

VITONOFRIO CRISMALE

CONTACTS

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December 2019 – present Associate Professor, Dipartimento di Matematica, Università degli studi di Bari “Aldo Moro”, research area: MAT/06 – Probability and Mathematical Statistics.

PREVIOUS POSITIONS

- **May 2012 – December 2019** Assistant Professor, Dipartimento di Matematica, Università degli studi di Bari “Aldo Moro”, research area: MAT/06 – Probability and Mathematical Statistics.
- **16/03/2010 – 15/03/2012** Assegnista di ricerca (research position with grant), Department of Mathematics, Università degli Studi di Bari, research area: MAT/06 – Probability and Mathematical Statistics.
- **October–November 2009** Research position with grant, Département de mathématiques, Université de Franche Comté, Besancon (France).
- **01/04/2008–31/03/2009** Post-doc position with grant, Department of Physics, Università degli studi di Bari – Politecnico di Bari.
- **June–July 2006** European Community fellowship, Department of Mathematics and Computer Science, Wroclaw University (Poland), within the research project: QP-RTN Quantum Probabability and its applications.
- **16/03/2006–15/03/2008** Assegnista di ricerca (research position with grant), Department of Mathematics, Università degli Studi di Bari, research area: MAT/06 – Probability and Mathematical Statistics.

EDUCATION

- **2002–2005** PhD in Mathematics with fellowship, Department of Mathematics, Università degli Studi di Bari. Qualification D. Phil. obtained on 19/05/2006, defending the thesis: “Interacting Fock spaces: central limit theorems and quantum stochastic calculus”, advisor prof. Yun Gang Lu.
- **2000** Laurea degree in Mathematics. Title of the thesis “Molteplicità di soluzioni per alcuni problemi ellittici perturbati”, advisor prof. Addolorata Salvatore.

CONFERENCE PRESENTATIONS

- **Roma (Italy), 04/12/2019** “Monotone $*$ -algebra and distributional symmetries, Workshop Operator Algebras in Quantum Field Theory and Quantum Probability
- **Milano (Italy), 17/10/2019** “Non-symmetric weakly monotone position operator and their distribution”, 3th Italy-Korea Symposium on QP and IDA
- **Levico Terme (Italy), 18/10/2018** "Sum of monotone position operators: vacuum distribution and spectrum", Conference QP39
- **Wroclaw 16/09/2018** "On vacuum distributions for sums of position operators on monotone and weakly monotone Fock spaces", Joint Meeting UMI-SIMAI-PTM
- **Bedlewo (Poland), 16/07/2018** "Vacuum distribution and norm of sums of monotone gaussian operators", 18th Workshop Non Commutative Probability
- **Tokyo (Japan), 03/10/2017** “Wick order and spreadable stochastic processes on the monotone $*$ -algebra”, Conference QP38.
- **Seoul (Republic of Korea), 29/09/2017** "Generalised Ergodic Properties for some C^* -dynamical systems", 2nd Italy-Korea Joint Workshop on Quantum Probability
- **Cheonju (Republic of Korea), 26/09/2017** "On ergodic properties and distributional symmetries in Quantum Probability", 12th Jikji Workshop on Infinite Dimensional Analysis and Quantum Probability
- **Pretoria (South Africa), 12/07/2017** "On some ergodic properties for C^* -dynamical systems arising from Yang-Baxter-Hecke quantisation", Operator Algebras and Quantum Dynamics
- **Torino, 19/06/2017** , "Monotone central limit theorems", First Italian Meeting on Probability and Mathematical Statistics
- **Bedlewo (Poland), 29/07/2016** , "Generalized ergodic properties for Yang-Baxter-Hecke quantisation", 17th Workshop non-commutative Harmonic Analysis,
- **Montecatini Terme, (Italy), 22/06/2016** “Proprietà ergodiche e simmetrie distribuzionali per alcuni sistemi dinamici C^* ”, Convegno Gnampa 2016 .
- **Genova (Italy), 01/07/2015**: “Symmetries and ergodic properties in Quantum Probability”, in occasion of “II Workshop Quantum Markov Semigroups: decoherence and empirical estimates”.
- **Chenjou (Korea), 22/08/2014**: “Symmetric States on some C^* -algebras”, in occasion of “35th International Conference Quantum Probability and Related Topics, Satellite Conference of 2014 ICM”.
- **Ferrazzano (Italy), 13/10/2012**: “A De Finetti Theorem on the CAR algebra”, invited talk in occasion of “4-th International Workshop on Quantum Probability and its Applications”.
- **Aberystwyth (United Kingdom) 05/09/2012**: “ De Finetti-type theorems on the CAR algebra”, invited talk in occasion of the Workshop “Quantum Probabilistic Symmetries”.
- **Seoul (Korea) 30/07/2012**: “Central Limit Theorems arising from Interacting Fock Spaces”, invited talk in occasion of “Korea-Italy Symposium Infinite Dimensional Analysis and Quantum Probability”.
- **Chenjou (Korea) 27/07/2012**: “Exchangeable states and the CAR algebra”, invited talk in occasion of “7-th Jikji Workshop on Infinite Dimensional Analysis and Quantum Probability”.
- **Levico Terme (Italy), 01/06/2011**: “Symmetric states on the CAR algebra”, invited talk in occasion of “32-th International Conference on Quantum Probability and Related Topics”.
- **Ferrazzano (Italy), 13/02/2009**: “ α – dependence and related central limit theorem”, in occasion of “3-th International Workshop on Quantum Probability and its Applications”.
- **Hammamet (Tunisia), 13/10/2008**: “A De Finetti’s Theorem for algebraic stochastic processes”, invited talk in occasion of “29-th International Conference Quantum Probability and Infinite Dimensional Analysis” .
- **Hammamet (Tunisia), 06/11/2007**: “Strict singleton states and linearly singleton algebraic stochastic processes”, in occasion of “International Conference on Stochastic Analysis and its applications”.
- **Bari (Italy), 28/09/2007**: “Teoremi di limite centrale quantistico basati sulla struttura di spazio di Fock interagente”, in occasion of “ XVIII Congresso dell’Unione Matematica Italiana”.

