# Curriculum Vitae

Iulian Cîmpean

*Simion Stoilow Institute of
Mathematics of the Romanian
Academy (IMAR)*

## Personal information

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| Name | Iulian Cîmpean |
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| Place/ Date of birth | Mangalia/ 19.10.1987 |
| Nationality | Romanian |

## Research Interests

Markov Processes, Potential Theory, Stochastic (Partial) Differential Equations, Ergodic Theory, Stochastic filtering, Monte Carlo methods

## Educational Background

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| 2016 | Doctoral Degree at "Simion Stoilow" Institute of Mathematics of the Romanian Academy, supervized by Prof. Lucian Beznea. Title of the thesis: "Stochastic analysis and potentials: ergodicity and quasimartingales of Markov processes". Doctoral Committee: CSI Dan Timotin (President), Prof. Lucian Beznea (Advisor), Acad. Viorel Barbu, Prof. Michael Roeckner, Prof. Martin Grothaus. |
| 2014-2015 | Junior Researcher at Simion Stoilow Institute of Mathematics of the Romanian Academy. |
| 2011 | Master Degree at Faculty of Mathematics and Computer Science, University of Bucharest, Specialization in Mathematical Analysis. Graduation Thesis: "Classical Potential Theory and Probabilities" supervized by Prof. Gheorghe Bucur. |
| 2009 | Bachelor Degree at Faculty of Mathematics and Computer Science, University of Bucharest, Specialization in Mathematics. Graduation Thesis:"Trigonometric Series" supervised by Prof. Gheorghe Bucur. |
| 2002-2006 | "Callatis" Theoretical High School, Mathematics and Informatics Profile, Mangalia, Romania. |

## Professional experience

2011-2012                    PhD student position at IMAR

2014-2015                    Junior researcher position at IMAR (research assistent)

2015-present                 Scientific researcher at IMAR


## Organiztion of conferences and workshops

1. XIV-eme colloque Franco-Roumain de mathématiques appliquées, August 2018, Bordeaux, France (section organizer)

2. Workshop for Young Researchers in Mathematics, May 2018, Bucharest, Romania.


## Talks at international conferences

1. Stochastic Partial Differential Equations and Related Fields, October 2016, Bielefeld, Germany; invited talk

2. XIII-eme colloque Franco-Roumaine de mathematique appliques, August 2016 Iasi, Romania; invited talk in the stochastic special session.

3. 4th Summer school on Levy processes, July 2016, Universite de Lille 1, France.

4. The 14th Romanian-Finnish Seminar, June 2016, Bucharest, Romania; invited talk.

5. Stochastic Analysis and Applications, July 2016, Brasov, Romania; invited talk.

6. Workshop for Young Researchers in Mathematics, 2015, '16, '17, '18; invited talk.

7. Colloque Franco-Roumain en Théorie des Probabilités 30 Octobre – Novembre 2015, Bucarest, Roumanie; invited talk.

8. Bielefeld Stochastic Summer School, August 2015, Bielefeld, Germany; invited talk.

9. The Eighth Congress of the Romanian Mathematicians, June – July, 2015, Iasi, Romania

10. Colloque franco-roumain de mathematiques appliquees, August 2014, Lyon, France

11. The 17th Conference of the Romanian Society of Probability and Statistics, 2014, 2018, Bucharest, Romania.


## Invited talks in scientific seminars

- December 2017    Talk at Bielefeld stochastic afternoon
- February 2015    Talk in the IGK Seminar organized at Bielefeld University
- July 2014    Talk in the IGK Seminar organized at Bielefeld University

- November 2013      Talk in the IGK Seminar organized at Bielefeld University

- 41 talks in the "Potential Theory Scientific Seminar" jointly organized by Simion Stoilow Institute of Mathematics of the Romanian Academy and Faculty of Mathematics and Computer Science, University of Bucharest:

2018      One talk on Representation formula of nonlinear second order Hamilton-Jacobi equations with Neumann boundary conditions with reflected BSDE

2017      Seven talks on S(P)DEs on Hilbert spaces, one talk on Quasimartingales and differences of excessive functions, and four talks on Branching processes associated with Neumann nonlinear semiflows

2016      Two talks on S(P)DEs on Hilbert spaces and one talk on Semimartingales on semi-Dirichlet spaces.

2015      One talk on "Stochastic differential equations with jump, and two talks on "A new approach to the existence of invariant measures for Markovian semigroups".

