelson (2011, June, expected), Research project: *Random matrices in free probability*.
- Marcus Dorph De Chiffre (2011, June, expected), B. S. Thesis: *Haar Measure*.
- Julie Pedersen (2010, July), B. S. Thesis: *The Little Grothendieck Inequality - From Classical to Non-Commutative*.
- May Louise Wetke Nielsen (2009, May), B. S. Thesis (at University of Southern Denmark): *Haar Measure*.

CURRENT TEACHING (at the University of Copenhagen)

- Fall 2010/Winter 2011 (Block 2) **Measure and Integration Theory**, Joint with Ernst Hansen.
- Fall 2010 (Block 1) **Approximation Properties for Operator Algebras and Groups**, Joint with Uffe Haagerup.
- Spring 2010 (Block 3) **Banach Spaces**.
- Fall 2009 (Block 1) **Large Deviations in Probability** (AS 100).

PREVIOUS TEACHING (at the University of Southern Denmark, University of Memphis, University of California, San Diego and University of Illinois at Urbana-Champaign): A total of 36 courses. More detailed information can be found under <http://www.math.ku.dk/~musat>.