- **Ferrazzano (Italy), 14/05/2007:** “Rotation invariant interacting Fock spaces”, in occasion of the conference of Italian PRIN “Semigrupperi Markoviani ed Equazioni Differenziali Stocastiche Quantistiche”.
- **Levico Terme (Italy), 05/12/2006:** “Independence arising from 1–mode type interacting Fock space: some applications”, invited talk in occasion of the workshop “Perspectives in Probability Theory and its applications with science and society”.
- **Bedlewo (Poland), 03/10/2006,** “Linearly singleton algebraic stochastic processes and quantum De Finetti’s Theorem”, invited talk in occasion of “9-th Workshop: Noncommutative Harmonic Analysis with application to Probability”.
- **Milano (Italy), 04/05/2006,** “Quantum stochastic calculus on Interacting Fock spaces” in occasion of the conference of Italian PRIN “Semigrupperi Markoviani ed Equazioni Differenziali Stocastiche Quantistiche”.
- **Greifswald (Germany), 31/03/2006,** “Projective independence and quantum central limit theorem”, in occasion of the conference “Quantum Probability and its Applications”.
- **Hammamet (Tunisia), 13/09/2005,** “Constructive central limit theorems on interacting Fock space structures”, in occasion of “International Conference on Mathematical Analysis of Random Phenomena”.
- **Bedlewo (Poland), 01/09/2005,** “Central limit theorems constructed on interacting Fock spaces”, in occasion of “8-th Workshop: Noncommutative Harmonic Analysis with application to Probability”.
- **Levico Terme (Italy), 23/02/2005,** “Central limit theorems and interacting Fock spaces”, in occasion of “26-th International Conference Quantum Probability and Infinite Dimensional Analysis”.

INVITED TALKS

- **Wroclaw (Poland), 04/09/2019,** “Weakly monotone Fock space, field operators, and distributions”
- **Chenjou (Korea), 01/08/2012,** “On the class of rotation Invariant Interacting Fock Spaces”, Department of Mathematics and Computer Science, invited by prof. Un Cig Ji.
- **Besancon (France), 04/11/2009,** “The role of singletons conditions in exchangeable algebraic stochastic processes”, Department of Mathematics, invited by Prof. Uwe Franz.
- **Campobasso (Italy), 26/11/2007,** “Strict singleton condition and its role in exchangeability”, Department Se.G.e S., Universtiy of Molise, invited by Prof. Michael Skeide.
- **Wroclaw (Poland), 04/07/2006,** “New developments in interacting Fock spaces”, Department of Mathematics and Computer Science, invited by Prof. Marek Bozejko.
- **Roma (Italy), 26/07/2005,** “A constructive central limit theorem in Boolean Fock space”, Centro “V. Volterra”, University “Tor Vergata”, invited by Prof. Luigi Accardi.