2014      Two talks on "Lower bound technique for existence of invariant measures for Markov-Feller semigroups", one talk on "A short proof of Doob-Meyer Theorem", and three talks on "Local times; Meyer-Tanaka Theorem".

2013      One talk on "Existence of invariant measures for positivity preserving operators" and two talks on "Stochastic Integral on Hilbert spaces"

2012      Four talks on "Gaussian measures on Hilbert spaces", four talks on "The Martingale Problem", and three talks on "The Bichteler-Dellacherie Theorem describing the space of semimartingales"

## Scholarships
Three months DAAD Scolarship, Bielefeld University, 2013. Supervisors: Prof. Lucian Beznea and Prof. Michael Roeckner

## Teaching activities
2017-2018 (first semester): seminars on Probability for 2nd year graduate students, at the Faculty of Mathematics and Informatics, University of Bucharest.

2016-2017 (first semester): seminars on Markov processes and Branching processes for $2^{nd}$ year master students, and seminars on PDEs for $3^{rd}$ year students, at the Faculty of Mathematics and Informatics, University of Bucharest.

2015-2016: seminars on PDEs for $3^{rd}$ year students, at the Faculty of Mathematics and Informatics, University of Bucharest.

During the first semester of the academic year 2014-2015 I organized (in colaboration with Prof. L. Beznea) a scientific seminar for students on "Monte Carlo methods for simulation of Markov processes", FMI & IMAR.

## Projects/Grants
2016 - : member in PN-III-P4-IDPCE-2016-0372
2015 - 2017: member in national grants for young researchers: PN-II-RU-TE-2014-4-0007 and PN-II-RU-TE-2014-4-0657.

2017: Co-supervisor (with L.Beznea) of two (master and doctoral) students inside a public-private partnership between RAI Software SRL and IMAR.

## Scientific visits abroad

Two weeks scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in February 2018.

Two weeks scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in December 2017.

One month scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in August-September 2015.

Three weeks scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in February 2015.

One week and a half scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in December 2014.

One week scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in July-August 2014.

One week scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, in January 2014.

One month scientific visit at Bielefeld University, invited by Prof. Dr. Michael Roeckner, supported from Collaborative Research Centre (SFB 701) , in November-December 2013

**Language skill**     English (advanced), French (basic).

**Computer skill**     Matlab, Latex, Office.

## Publications

1. L. Beznea, **I. Cimpean**, Quasimartingales of Markov processes, *Transactions of the AMS* (2018), to appear (IF: 1.426, AIS: 1.720)

2. L. Beznea, **I. Cimpean**, M. Roeckner, A new approach to the existence of invariant measures for Markovian semigroups, *Annales de l'Institut Henri Poincare (B) Probability and Statistics* (2018) to appear (IF: 1.72, AIS: 1.97)

3. L. Beznea, **I. Cimpean**, M. Roeckner, Irreducible recurrence, ergodicity, and extremality of invariant measures for $L^p$-resolvents, *in: Stochastic Processes and its applications* Stochastic Processes and their Applications 128 (2018), 1405-1437 (IF: 1.024, AIS: 1.62)

4. L. Beznea, **I. Cimpean**, Invariant, super and quasi-martingale functions of a Markov process, In: *Stochastic Partial Differential Equations and Related Fields (Springer Proceedings in Mathematics & Statistics 229),* Springer 2018, pp. 421-434.

5. L. Beznea, **I. Cimpean**, On Bochner-Kolmogorov theorem, In: *Seminaire de Probabilites XLVI (Lecture Notes in Mathematics, Vol. 2123), Springer 2014, pp. 61–70.* (2015 IF: 0.44)

6. **I. Cimpean** A remark on the proof of Cobzas-Mustata theorem concerning  norm preserving extension of convex Lipschitz functions, *Studia  Universitatis Babes-Bolyai Mathematica, Volume 57, Number 3, 325-329,* 2012.


## Work in progress

1. L. Beznea, **I. Cimpean**, M. Roeckner, On the extension of the starting points of a Markov process.
2. **I. Cimpean**, A. Grecu, The nonlinear Schrodinger equation with white noise dispersion on quantum graphs.
3. L. Bethencourt, **I. Cimpean**, From time change of Markov processes to yet another MCMC algorithm.
4. L. Beznea, **I. Cimpean**, On Doob-Meyer decomposition for Markov functionals on (generalized) Dirichlet spaces.


Date: 06.06.2018