

List of Publications - Lucian BEZNEA

Monographs:

- L. Beznea and N. Boboc: *Potential Theory and Right Processes*. (Mathematics and Its Applications, vol. **572**), Kluwer Academic Publishers/Springer 2004, 376 p.

Scientific Publications:

- L. Beznea, O. Lupaşcu-Stamate, and A. Teodor: Nonlinear Dirichlet problem of non-local branching processes. *J. Math. Anal. Appl.* **547** (2025) 129281, <https://doi.org/10.1016/j.jmaa.2025.129281>
- C. Beznea, L. Beznea, and M. Röckner: Nonlinear Dirichlet forms associated with quasiregular mappings. *Potential Analysis* (2024), DOI: 10.1007/s11118-024-10145-5
- L. Beznea and A. Teodor: Positive solutions to semilinear Dirichlet problems with general boundary data. *Analysis and Math. Physics* **14** (2024), DOI: 10.1007/s13324-024-00905-2
- L. Beznea, I. Cîmpean, and M. Röckner: Path continuity of Markov processes and locality of Kolmogorov operators. *Stochastics and Partial Differential Equations: Analysis and Computations* **12** (2024), 1100–1140. DOI: 10.1007/s40072-023-00304-x
- L. Beznea, I. Cîmpean, and M. Röckner: Strong Feller semigroups and Markov processes: A counterexample. *Stochastics and Partial Differential Equations: Analysis and Computations* **12** (2024), 968–983. DOI: 10.1007/s40072-023-00300-1
- L. Beznea and C.I. Vrabie: Continuous flows driving branching processes and their nonlinear evolution equations. *Adv. Nonlinear Anal.* **11** (2022), 921–936, <https://doi.org/10.1515/anona-2021-0228>
- L. Beznea, I.R. Ionescu, and O. Lupaşcu-Stamate: Random multiple-fragmentation and flow of particles on a surface. *J. of Evolution Equations* **21** (2021), 4773–4797, <https://doi.org/10.1007/s00028-021-00732-z>
- L. Beznea, M. Deaconu, and O. Lupaşcu-Stamate: Scaling property for fragmentation processes related to avalanches. In: *Applications of Mathematics and Informatics in Natural Sciences and Engineering* (Springer Proceedings in Mathematics & Statistics **334**), Springer 2020, pp. 37–45. https://doi.org/10.1007/978-3-030-56356-1_3
- L. Beznea, A.-M. Boeangiu, O. Lupaşcu-Stamate: h -transform of Doob and nonlocal branching processes. *Analysis and Mathematical Physics* **10** (2020), 47. <https://doi.org/10.1007/s13324-020-00390-3>
- L. Beznea, O. Lupaşcu-Stamate, and C.I. Vrabie: Stochastic solutions to evolution equations of non-local branching processes. *Nonlinear Analysis* **200** (2020) 112021. <https://doi.org/10.1016/j.na.2020.112021>.
- L. Beznea, I. Cîmpean, and M. Röckner: A natural extension of Markov processes and applications to singular SDEs. *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques* **56** (2020), 2480–2506.
- L. Beznea, M.N. Pascu, and N.R. Pascu: Brosamler's formula revisited and extensions. *Analysis and Mathematical Physics* **9** (2019), 747–760.
- L. Beznea, L. I. Ignat, and J. D. Rossi: From Gaussian estimates for nonlinear evolution equations to the long time behavior of branching processes. *Revista Matemática*

Iberoamericana **35** (2019), 823–846.

- L. Beznea, I. Cîmpean, and M. Röckner: A new approach to the existence of invariant measures for Markovian semigroups. *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques* **55** (2019), 977–1000.
- L. Beznea, M. Deaconu, and O. Lupaşcu-Stamate: Numerical approach for stochastic differential equations of fragmentation; application to avalanches. *Mathematics and Computers in Simulation* **160** (2019), 111–125.
- L. Beznea and I. Cîmpean: Quasimartingales associated to Markov processes. *Trans. Amer. Math. Soc.* **370** (2018), 7761–7787.
- L. Beznea and I. Cîmpean: 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.
- L. Beznea, I. Cîmpean, and M. Röckner: Irreducible recurrence, ergodicity, and extremality of invariant measures for resolvents. *Stochastic Processes and their Applications* **128** (2018), 1405–1437.
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- L. Beznea, M. Deaconu, and O. Lupaşcu: Stochastic equation of fragmentation and branching processes related to avalanches. *J. of Statistical Physics* **162** (2016), 824–841.
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- L. Beznea: The stochastic solution of the Dirichlet problem and controlled convergence. *Lecture Notes of Seminario Interdisciplinare di Matematica* **10** (2011), 115–136.
- L. Beznea and M. Röckner: From resolvents to càdlàg processes through compact excessive functions and applications to singular SDE on Hilbert spaces. *Bull. Sci. Math.*

