

# Mihnea Colţoiu

## Education:

- 1974-1979 student, Faculty of Mathematics, University of Bucharest
- 1985 Ph.D. at IMAR. Thesis: Convexity in Complex Analysis, advisor C. Bănică.

## Academic positions:

- 1979-1990 scientific researcher at IMAR
- 1990-1993 principal researcher II at IMAR
- 1993-present principal researcher I la IMAR

Since 1992 is the leader of Complex Analysis and Potential theory work-group at IMAR.

Since March 2006 is a corresponding member of the Romanian Academy, Mathematics Section.

## Awards:

- 1987 S. Stoilow Prize of the Romanian Academy
- 2000 ANSTI gold medal

M. Colţoiu works on problems in analytic pseudoconvexity, especially in Stein spaces,  $q$ -convexity and  $q$ -concavity. This type of problems have strong connections with algebraic topology, algebraic geometry, singularity theory. Several of his papers are cited in Encyclopaedia of Mathematical Sciences, 74, Springer Verlag 1994, in Developments of Mathematics 1950-2000 (Birkhäuser 2000), and several other monographs such as: X. Ma, G. Marinescu: Holomorphic Morse inequalities and Bergman kernels. Birkhuser, 2007, M. Klimek: Pluripotential theory. Oxford University Press, 1991, E. L. Stout: Polynomial convexity. Birkhäuser, 2007, F. Forstnerič: Stein manifolds and holomorphic mappings. The homotopy principle in complex analysis, Springer 2011. He developed the pseudoconvexity school in Romania and among his students were Nicolae Mihalache, Viorel Vâjăitu, Cezar Joiţa, Anca Popa, Natalia Gasiţoi, George Ioniţă.

**Among his most important results we mention:**

- In a paper that appeared in Nagoya J. Math. [24] he solved a problem that was posed by W. Barth (Invent. Math.1970) and was open for 27 years. Namely he proved that in  $\mathbb{P}^n$  the complement of a connected closed analytic set is cohomologically  $(n - 1)$ -complete. This problem is closely related to the following unsolved problem which in the 60's was already considered classic by A. Grothendieck: is it true that a connected closed curve in  $\mathbb{P}^3$  can be defined by two equations?
- He gave characterization of 1-convex spaces using strictly plurisubharmonic functions that are allowed to assume the value  $-\infty$  (in Math. Ann. 1985 [6]). In particular he solved a problem raised by Forneaess and Narasiman (Math. Ann. 1980), the most difficult part being actually the converse of their problem. This result, together with H. Grauert's characterization of the exceptional sets via the negativity of the normal bundle, is the finest criterion for studying the exceptional sets. It is also the key step in [42], paper in which is solved the Levi problem for Riemann domains over Stein spaces with isolated singularities, [19] and [49].
- The construction (in Math. Ann. 2009 [44]) of a new example of a 2-dimensional concave hole that cannot be filled. The previous example was constructed in the 60's by H. Grauert who used the theory of deformations of complex structures in his construction.
- The counterexample to the hyperintersection problem in Ann. Math. 1997 where it is constructed an example of an open subset  $D$  of a Stein space of dimension 3 having only one isolated normal singularity such that  $D$  is not Stein but its intersection with every hypersurface is Stein. This example suggests that the answers to the singular Levi problem (which is unsolved for more than a half of century) could be negative, however no example is known. The singular Levi problem can be stated as follows: is it true that a locally open Stein subset of a Stein space is Stein? The origins of this problem go back to 1910 but in this form, for Stein manifolds was stated for the first time by H. Cartan in 1953.
- The construction in Math. Ann. 1998 [27] of a counterexample to the Oka-Grauert principle for 1-convex spaces. In this paper it is constructed an example of a 1-convex complex space  $X$  and a holomorphic line bundle on  $X$  which is topologically trivial on  $X$ , is holomorphically trivial on a neighborhood of the exceptional set of  $X$ , however is not holomorphically trivial on the entire space  $X$ . This example answers a problem raised by G.Henkin and J.Leiterer who have tried to prove that such an example does not exist.
- The study of the homology Stein spaces and the relative homology of Runge pairs Runge in J. reine angew. Math. 1986 [8]. In this paper it is solved, for Stein spaces with arbitrary singularities, a problem posed by Andreotti and Narasimhan in Ann. Math. in the 60s. At that time they were able to prove it only for Stein spaces with isolated singularities. In the

same paper is solved a problem raised by R. Narasiman in *Invent. Math.* (independently H. Hamm proved it using Morse theory on manifolds with boundary).

- Results about the convexity type of complements of analytic subsets in Stein spaces [21] using topological methods (local Lefschetz type theorem of Hamm).

- In [37] is obtained one of the fundamental results in the classification of normal 2-dimensional singularities. It is shown that the universal covering space corresponding to the link is a Stein manifold if and only if the fundamental group of the link is Stein. This result is used in [44] to study the famous union problem for 2-dimensional Stein spaces.

- In [52] it is constructed a counterexample to the open immersion problem, i.e. an irreducible complex space  $Y$  such that the global holomorphic functions on  $Y$  separate points and give local coordinates, but  $Y$  cannot be realized as an open subset of a Stein space.

- In three papers ([49], [53], [55]) there have been obtained strong results concerning the coverings of 1-convex surfaces: it is possible that such covering  $X$  does not satisfy the disk property if it contains an infinite string of rational curves and for the structure sheaf  $\mathcal{O}_X$  of  $X$  it might happen that the first cohomology group  $H^1(X, \mathcal{O}_X)$  is not separated.

#### **Invited positions:**

- 1991: 2 weeks Univ. Wuppertal
- 1993: 6 weeks Univ. La Sapienza, Roma
- 1994: 1 month Univ. Wuppertal
- 1995: 2 months Univ. Wuppertal
- 1995: 1 month Univ. La Sapienza, Roma
- 1996: 1 month Univ. Potenza
- 1999: 6 weeks Univ. Wuppertal
- 2001: 2 weeks Humboldt University, Berlin
- 2001: 2 weeks Univ. Parma
- 2003: 8 weeks Univ. Wuppertal
- 2004: 1 month Univ. Lille 1
- 2004: 1 month Univ. La Sapienza, Roma
- 2004: 3 weeks Univ. Wuppertal
- 2005: 3 weeks Univ. Wuppertal
- 2005: 2 months Univ. Lille 1
- 2006: 3 months Univ. Lille 1
- 2006: 1 month Scuola Norm. Sup. Pisa
- 2007: 3 months Univ. Lille 1
- 2009: 1 month Univ. Lille 1