OTHER TALKS

- **Bari (Italy), 25/03/2015,** Un’introduzione alla Probabilità Quantistica, “Colloqui Matematici”, Department of Mathematics.
- **Bari (Italy), 13/12/2004,** Un teorema di limite centrale quantistico, Department of Mathematics.
- **Greifswald (Germany), 26/04/2004,** Introduction to interacting Fock spaces I, Institut für Matematik und Informatik”, Ernst-Arndt-Moritz Universität .
- **Greifswald (Germany), 03/05/2004,** Introduction to interacting Fock spaces II, Institut für Matematik und Informatik”, Ernst-Arndt-Moritz Universität .
- **Greifswald (Germany), 10/05/2004,** Introduction to interacting Fock spaces III, Institut für Matematik und Informatik”, Ernst-Arndt-Moritz Universität .

ORGANIZING ACTIVITY

- Workshop “Some Aspects of Quantum Probability and Operator Algebras”, Bari, March 2016.
- Workshop “Some Aspects of Quantum Stochastic Processes and Operator Algebras”, Bari, October 2018.

PARTICIPATION TO RESEARCH PROJECTS

- Principal Investigator of the INDAM-GNAMPA project 2016 “Processi stocastici quantistici, loro simmetrie e applicazioni”.
- Principal Investigator of the INDAM-GNAMPA project 2015 “Processi stocastici scambiabili su alcune C^* -algebre e proprietà di Markov”.
- Member of the NDAM-GNAMPA project 2017 “Algebre di Operatori e Applicazioni”.
- Member of the national research group PRIN 2005 “Semigrupperi Markoviani ed Equazioni Differenziali Stocastiche Quantistiche”. Director prof. F. Fagnola.
- Member of the national research group PRIN 2007 “Probabilità Quantistica e applicazioni”. Director prof. L. Accardi.
- Member of the national group INDAM-GNAMPA.
- Member of the research group “Processi Stocastici e Applicazioni”, Università degli Studi di Bari. Director: prof. N. Cufaro Petroni.

VISITING POSITIONS

- Centro “V. Volterra”, Università di Roma “Tor Vergata”
- Institut für Matematik und Informatik, “Ernst-Arndt-Moritz Universität”, Greifswald (Germany)
- Department of Physics, University of Pretoria (South Africa)
- Department of Mathematics, University of Cheonju (Republic of Korea)
- Department of Mathematics and Informatics, Wrocław (Poland)

SERVICE

- Advisor of PhD student Maria Elena Griseta. Title of the thesis: “On some distributional symmetries for monotone and boolean stochastic processes and monotone convolution of the Wigner law”, to be defended in March 2019.
- Reviewer for MathScinet.
- Referee for Infinite Dimensional Analysis Quantum Probability and Related Topics, QP-PQ series, Banach Center Publications, Differential Equations and Applications, Reports on Mathematical Physics, Journal of Operator Theory, Mathematical Physics Analysis and Geometry.