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- L. Beznea, A. Cornea, and M. Röckner: Potential theory of infinite dimensional Lévy processes. *J. of Functional Analysis* **261** (2011), 2845–2876.
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Miscellaneous:

- L. Beznea: Greșeli în matematică. (in Romanian) *Didactica Matematică* **14** (2024), Nr. 1, 1–6.
- L. Beznea: Four decades ago. *Rev. Roumaine Math. Pures Appl.* **68** (2023), 7–8.
- L. Beznea and V. Brînzănescu: Marius Iosifescu, a leading figure of Romanian mathematics. *Annals of the University of Craiova-Mathematics and Computer Science Series* **43** (2016), 19–20.
- L. Beznea, N. Boboc, and Gh. Bucur: Aurel Cornea, the mathematician. *Rev. Roum. Math. Pures Appl.* **51** (2006), 541–551.

Edited Volumes:

- L. Beznea, G. Marinoschi, and D. Timotin (guest editors): Selected papers from The Tenth Congress of Romanian Mathematicians, Pitești, June 30th–July 5th, 2023. *Revue Roumaine Math. Pures Appl.* **69**, No. 3-4, 2024.
- L. Beznea, G. Marinoschi, and D. Timotin (guest editors): Selected papers from The Ninth Congress of Romanian Mathematicians, Galați, 2019. *Revue Roumaine Math. Pures Appl.* **66**, No. 3-4, 2021.
- L. Beznea, A. Gheondea, P. Hästö, Cezar Joița, and M. Vuorinen (guest editors): Proceedings of The 15th Romanian-Finnish Seminar and the 10th Conference on Function Spaces, Differential Operators, and Nonlinear Analysis, Turku (Finland), 2019. *Math. Reports* **23** (73), No. 1-2, 2021 (Special issue dedicated to the memory of Cabiria Andreian Cazacu).
- L. Beznea, I. Popescu, and M. Röckner (guest editors): Stochastic Analysis and Related Topics, Nicu Boboc Memorial Volume. *Revue Roumaine Math. Pures Appl.* **66**, No. 1, 2021.
- L. Beznea, A. Gheondea, P. Hästö, Cezar Joița, A. Rasila, and M. Vuorinen (guest editors): Trends in Modern Analysis. *Complex Anal. Oper. Theory* **11** (2017), no. 8, special issue
- L. Beznea, V. Brînzănescu, M. Iosifescu, and D. Timotin (editors): *Advances in Mathematics – Proceedings of the Eighth Congress of Romanian Mathematicians, Iași, 2015*. The Publishing House of the Romanian Academy, Bucharest, 2017.
- D. Bakry, L. Beznea, and M. Röckner (guest editors): *Revue Roumaine Math. Pures Appl.* **59**, No. 1, 2014 (Special issue dedicated to Professor Nicu Boboc on the occasion

of his 80th birthday).

- L. Beznea, A. Gheondea, P. Hästö, C. Joița, and M. Vuorinen (editors): *Selected papers from the International Conference on Complex Analysis and Related Topics, and the 13th Romanian-Finnish Seminar (26-30 June 2012)*, *Math. Reports* **15** (65), No. 4, 2013.
- L. Beznea, V. Brînzănescu, M. Iosifescu, G. Marinoschi, R. Purice, and D. Timotin (editors): *Advances in Mathematics – Invited Contributions to the Seventh Congress of Romanian Mathematicians, Brașov, 2011*. The Publishing House of the Romanian Academy, Bucharest, 2013.
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- L. Beznea, A. Gheondea, P. Hästö, and M. Vuorinen (guest editors): *Complex Anal. Oper. Theory* **5** (2011), no. 3. Special Issue: Trends in Modern Complex Analysis.
- L. Beznea, V. Brînzănescu, M. Iosifescu, S. Marcus, and D. Timotin (editors): *Proceedings of The Sixth Congress of Romanian Mathematicians, Bucharest, 2007. Volume 2, Plenary Reports*. Editura Academiei Romane, Bucharest, 2009.
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- D. Bakry, L. Beznea, N. Boboc, and M. Röckner (editors): *Potential Theory and Stochastics in Albac. Aurel Cornea Memorial Volume*. Theta Foundation Bucharest, 2009 (distributed by Amer. Math. Soc.).
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Ph. D. Thesis:

- *Teoria potențialului - clasificări în conuri de potențiale [Potential Theory - Classifications in Cones of Potentials]*, Universitatea din București, 1990, 105 p. Ph. D. supervisor: Nicu Boboc.