### Research fellowships:

- 1992-1993: Humboldt fellowship at Univ. Wuppertal
- 1994: 3 months DFG fellowship at Univ. Wuppertal and Humboldt University, Berlin
- 1995: 3 months DFG fellowship at Humboldt University, Berlin
- 1996: 3 months DFG fellowship at Humboldt University, Berlin
- 1998: 3 months DFG fellowship at Univ. Wuppertal
- 1999: 3 months DFG fellowship at Univ. Wuppertal
- 2000: 3 months DFG fellowship at Humboldt University, Berlin
- 2000: 3 weeks, Univ. Lille, CNRS - Romanian Academy echnages
- 2000-2001: 3 months chercheur haut niveau at Univ. Lille 1
- 2001: 3 months DFG fellowship at Humboldt University, Berlin
- 2002: 3 months DFG fellowship at Humboldt University, Berlin
- 2002: 5 months Humboldt fellowship at Univ Humboldt University, Berlin
- 2003: 2 months Humboldt fellowship at Humboldt University, Berlin
- 2005: 2 months, Stability Pact in Eastern Europe fellowship awarded by the Humboldt Foundation at Humboldt University, Berlin
- 2005: 4 months fellowship at Max Planck Inst. for Mathematics, Bonn
- 2007-2008: 3 months fellowship at Max Planck Inst. for Mathematics

**Other remarks:** M. Colţoiu is one of the founding members of L'Ecole Normale Supérieure de Bucarest. He is a referee for many international mathematical like: Math. Z, Bull. Soc. Math. France, Manuscripta math., C.R. Acad. Sci. France, Doc. Math., Arh. der Math., Ann. Sc. Norm. Sup. Pisa, Ark. Mat., Monatshefte für Math., J. reine angew. Math., Duke J. Math., Adv. in Math., etc...

### Publications:

1. M. Colţoiu: Cohomology with compact support for real-analytic spaces. *Bolletino UMI* **18-A** (1981), 291-297.
2. M. Colţoiu, N. Mihalache: A remark on the local Steiness problem. *Math. Ann.* **264** (1983), 333-334.
3. M. Colţoiu: The Levi problem for cohomology classes. *Ann. Inst. Fourier* **34** (1984), 141-154.
4. M. Colţoiu: A note on Levi's problem with discontinuous functions. *L'Ensgn. Math.* **31** (1985), 299-304.
5. M. Colţoiu: On the embedding of 1-convex manifolds with 1-dimensional exceptional set. *Comment. Math. Helv.* **60** (1985), 548-565.
6. M. Colţoiu, N. Mihalache: Strongly plurisubharmonic exhaustion functions on 1-convex spaces. *Math. Ann.* **270** (1985), 63-68.

7. M. Colţoiu: Convexity in complex analysis. *Stud. Cerc. Mat.* **38** (1986), 28-57.
8. M. Colţoiu, N. Mihalache: On the homology groups of Stein spaces and Runge pairs. *J. reine angew. Math.* **371** (1986), 216-220.
9. M. Colţoiu: Cohomology with compact support for Stein spaces. *J. reine angew. Math.* **380** (1987), 171-177.
10. M. Colţoiu: A remark on a theorem of Vo Van Tan. *Trans. AMS* **307** (1988), 857-859.
11. M. Colţoiu: Remarques sur les reunins croissantes d'ouverts de Stein. *C.R. Acad. Sci. Paris* **307** (1988), 91-94.
12. M. Colţoiu, N. Mihalache: Pseudoconvex domains on complex spaces with singularities. *Comp. Math.* **72** (1989), 241-247.
13. M. Colţoiu: Complete locally pluripolar sets. *J. reine angew. Math.* **412** (1990), 108-112.
14. M. Colţoiu: Recouvrements de Stein finis pour les espaces complexes. *C. R. Acad. Sci. Paris* **310** (1990), 397-399.
15. M. Colţoiu: Local hyperconvexity and local hyperconcavity. In: Aspects of Mathematics 1990. Complex analysis (vol. in honour of H. Grauert).
16. M. Colţoiu: Traces of Runge domains on analytic subsets. *Math. Ann.* **290** (1991), 545-548.
17. M. Colţoiu: Some open problems concerning Stein spaces. *Rev. Roumaine Math. Pures et Appl.* **36** (1991), 225-229.
18. M. Colţoiu: n-concavity of n-dimensional complex spaces. *Math. Z.* **210** (1992), 203-206.
19. M. Colţoiu: Coverings of 1-convex manifolds with 1-dimensional exceptional set. *Comment. Math. Helv.* **68** (1993), 469-479.
20. M. Colţoiu, A. Silva: Behnke-Stein theorem on complex spaces with singularities. *Nagoya J. Math.* **137** (1995), 153-160.
21. M. Colţoiu, K. Diederich: Convexity properties of analytic complements in Stein spaces. *J. of Fourier Anal. and Appl.*, Kahane special issue, **1** (1995), 183-194.
22. M. Colţoiu: A counterexample to the q-Levi problem in  $\mathbb{P}^n$ . *J. Math. Kyoto Univ.* **36** (1996), 385-387.
23. M. Colţoiu: Stein spaces. A survey. In: Seminari di geometria. Universita Bologna **9** (1996), 71-79.
24. M. Colţoiu: On Barth's conjecture concerning  $H^{n-1}(\mathbb{P}^n \setminus A, \mathcal{F})$ . *Nagoya Math. J.* **145** (1997), 99-123.

25. M. Colţoiu, K. Diederich: Open sets with Stein hypersurface sections in Stein spaces. *Ann. of Math.* **145** (1997), 175-182.
26. M. Colţoiu:  $q$ -convexity. A survey. In: Complex analysis and geometry XII, Pitman Research Notes in Math. vol. 366, 83-93.
27. M. Colţoiu: On the Oka-Grauert principle for 1-convex manifolds. *Math. Ann.* **310** (1998), 561-569.
28. M. Colţoiu, K. Diederich: Existence of 2-complete neighbourhoods for pseudoconvex domains. *J. of Geom. Anal.* **8** (1998), 21-25.
29. M. Colţoiu: On 1-convex manifolds with 1-dimensional exceptional set. *Rev. Roumaine Math. Pures et Appl.* **43** (1998), 97-104 (vol. dedicated to Prof. M. Jurchescu).
30. M. Colţoiu: On hulls of meromorphy and a class of Stein manifolds. *Ann. Sc. Norm. Sup. Pisa* **28** (1999), 405-412.
31. M. Colţoiu, K. Diederich: The Levi problem on Stein spaces and envelopes of holomorphy. *Math. Ann.* **316** (2000), 185-199.
32. M. Colţoiu, V. Vâjăitu: Locally trivial fibrations with 1-dimensional Stein fiber over  $q$ -complete spaces. *Nagoya J. Math.* **157** (2000), 1-13.
33. M. Colţoiu, K. Diederich: On the coverings of proper families of 1-dimensional complex spaces. *Mich. J. Math.* **47** (2000), 369-375.
34. M. Colţoiu: On the relative homology of  $q$ -Runge pairs. *Ark. for Math.* **38** (2000), 45-52.
35. M. Colţoiu, V. Vâjăitu: On the  $n$ -completeness of covering spaces with parameters. *Math. Z.* **237** (2001), 815-831.
36. M. Colţoiu, K. Diederich: A remark on non-Hausdorff cohomology groups of analytic complements. *Math. Ann.* **323** (2002), 486-489.
37. M. Colţoiu, M. Tibăr: Steiness of the universal covering of the complement of a 2-dimensional complex singularity. *Math. Ann.* **326** (2003), 95-104.
38. M. Colţoiu: Weakly pseudoconvex domains in 1-convex spaces and the hyperintersection problem. *Math. Z.* **245** (2003), 217-220.
39. M. Colţoiu: On  $q$ -Runge pairs. *Ann. Sc. Norm. Sup. Pisa (5)* **2** (2003), 231-235.
40. M. Colţoiu: On the separation of the cohomology groups of increasing unions of  $(1, 1)$  convex-concave manifolds. *J. Math. Kyoto Univ.* **45** (2005), 405-409.
41. M. Colţoiu: Some remarks about 1-convex manifolds on which all holomorphic line bundles are trivial, *Bull. Sci. Math.* **130** (2006), 337-340.
42. M. Colţoiu, K. Diederich: The Levi problem for Riemann domains over Stein spaces with isolated singularities, *Math. Ann.* **338** (2007), 283-289.