PARTICIPATION TO CONFERENCES, WORKSHOPS, SCHOOLS

- “Scuola di Probabilità”, Department of Mathematics, University of Trento (Italy), 17/03/2003 - 22/03/2003, with the following courses:
 - Processi e Campi Stocastici, con Applicazioni (prof. Sergio Albeverio)
 - Introduzione al Moto Browniano ed al Calcolo di Malliavin (prof. Giuseppe Da Prato).
- “Convegno del Gruppo Nazionale di Ricerca in Probabilità Quantistica”, Molise University, Campobasso (Italy), 02- 03/05/2003.
- “Volterra-CIRM- Greifswald International Conference on Classical and Quantum Lévy Processes: Theory and Applications”, Levico Terme (Italy), 27/09-03/10/2003.
- “7-th Volterra-CIRM International School on Quantum Probability and Spectral Analysis on Large Graphs”, Levico Terme (Italy) 20-25/09/2004.
- “26-th International Conference Quantum Probability and Infinite Dimensional Analysis”, Levico Terme (Italy), 21-26/02/2005.
- “8-th Workshop: Noncommutative Harmonic Analysis with application to Probability”, Bedlewo (Poland), 28/08-03/09/2005.
- “International conference on Mathematical Analysis of random Phenomena”, Hammamet (Tunisia), 12-17/09/2005.
- “Quantum Probability and its applications”, Greifswald (Germany), 26–31/03/2006.
- “Quantum Probability and its applications”, Milano (Italy), 04 –06/05/2006.
- “9-th Workshop: Noncommutative Harmonic Analysis with application to Probability”, Bedlewo (Poland), 29/09-05/10/2006.
- “Perspectives in Probability Theory and its applications with science and society”, Levico Terme (Italy), 03-07/12/2006.
- “Quantum Probability and its applications”, Campobasso (Italy), 14-16/05/2007.
- “XVIII Congresso dell’Unione Matematica Italiana”, Bari (Italy), 24-29/09/2007.
- “International Conference on Stochastic Analysis and its applications”, Hammamet (Tunisia), 05-11/2007.
- “29-th International Conference Quantum Probability and Infinite Dimensional Analysis”, Hammamet (Tunisia), 13 – 18/10/2008.
- “3-th International Workshop on Quantum Probability and its Applications”, Campobasso, 13 – 15/02/2009.
- “13-th Workshop: Noncommutative Harmonic Analysis with application to Probability”, Bedlewo (Polonia), 12/07-16/07/2010.
- “32-th International Conference on Quantum Probability and its Applications”, Levico Terme (Italy), 29/05-04/06/2011.
- “7-th Jikji Workshop on Infinite Dimensional Analysis and Quantum Probability”, Chenjou (Korea), 23/07 – 27/07/2012.
- “Korea-Italy Symposium Infinite Dimensional Analysis and Quantum Probability”, Seoul (Korea), 30/07/2012.
- “Quantum Probabilistic Symmetries”, Aberystwyth (United Kingdom), 03/09 - 07/09/2012.
- “4-th International Workshop on Quantum Probability and its Applications”, Campobasso, 12 – 14/10/2012.
- “35th International Conference Quantum Probability and Related Topics, Satellite Conference of 2014 ICM”, Cheonju (Korea), 22.-26/08/2014.
- “II Workshop Quantum Markov Semigroups: decoherence and empirical estimates”, Genova, 29/06-01/07/2015.

TEACHING ACTIVITY

2019-2020

“Analisi dei dati per l’ingegneria del software”, Corso di Laurea in ITPS, Università di Bari.
 “Metodi Probabilistici in Finanza”, Corso di Laurea in Matematica, Università di Bari

2018-2019

“Analisi dei dati per l’ingegneria del software”, Corso di Laurea in ITPS, Università di Bari.
“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Università di Bari

2017-2018

“Analisi dei dati per l’ingegneria del software”, Corso di Laurea in ITPS, Università di Bari.
“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Università di Bari

2016-2017

“Introduzione alla Probabilità Quantistica”, Dottorato di ricerca in Informatica e Matematica.
“Analisi dei dati per l’ingegneria del software”, Corso di Laurea in ITPS, Università di Bari.
“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Università di Bari

2015-2016

“Analisi dei dati per l’ingegneria del software”, Corso di Laurea in ITPS, Università di Bari.
“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Università di Bari

2014-2015

“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Brindisi, Università di Bari.
“Probabilità e Statistica Matematica”, Corso di Laurea in Scienze Biologiche, Università di Bari (teaching assistant)

2013-2014

“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Brindisi, Università di Bari.
“Probabilità e Statistica Matematica”, Corso di Laurea in Scienze Biologiche, Università di Bari (teaching assistant)

2012-2013

“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Brindisi, Università di Bari.
“Probabilità e Statistica Matematica”, Corso di Laurea in Scienze Biologiche, Università di Bari (teaching assistant)

2011-2012

“Calcolo delle Probabilità e Statistica”, Corso di Laurea in Informatica, Brindisi, Università di Bari.
“Probabilità e Statistica Matematica”, Corso di Laurea in Scienze Biologiche, Università di Bari (teaching assistant)

2010-2011

“Probabilità e Statistica Matematica”, Corso di Laurea in Scienze Biologiche, Università di Bari (teaching assistant)

2009-2010

“Elementi di Probabilità e Statistica”, Corso di Laurea in Ingegneria per l’Ambiente e il Territorio, Politecnico di Bari.

2005-2006

Tutoring Service, Facoltà di Scienze, Università di Bari.

2004-2005

“Analisi dei dati per l’Ingegneria del Software”, Corso di Laurea in Informatica e tecnologia per la produzione del Software, Università di Bari (teaching assistant)

2001-2002

“Meccanica Razionale”, Corsi di Laurea in Ingegneria Meccanica e Ingegneria Gestionale, Politecnico di Bari.

Bari, 16/05/2020