43. M. Colţoiu: Convexity properties of coverings of 1-convex manifolds, *Math. Z.* **256** (2007), 461-464.
44. M. Colţoiu, M. Tibăr: On the disk theorem, *Math. Ann.* **345** (2009), 175-183.
45. M. Colţoiu: The Levi problem on Stein spaces with singularities. A survey. *Rendiconti Mat. (Roma)* **29** (2009), 341-353.
46. M. Colţoiu, J. Ruppenthal: A d-bar theoretical proof of Hartogs' extension theorem on  $(n - 1)$ -complete complex spaces. *J. reine angew. Math.* **637** (2009), 41-47.
47. M. Colţoiu, C. Joiţa: The Levi problem in the blow-up. *Osaka J. Math.* **47** (2010), no. 4, 943-947.
48. G. Chiriacescu, M. Colţoiu, C. Joiţa: Analytic cohomology groups in top degrees of Zariski open sets in  $\mathbb{P}^n$ , *Math. Z.* **264** (2010), 671-677.
49. M. Colţoiu, C. Joiţa: The disk property of coverings of 1-convex surfaces, *Proceedings of the AMS* **140** (2012), no. 2, 575-580.
50. M. Colţoiu, N. Gaşitoi, C. Joiţa: On the image of an algebraic projective space. *C. R. Math. Acad. Sci. Paris* **350** (2012), no. 5-6, 239-241.
51. M. Colţoiu, C. Joiţa, M. Tibăr:  $q$ -convexity properties of the coverings of a link singularity. *Publ. Res. Inst. Math. Sci.* **48** (2012), no. 2, 409-417.
52. M. Colţoiu, C. Joiţa: On the open immersion problem. *Math. Ann.* **356** (2013), no. 3, 1203-1211.
53. M. Colţoiu, C. Joiţa: Convexity properties of coverings of 1-convex surfaces. *Math. Z.* **275** (2013), no. 3-4, 781-792.
54. M. Colţoiu, K. Diederich, C. Joiţa: On complex spaces with prescribed singularities. *Math. Res. Lett.* **20** (2013), no. 5, 857-868.
55. M. Colţoiu, C. Joiţa: On the separation of the cohomology of universal coverings of 1-convex surfaces. *Adv. Math.* **265** (2014), 362-370.
56. M. Colţoiu, C. Joiţa: On the parameterization of germs of two-dimensional singularities. *J. Geom. Anal.* **25** (2015), no. 4, 2427-2435.
57. M. Colţoiu, C. Joiţa: On Runge-curved domains in Stein spaces. To appear in *Annali della Scuola Normale Superiore di Pisa*.

# List of Publications - Lucian BEZNEA

## 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.

## Monographs:

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

## Edited Volumes:

- 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. Brinzanescu, 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.
- L. Beznea, V. Brinzanescu, M. Iosifescu, G. Marinoschi, and R. Purice (guest editors): *Proceedings of the Seventh Congress of Romanian Mathematicians*. (*Bulletin of the Transilvania University of Brașov* **5** (54) 2012, special issue) published by Transilvania University Press, Brașov and Publishing House of the Romanian Academy.
- 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. Brinzanescu, 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.
- L. Beznea, V. Brinzanescu, C. S. Calude, H. Ene, M. Iosifescu, S. Marcus, R. Purice, and D. Timotin (editors): *Proceedings of The Sixth Congress of Romanian Mathematicians, Bucharest, 2007. Volume 1, Scientific Contributions*. Editura Academiei Romane, Bucharest, 2009.
- 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.).
- D. Bakry, L. Beznea, Gh. Bucur, and M. Röckner (editors): *Current Trends in Potential Theory - Conference Proceedings, Bucharest, September 2002 and 2003*. Theta Foundation Bucharest, 2005 (distributed by Amer. Math. Soc.).
- L. Beznea and Gh. Bucur (editors): *Fifty Years of Modern Potential Theory in Bucharest – To the Anniversary of Nicu Boboc*. Editura Universității din București, 2004.

## Scientific Publications:

- V. Barbu and L. Beznea: Measure-valued branching processes associated with Neumann nonlinear semiflows. *J. Math. Anal. Appl.* **441** (2016), 167–182.
- 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.
- L. Beznea and O. Lupaşcu: Measure-valued discrete branching Markov processes. *Trans. Amer. Math. Soc.* **368** (2016), 5153–5176.
- L. Beznea, M.N. Pascu, and N.R. Pascu: An equivalence between the Dirichlet and the Neumann problem for the Laplace operator. *Potential Analysis* **44** (2016), 655–672.
- L. Beznea, M. Deaconu, and O. Lupaşcu: Branching processes for the fragmentation equation. *Stochastic Processes and their Applications* **125** (2015), 1861–1885.
- L. Beznea and M. Röckner: On the existence of the dual right Markov process and applications. *Potential Analysis* **42** (2015), 617–627.
- L. Beznea and I. Cîmpean: On Bochner-Kolmogorov Theorem. In: *Séminaire de Probabilités XLVI* (Lecture Notes in Mathematics, Vol. 2123), Springer 2014, pp. 61–70.
- L. Beznea and A.-G. Oprina: Bounded and  $L^p$ -weak solutions for nonlinear equations of measure-valued branching processes. *Nonlinear Analysis: Theory, Methods & Applications* **107** (2014), 34–46.
- L. Beznea, O. Lupaşcu, and A.-G. Oprina: A unifying construction for measure-valued continuous and discrete branching processes. In *Complex Analysis and Potential Theory, CRM Proceedings and Lecture Notes*, vol. **55**, Amer. Math. Soc., Providence, RI, 2012, pp. 47–59.
- 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.* **135** (2011), 844–870.
- L. Beznea, A. Cornea, and M. Röckner: Potential theory of infinite dimensional Lévy processes. *J. of Functional Analysis* **261** (2011), 2845–2876.
- L. Beznea and G. Trutnau: On the quasi-regularity of non-sectorial Dirichlet forms by processes having the same polar sets. *J. Math. Anal. Appl.* **384** (2011), 33–48.
- L. Beznea and A.-G. Oprina: Nonlinear PDEs and measure-valued branching type processes. *J. Math. Anal. Appl.* **384** (2011), 16–32.
- L. Beznea: Potential theoretical methods in the construction of measure-valued Markov branching processes. *J. European Math. Soc.* **13** (2011), 685–707.
- L. Beznea and M. Röckner: Applications of compact superharmonic functions: path regularity and tightness of capacities. *Complex Anal. and Operator Th.* **5** (2011), 731–741.
- L. Beznea and A.-G. Oprina: A class of subordination operators on a direct sum, *Math. Rep.* **12** (2010) 119–126.
- L. Beznea and N. Boboc: Measures not charging polar sets and Schrödinger equations in  $L^p$ . *Acta Mathematica Sinica, English Series* **26** (2010), 249–264.
- L. Beznea and N. Boboc: Feynman-Kac formula for left continuous additive functionals and extended Kato class measures. *Potential Analysis* **30** (2009), 139–164.
- L. Beznea, N. Boboc, and M. Röckner: Markov processes associated with  $L^p$ -resolvents,

applications to quasi-regular Dirichlet forms and stochastic differential equations *C. R. Acad. Sci. Paris Ser. I* **349** (2008), 323–328.

- L. Beznea, A. Cornea, and M. Röckner: Compact excessive functions and Markov processes: a general case and applications. In *RIMS Proceedings, Kokyuroku Bessatsu*, **B6**, pp. 31–37, Kyoto 2008.
- L. Beznea, N. Boboc, and Gh. Bucur: Aurel Cornea, the mathematician. *Rev. Roum. Math. Pures Appl.* **51** (2006), 541–551.
- L. Beznea, N. Boboc, and M. Röckner: Markov processes associated with  $L^p$ -resolvents and applications to stochastic differential equations on Hilbert space. *J. Evol. Eq.* **6** (2006), 745–772.
- L. Beznea, N. Boboc, and M. Röckner: Quasi-regular Dirichlet forms and  $L^p$ -resolvents on measurable spaces. *Potential Analysis* **25** (2006), 269–282.
- L. Beznea and N. Boboc: Weak duality and the dual process for a semi-Dirichlet form. *Infin. Dim. Analysis Quant. Probab.* **9** (2006), 27–46.
- L. Beznea and N. Boboc: On the tightness of capacities associated with sub-Markovian resolvents. *Bull. London Math. Soc.* **37** (2005), 1–9.
- L. Beznea and N. Boboc: On the strongly supermedian functions and kernels. *Potential Analysis* **22** (2005), 127–132.
- L. Beznea and N. Boboc: Fine densities for excessive measures and the Revuz correspondence. *Potential Analysis* **20** (2004), 61–83.
- L. Beznea and N. Boboc: Sub-Markovian resolvents under weak duality hypothesis. *Probability Theory and Related Fields* **126** (2003), 339–363.
- L. Beznea and N. Boboc: Smooth measures and strongly supermedian kernels generating sub-Markovian resolvents. *Potential Analysis* **15** (2001), 77–87.
- L. Beznea and N. Boboc: Strongly supermedian kernels and Revuz measures. *The Annals of Probability* **29** (2001), 418–436.
- L. Beznea and N. Boboc: Excessive kernels and Revuz measures. *Probability Theory and Related Fields* **117** (2000), 267–288.
- L. Beznea and N. Boboc: Feyel’s techniques on the supermedian functionals and strongly supermedian functions. *Potential Analysis* **10** (1999), 347–372.
- L. Beznea and N. Boboc: Quasi bounded excessive functions and Revuz measures. In *Analysis and Topology* (A volume dedicated to the memory of S. Stoilow), World Scientific 1998, 151–163.
- L. Beznea and N. Boboc: Noyaux fortement sumédians et mesures de Revuz. *C.R. Acad. Sci. Paris*, t. **327** (1998), Série I, 139–142.
- L. Beznea and L. Stoica: On the trajectories of stochastic evolution of interacting particle systems. *Revue Roumaine Math. Pures Appl.* **43** (1998), 521–531.
- L. Beznea and N. Boboc: Balayages on excessive measures, their representation and the quasi-Lindelöf property. *Potential Analysis* **7** (1997), 805–825.
- L. Beznea and N. Boboc: Condensation points for the fine topology. *Analysis* **17** (1997), 13–23.
- L. Beznea and N. Boboc: Kuran’s regularity criterion and localization in excessive structures. *Bull. London Math. Soc.* **28** (1996), 273–282.
- L. Beznea and N. Boboc: Représentations des balayages sur les mesures excessives et versions de la propriété de Lindelöf. *C.R. Acad. Sci. Paris*, t. **322**, Série I (1996), 1033–

1036.

- L. Beznea and N. Boboc: Once more about the semipolar sets and regular excessive functions. In *Potential Theory–ICPT 94*, Walter de Gruyter 1996, 255–274.
- L. Beznea and N. Boboc: Quasi-boundedness and subtractivity; applications to excessive measures. *Potential Analysis* **5** (1996), 467–485.
- L. Beznea and N. Boboc: On the integral representation for excessive measures. *Revue Roumaine Math. Pures Appl.* **40** (1995), 725–734.
- L. Beznea and N. Boboc: Absorbent, parabolic, elliptic and quasielliptic balayages in potential theory; relationships with the Green function. *Potential Analysis*. **4** (1995), 101–117.
- L. Beznea and L. Stoica: From diffusions to processes with jumps. In *Probability Theory and Mathematical Statistics*. Proceedings of the Sixth Vilnius Conference (1993). pp. 53–74, TEV/VSP, The Netherlands, 1994.
- L. Beznea and N. Boboc: Excessive functions and excessive measures: Hunt’s theorem on balayages, quasi-continuity. In *Class. and Modern Pot.Th. and Appl.*, NATO ASI Series C 430, Kluwer (1994), pp. 77–92.
- L. Beznea and N. Boboc: Duality and biduality for excessive measures. *Revue Roumaine Math. Pures Appl.* **39** (1994), 419–438.
- L. Beznea and N. Boboc: Absorbent, parabolic, elliptic and quasielliptic balayages in potential theory; II. *Revue Roumaine Math. Pures Appl.* **39** (1994), 197–210.
- L. Beznea and N. Boboc: *Absorbent, parabolic, elliptic and quasielliptic balayages in potential theory*. *Revue Roumaine Math. Pures Appl.* **38** (1993), 197–234.
- L. Beznea and N. Boboc: Balayages absorbants, paraboliques, elliptiques et quasi elliptiques dans la théorie du potentiel; relation avec la fonction de Green. *C.R. Acad. Sci. Paris*, t.**315**, Série I (1992), 685–688.
- L. Beznea: Potential type subordinations. *Revue Roumaine Math. Pures Appl.* **36** (1991), 115–135.
- L. Beznea: Ultrapotentials and positive eigenfunctions for an absolutely continuous resolvent of kernels. *Nagoya Math. J.* **112** (1988), 125–142.
- L. Beznea: Parabolic and elliptic parts in standard H-cones of functions. *Revue Roumaine Math. Pures Appl.* **32** (1987), 875–880.
- L. Beznea: Absolutely continuous potential kernels on homogeneous spaces. *St. Cercet. Mat.* **38** (1986), 264–283.
- L. Beznea: Order completion condition for the cone of increasing continuous functions on an ordered compact space. *Revue Roumaine Math. Pures Appl.* **31** (1986), 183–187.
- L. Beznea: A topological characterization of complete distributive lattices. *Discrete Math.* **49** (1984), 117–120.

# Cezar Joița

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## DOMENII de CERCETARE:

- Funcții de mai multe variabile complexe
- Geometrie Complexă

## EDUCAȚIE:

- 1995 - 2000, Program Doctoral în Matematică la SUNY at Buffalo, U.S.A. Doctorat obținut în iunie 2000. Conducător de teză: Mohan Ramachandran.
- 1988 - 1993, Facultatea de Matematică, Universitatea din București, Conducător al lucrării de licență: Martin Jurchescu.

## POZIȚII ACADEMICE:

- 2004 - prezent: Cercetător la Institutul de Matematica "Simion Stoilow" al Academiei Române.
- 2002 - 2004: Everett Pitcher Visiting Professor la Lehigh University, S.U.A.
- 2000 - 2002: Postdoctoral Fellow la The University of Western Ontario, Canada.
- 1995 - 2000: Teaching Assistant, SUNY at Buffalo, U.S.A.
- 1993 - 1995: Cercetător la Institutul de Matematica "Simion Stoilow" al Academiei Române.

### **ALTE ATRIBUȚII:**

- Secretar Științific, Institutul de Matematica "Simion Stoilow" al Academiei Române, 2012 - 2016.
- Membru CNCS, 2011 - 2013.

### **PREMII:**

- Premiul "Simion Stoilow" al Academiei Române.

### **PREZENTĂRI la CONFERINȚE și SEMINARII:**

- "Bifurcation locus of polynomial maps", Geometric Function Theory in Higher Dimension, Cortona, 2016.
- "On the parametrization of germs of two-dimensional singularities", Babes-Bolyai University, Cluj-Napoca, 2016
- "On coverings of 1-convex surfaces" - l'Institut de Mathématiques de Jussieu, Paris, 2015.
- "Covering complex spaces by finitely many connected Stein sets" - Université Lille 1, 2015.
- "Finite coverings of complex spaces by connected Stein open sets", The Eighth Congress of Romanian Mathematicians, Iasi, 2015.
- "Analytic convexity - a short introduction", Summer School in Cologne: Topics in Complex Analysis, Cologne, 2014.
- "Complex spaces with prescribed singular locus" , Gheorghe Bucur 75 Conference, Bucharest, 2014.
- "On the parametrization of germs of two-dimensional singularities", Université Lille, 1 2013.
- "Stein spaces and open imersions in Stein spaces, University of Bucharest, 2013
- "Coverings of a link singularity and  $q$ -convexity", Université Lille 1, 2011.
- "On coverings of 1-convex surfaces", Université Lille 1, 2011.
- "On the disk property of coverings of 1-convex surfaces", The Seventh Congress of Romanian Mathematicians, Brasov, 2011.
- "Analytic convexity via lower dimensional objects", The 10th International Workshop on Differential Geometry and its Applications Ovidius University, Constanta, 2011.
- "Coverings of 1-convex manifolds", Constantin Bănică Memorial Conference, Bucharest, 2011.

- "Cohomological  $q$ -convexity in top degrees for Zariski open sets in  $\mathbb{P}^n$ ", Journée "Lille-Bucuresti", Lille, 2010.
- "Analytic convexity in complex manifolds", The 18th conference on applied and industrial mathematics, Iași, 2010.
- "Generically strongly  $q$ -convex complex spaces", IMAR 60 International Conference, Bucharest, 2009.
- "Extending Kähler metrics from subvarieties", The 11th Romanian - Finnish Seminar, Alba-Iulia, 2008.
- "Generically strongly  $q$ -convex complex spaces" - Humboldt Universität zu Berlin, Complex Analysis Seminar 2006
- "Polynomially convex domains are not characterized by intersections with complex lines" Journée d'Analyse Géométrique "Bucuresti-Lille" - Université Lille 1, 2006.
- "On a problem of Bremermann concerning Runge domains" - The Xth Romanian-Finish Seminar, Cluj-Napoca 2005
- "On a problem of Bremermann concerning Runge domains" - Humboldt Universität zu Berlin, Complex Analysis Seminar 2005
- "Analytic Convexity" - IMAR Monthly lectures, 2004.
- "A few observations regarding Runge pairs" - Syracuse University, 2004.
- "On uniformly Runge domains in a Stein manifold" - Lehigh University Geometry/Topology Conference, 2003.
- "An abstract notion of convexity" - Auburn University at Montgomery, 2003.
- "Different Notions of Convexity and Concavity in Complex Analysis" - Lehigh University, 2002.
- "The Third Cauchy-Fantappie formula of Leray" - University of Western Ontario, 2002.
- "The Third Cauchy-Fantappie formula of Leray" - SUNY at Stony Brook, 2002.
- "Convexity and Concavity in Complex Analysis" - Wichita State University, 2002
- "Traces of Convex Domains" - Complex Analysis Conference, University of Michigan, Ann Arbor, 2001
- "On Locally Hyperconvex Stein Domains" - Lehigh University Geometry/Topology Conference, 2001.
- "On Runge domains in  $\mathbb{C}^n$ " - University of Western Ontario, 2000.
- "On the  $n$ -concavity of Covering Spaces with Parameters" - AMS Meeting, Washington DC, 2000.

- “On the n-concavity of Covering Spaces with Parameters”- SUNY at Buffalo, 1999.
- “On the Projection of Runge domains” - Special Session on Complex Geometry, AMS Regional Meeting, Buffalo, 1998
- “Analytic Convexity and Vanishing Theorems”- SUNY at Buffalo, 1997.

## PUBLICAȚII:

1. Cezar Joița: On the projection of pseudoconvex domains. *Mathematische Zeitschrift* **233** (2000), no. 4, 625-631.
2. Cezar Joița: On the n-concavity of covering spaces with parameters. *Mathematische Zeitschrift* **245** (2003), no. 2, 221-231.
3. Cezar Joița: Traces of Convex Domains. *Proceedings of the AMS* **131** (2003) no. 9, 2721-2725.
4. Cezar Joița, Finnur Lárússon: The third Cauchy-Fantappie formula of Leray. *Michigan Mathematical Journal* **51** (2003), no. 2, 339-350.
5. Cezar Joița, Pantelimon Stanică: Inequalities related to rearrangements of powers and symmetric polynomials. *JIPAM. J. Inequal. Pure Appl. Math.* **4** (2003), no. 2.
6. Cătălin Georgescu, Cezar Joița, William Nowell, Pantelimon Stanică: Chaotic dynamics of a rational map. *Discrete and Continuous Dynamical Systems, Series A* **12** (2005), no.2, 363-375.
7. Cezar Joița: On a problem of Bremermann concerning Runge domains. *Mathematische Annalen* **337** (2007), no. 2, 395–400.
8. Cezar Joița: On Uniformly Runge Domains. *Journal of Mathematics of Kyoto University* **47** (2007), no. 4, 875–880.
9. Cezar Joița, Daniela Joița: Minors in Weighted Graphs. *The Bulletin of the Australian Mathematical Society* **77** (2008), no. 3, 455–464.
10. Gabriel Chiriacescu, Mihnea Colțoiu, Cezar Joița: Analytic cohomology groups in top degrees of Zariski open sets in  $\mathbb{P}^n$ . *Mathematische Zeitschrift* **264** (2010), no. 3, 671–677.
11. Cezar Joița: Prescribing Projections of Runge Domains in Stein Spaces. *Mathematical Reports.* **12** (2010), no. 2, 137–143.
12. Mihnea Colțoiu, Cezar Joița: The Levi problem in the blow-up. *Osaka Journal of Mathematics.* **47** (2010), no. 4, 943–947.
13. Mihnea Colțoiu, Cezar Joița: The disk property of coverings of 1-convex surfaces. *Proceedings of the AMS.* **140** (2012), no. 2, 575–580.

14. Cezar Joița: The disk property. A short survey. *An. Stiint. Univ. "Ovidius" Constanta Ser. Mat.* **20** (2012), no. 2, 35–42.
15. Mihnea Colțoiu, Cezar Joița, Mihai Tibăr:  $q$ -convexity properties of the coverings of a link singularity. *Publications of the Research Institute for Mathematical Sciences* **48** (2012), no. 2, 409–417.
16. Mihnea Colțoiu, Natalia Gașoi, Cezar Joița: On the image of an algebraic projective space. *Comptes Rendus Mathematique* **350** (2012), no. 5-6, 239–241.
17. Mihnea Colțoiu, Cezar Joița: On the open immersion problem. *Mathematische Annalen* **356** (2013), no.3, 1203 – 1211.
18. Mihnea Colțoiu, Cezar Joița: Convexity properties of coverings of 1-convex surfaces. *Mathematische Zeitschrift* **275** (2013), no. 3-4, 781 – 792.
19. Mihnea Colțoiu, Cezar Joița, Klas Diederich: On complex spaces with prescribed singularities. *Mathematical Research Letters* **20** (2013), no. 5, 857–868.
20. Mihnea Colțoiu, Cezar Joița: On the separation of the cohomology of universal coverings of 1-convex surfaces. *Advances in Mathematics*, **265** (2014), 362–370.
21. Mihnea Colțoiu, Cezar Joița: On the parametrization of germs of two-dimensional singularities. *The Journal of Geometric Analysis* **25** (2015), 2427–2435.
22. Mihnea Colțoiu, Cezar Joița: On Runge-curved domains in Stein spaces. To appear in *Annali della Scuola Normale Superiore di Pisa*.
23. Cezar Joița, Mihai Tibăr: Bifurcation values of families of real curves. To appear in *Proceedings of the Royal Society of Edinburgh, Section: A Mathematics*.

# GEORGE MARINESCU

## LEBENS LAUF

### Persönliche Daten

22. Juni 1965 geboren in Braşov, Rumänien  
Familienstand verheiratet seit 1993, zwei Kinder

### Wissenschaftlicher Werdegang

1984–1988 Studium der Mathematik an der Universität Bukarest;  
Diplom in Mathematik im Juni 1988

Juni 1989 Master-Degree in Operatoretheorie an der Universität Bukarest;  
republikanisches Stipendium

1989–1990 Lehrer am Informatikkolleg in Braşov

seit 1990 Wissenschaftlicher Mitarbeiter am Institut für Mathematik der Rumäni-  
schen Akademie; “Senior Researcher” seit 1995

1991–1994 Doktorandenstipendium der französischen Regierung an der Universität  
Paris VII; Betreuer: Prof. Louis Boutet de Monvel

Juni 1994 Promotion an der Universität Paris VII

1994–1995 Assistent an der Universität Bukarest

1995–1997 Lektor an der Universität Bukarest

1997–1998 NATO/Royal Society Postdoktorandenstipendium, Univ. of Edinburgh

1998 Postdoktorandenstipendium der französischen Regierung, Institut de Ma-  
thématiques de Jussieu

1999–2000 Postdoktorandenstipendium des Graduiertenkollegs “Geometrie und Nicht-  
lineare Analysis”, Humboldt-Universität zu Berlin

2000–2005 Wissenschaftlicher Mitarbeiter am Institut für Mathematik der Hum-  
boldt-Universität zu Berlin; Mitglied im SFB 288 “Differential Geometry  
and Quantum Physics” (bis 2003).

Juli 2005 Habilitation in Mathematik an der Humboldt-Universität

2005–2006 Wissenschaftlicher Mitarbeiter am Fachbereich Mathematik der Goethe-  
Universität, Frankfurt am Main

seit Oktober 2006 Universitätsprofessor (W2) am Mathematischen Institut der Universität  
zu Köln

## Weitere wichtige Forschungsaufenthalte

August-Sept. 2007	Gastwissenschaftler an der École Polytechnique Paris
Februar-März 2007	Gastwissenschaftler an der École Polytechnique Paris
Februar 2005	Gastwissenschaftler an der Johns Hopkins University, Baltimore
Sept.-Okt. 2003	Gastprofessor an der University of Toronto
März 2003	Gastprofessor an der Université Paris-Sud, Orsay
Juli 2003	Research in pairs, Mathematisches Institut Oberwolfach

## Ausgewählte Konferenzvorträge

April 2007	International Conference on Geometry and Analysis on Manifolds, Chern Institute, Nankai, Tianjin (Org. Xianzhe Dai, Xiaonan Ma, Weiping Zhang)
Juni 2006	Dynamique et Géométrie Complexes, CIRM, Luminy (Org. T.-C. Dinh, J. Duval)
Dezember 2005	Hayama Symposium on Complex Analysis in Several Variables, Hayama, Japan (Org. J. Noguchi, A. Kodama, S. Takayama, A. Fujiki, T. Ohsawa)
September 2005	Workshop on Quantization, Complex and Harmonic Analysis, ESI, Wien
Juni 2005	Conference in Complex Analysis and Geometry, CIRM, Luminy
Juni 2005	2 <sup>nd</sup> Joint Meeting of the AMS, DMV, ÖMG, Mainz
November 2004	Recent developments in spectral geometry, Blossin (Org. C. Bär, Th. Friedrich, D. Schüth)
Juli 2004	Géométrie des variétés complexes, CIRM, Luminy (Org. G. Dloussky, K. Oeljeklaus, A. Teleman)
März 2004	Geometric Analysis, CIRM, Luminy (Org. M. Lesch, M. Pflaum)
Aug.-Sept. 2004	Workshop on Analysis and Resolution of Singularities, Université de Montreal (Org. E. Bierstone, R. Melrose, P. Milman, D.H. Phong)
April 2003	Topics in real and complex geometry, Centro Ennio de Giorgi, Pisa
September 2002	Tagung "Fundamental Groups in Geometry", Oberwolfach
Juli 2002	Complex and Algebraic Geometry, Wuppertal Midterm Conference of the European Network "Complex and Algebraic Geometry"
Oktober 2000	Complex and Algebraic Geometry, Cortona Midterm Conference of the European Network "Complex and Algebraic Geometry"
Juni 2000	Euresco Conference "Mathematical Analysis" (PDE and Applications to Geometry and Physics), Castelvechchio Pascoli (Org. J. Eichhorn, Th. Friedrich, W. Müller, M. Shubin, S. Stolz)
Juli 1997	Conference on Complex Analysis and Applications in the Banach Center in Warsaw (Org. E. Chirka, A.-M. Chollet, H. Jacobowitz, J. Siciak, R. Dwilewicz)

Juli-Aug. 1997      Complex methods in Differential Geometry, Edinburgh (Org. R. Bryant,  
M. Eastwood, C. Lebrun, T. Bailey, M. Singer)

### **Ausgewählte Seminarvorträge**

2007                      Séminaire Arthur L. Besse, École Polytechnique Paris  
2007                      Kolloquium des Fachbereichs Mathematik und Informatik, Philipps-Universität  
Marburg  
2006                      Séminaire de Géométrie et Singularités, Université de Provence, Marseille  
2005                      Kolloquium des Mathematischen Institutes, Universität zu Köln  
1993–2006                Séminaire Lelong-Dolbeault-Skoda-Henkin-Trépreau, Université Paris VI  
(Februar 1993, März 1998, November 2002, März 2005, März 2006)  
2003, 2005                Séminaire Analyse et Géométrie, Université Paris Sud  
2005                      Analysis Seminar, Johns Hopkins University  
2004, 2006                Forschungsseminar “Globale Analysis” (W. Müller), Universität Bonn  
2001                      Séminaire de géométrie analytique et algébrique, Inst. Fourier, Grenoble  
2001                      AG Komplexe Analysis Bonn–Wuppertal (I. Lieb, K. Diederich)

### **Mitgliedschaften**

2007–2011                SFB TR12 “Symmetries and Universality in Mesoscopic Systems”  
2006–2012                Graduiertenkolleg 1269 “Globale Strukturen in Geometrie und Analysis”  
2000–2003                SFB 288 “Differential Geometry and Quantum Physics”  
2000–2002                EU Netzwerk TMR “Komplexe Analysis und Geometrie”  
2000–2004                EU Netzwerk TMR “Geometrische Analysis”

### **Organisation**

2007                      Minisymposium “Global Analysis”, Gemeinsame Jahrestagung der DMV  
und GDM, Berlin, 2007

Köln, den 8.10.2007

# CURRICULUM VITAE

CONSTANTIN COSTARA

---

## DATE PERSONALE

Locul nașterii: Ceamurlia de Sus, Jud. Tulcea, România

Data nașterii: 5 august 1977

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## CONTACT

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## STUDII EFECTUATE

08/2010–07/2012 Studii post-doctorale, în cadrul Facultății de Matematică și Informatică a Universității Ovidius din Constanța, Grant CNCSIS.

09/2006–09/2007 Studii post-doctorale, în cadrul Departamentului de Matematică și Statistică al Universității Laval din Québec, Canada.

01/2001–06/2004 Doctorat, în cadrul Departamentului de Matematică și Statistică al Universității Laval din Québec, Canada.

Titlul tezei: *Problema Nevanlinna–Pick spectrală*

Director teză: Prof. Thomas Ransford

09/2000–12/2000 Masterat, în cadrul Departamentului de Matematică și Statistică al Universității Laval din Québec, Canada, cu trecere accelerată la doctorat

10/1999–06/2000 Studii Aprofundate, Specializarea Analiză Neliniară, în cadrul Facultății de Matematică și Informatică a Universității Ovidius din Constanța

Director lucrare dizertație: Prof. Dumitru Popa

10/1995–06/1999 Facultatea de Matematică și Informatică, secția Matematică–Informatică, a Universității Ovidius din Constanța

09/1991–06/1995 Colegiul Național Mircea cel Bătrân din localitatea Constanța

09/1983–06/1991 Școala generală cu clasele I–VIII din localitatea Ceamurlia de Sus, Jud. Tulcea

---

## BURSE OBȚINUTE

2006-2007 Bursă de studii post-doctorale, Universitatea Laval.

2002-2004 Bursă Fundației Universității Laval.

2000-2004 Bursă de exceptare a taxelor de școlarizare, Universitatea Laval.

2000-2004	Bursă de cercetare în matematică pură, Universitatea Laval.
2000-2003	Bursa Institutului de Științe Matematice, Québec.
1997-1998	Bursă de performanță, Universitatea Ovidius din Constanța.

---

#### EXPERIENȚĂ DE MUNCĂ

- 10/2012–în curs Conferențiar Universitar în cadrul Departamentului de Matematică al Facultății de Matematică și Informatică a Universității Ovidius din Constanța
- 09/2007–09/2012 Lector Universitar în cadrul Catedrei de Matematică a Facultății de Matematică și Informatică a Universității Ovidius din Constanța  
Cursuri predate: Analiză I, II și III (curs+seminar), Analiză Funcțională și Teoria Aproximării (curs+seminar), Analiză pe varietăți (curs+seminar), Capitoare speciale de analiză pentru pregătirea profesorilor (curs+seminar).
- 09/2006–08/2007 Asistent de cercetare în cadrul Departamentului de Matematică și Statistică al Universității Laval din Québec, Canada
- 10/2005–08/2006 Lector Universitar în cadrul Catedrei de Matematică a Facultății de Matematică și Informatică a Universității Ovidius din Constanța
- 10/2004–09/2005 Asistent Universitar în cadrul Catedrei de Analiză și Mecanică a Facultății de Matematică și Informatică a Universității Ovidius din Constanța  
Cursuri predate: Analiză I (curs+seminar), Functional Analysis (curs în limba engleză (curs+seminar), Analiză II (curs+seminar).
- 09/2000–06/2004 Asistent de cercetare în cadrul Departamentului de Matematică și Statistică al Universității Laval din Québec, Canada  
Cursuri predate: Matematici pentru ingineri I și Matematici pentru ingineri II.
- 10/1999–09/2000 Preparator Universitar în cadrul Catedrei de Analiză și Mecanică a Facultății de Matematică și Informatică a Universității Ovidius din Constanța  
Seminarii predate: Analiză Funcțională

---

#### GRANTURI OBTINUTE

- Teorie spectrala pentru operatori liniari și analiza complexa*, cod PN-II-RU-TE-2012-3-0042, Proiecte de cercetare pentru stimularea constituirii de tinere echipe de cercetare independente  
Director proiect: Constantin Costara  
Durata proiect: Mai 2013 - Sept. 2016
- Probleme de conservare de tip spectral în teoria algebrelor Banach*, cod CNCSIS PN-II-RU PD, Proiecte de cercetare postdoctorala  
Director proiect: Constantin Costara  
Durata proiect: August 2010 - August 2012

---

#### CĂRȚI PUBLICATE

- Costara, C.; Popa, D. *Exercises in functional analysis*. Kluwer Texts in the Mathematical Sciences, 26. Kluwer Academic Publishers Group, Dordrecht, 2003.

2. Costara, C.; Popa, D. *Berkeley Preliminary Exams: culegere de probleme*. Editura ExPonto Constanța, 2000.

---

ARTICOLE PUBLICATE ÎN REVISTE COTATE ISI:

1. Costara, C., *Reproducing kernels for Dirichlet spaces associated to finitely supported measures*, Online First in Complex Analysis and Operator Theory, Noiembrie 2015.  
<http://link.springer.com/journal/11785/onlineFirst/page/1>
  2. Costara, C., *Continuous maps preserving local spectral properties*, Linear Algebra Appl., Vol. 492 (2016), p. 1–8.
  3. Costara, C., *Holomorphic maps preserving parts of the local spectrum*, Archiv der Mathematik, Vol. 105 (2) (2015), p. 153–162.
  4. Costara, C., *Automatic continuity for linear surjective maps compressing the point spectrum*, Operators and Matrices, Vol. 9 (2) (2015), p. 401–405.
  5. Costara, C., *Local spectrum linear preservers at non-fixed vectors*, Linear Algebra Appl. Vol. 457 (2014), p. 154–161.
  6. Costara, C., *Unital invertibility-preserving linear maps into matrix spaces*, J. Math. Anal. Appl. Vol. 412 (2014), p. 99–102.
  7. Costara, C., *Surjective maps on matrices preserving the local spectral radius distance*, Linear Multilinear Algebra, Vol. 62 (2014), p. 988–994.
  8. Costara, C., Ransford, T., *Which de Branges-Rovnyak spaces are Dirichlet spaces (and vice versa)?*, Journal of Functional Analysis, Vol. 265 Nr. 12 (2013), p. 3204–3218.
  9. Costara, C., *On the automorphisms of the spectral unit ball*, Proc. Amer. Math. Soc., Vol. 140, Nr. 12 (2012), p. 4181–4186.
  10. Costara, C., *Linear Maps Preserving Operators of Local Spectral Radius Zero*, Int. Eq. Oper. Theory, Vol. 73, Issue 1 (2012), p. 7–16.
  11. Costara, C., *Maps on matrices that preserve the spectrum*, Linear Algebra Appl., Vol. 435, Issue 11 (2011), p. 2674–2680.
  12. Costara, C., *Automatic continuity for linear surjective mappings decreasing the local spectral radius at some fixed vector*, Archiv der Mathematik, Vol. 95, Issue 6 (2011), p. 567–573.
  13. Costara, C.; D. Repovš, *Nonlinear mappings preserving at least one eigenvalue*, Studia Mathematica Vol. 200 Nr. 1 (2010), p. 79–89.
  14. Costara, C.; D. Repovš, *Spectral isometries onto algebras having a separating family of finite-dimensional irreducible representations*, Journal of Mathematical Analysis and Applications Vol. 365 Nr. 2 (2010), p. 605–608.
  15. Costara, C. *Commuting holomorphic mappings on the spectral unit ball*, Bull. London Math. Soc. 41 (2009), 57–62.
  16. Costara, C. *A Cartan type theorem for finite-dimensional algebras*, Linear Algebra Appl., 426 (2007), 299–304.
  17. Costara, C.; Ransford, T.J. *On local irreducibility of the spectrum*, Proc. Amer. Math. Soc. 135 (2007), 2779–2784.
  18. Costara, C. *On the spectral Nevanlinna–Pick problem*, Studia Mathematica Vol. 170 (2005), 23–55.
  19. Costara, C. *On  $2 \times 2$  spectral Nevanlinna–Pick problem*, Journal of the London Math. Society, Vol. 71 (2005), 684–702.
  20. Costara, C. *The symmetrized bidisc and Lempert’s theorem*, Bull. London Math. Soc. 36 (2004), no. 5, 656–662.
-

## PARTICIPĂRI LA CONFERINȚE

1. The first Edition of the Romanian-Turkish Mathematics Colloquium, Constanta, Octombrie 2015  
Titlul prezentării: Automatic continuity problems in spectral theory
2. The Eighth Congress of Romanian Mathematicians, Iasi, Iunie-Iulie 2015  
Titlul prezentării: Complex analysis and spectral isometries
3. Workshop for Young Researchers in Mathematics 2015, Constanta, Mai 2015  
Titlul prezentării: Reproducing kernels in Dirichlet spaces
4. Young Functional Analysts' Meeting 2014, Debrecen, Aprilie 2014  
Titlul prezentării: Spectral isometries on particular cases of Banach algebras
5. Seminarul de teoria operatorilor, IMAR, Bucuresti, Octombrie 2013  
Titlul prezentării: Probleme de conservare de tip spectral
6. Joint International Meeting of the AMS and the Romanian Mathematical Society, Univ. 1 Decembrie 1918 Alba Iulia, 27-30 iunie 2013.  
Titlul prezentării: De Branges–Rovnyak spaces and Dirichlet spaces
7. Workshop on PDE, IMAR, Bucuresti, 25–26 Noiembrie 2010  
Titlul prezentării: On spectral preserver problems
8. Espaces de Hilbert de Fonctions Analytiques, Centre de Recherches Mathématiques de Montréal, 8–12 Dec. 2008  
Titlul prezentării: O variantă spectrală a teoremei de unicitate a lui Cartan
9. Banach Algebras 2007, Québec 4 Iulie–12 Iulie 2007  
Titlul prezentării: Asupra ireductibilității locale a spectrului.
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1. Mai 2015: Workshop for Young Researchers in Mathematics (fifth edition), Ovidius University of Constanta
2. Mai 2014: Workshop for Young Researchers in Mathematics (fourth edition), Ovidius University of Constanta
3. Mai 2013: Workshop for Young Researchers in Mathematics (third edition), Ovidius University of Constanta
4. Mai 2012: Workshop for Young Researchers in Mathematics (second edition), Ovidius University of Constanta
5. Mai 2011: Workshop for Young Researchers in Mathematics (first edition), Ovidius University of Constanta

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## DISTINCȚII

Numele înscris pe Tabloul de Onoare 2004–2005 al Facultății de Studii Superioare, Universitatea Laval, ca urmare a obținerii calificativului *Excellent* din partea tuturor membrilor juriului tezei de doctorat.

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## ALTE ACTIVITĂȚI PROFESIONALE

Recenzor Mathematical Reviews

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Constanța, România, Decembrie 2015