

Curriculum Vitae

Cristian Anghel

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1 Personal

Name: Cristian Viorel Anghel

Born: 9.08.1966 Bucharest

Present position: Senior researcher III at IMAR Bucharest

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2 Studies

- High School: "N. Balcescu" Bucharest 1980-1984
- Military Service: September 1984-May 1985.
- Undergraduate Studies: Univ. of Bucharest, 1985-1989, B.S. in Mathematics, June 1989, Mark 10.
- Bachelor Thesis: Classification of algebraic surfaces, Mark 10.
Advisor: Prof. Paltin Ionescu
- Graduate Studies: Univ. of Bucharest, 1989-1990, M.S. in Mathematics, June 1990, Mark 10.
- Master Thesis: Reider theorem and applications, Mark 10.
Advisor: Prof. Paltin Ionescu
- DEA Physique Theorique ENS Paris 1992-1993. Auditeur libre.
- Rapport de Stage de DEA: Theorie des supercordes. june 1993, ENS Paris.
Advisor: Prof. Costas Bachas.
- Doctoral Studies: Univ. Paris XI Orsay, 1990-1994, Ph.D. in Math., June 1994.
- Thesis: Fibres vectoriels stables sur les courbes et les surfaces,
Mention Tres Honorable
Advisor: Prof. Arnaud Beauville

3 Employment

Junior Researcher, IMAR Bucharest, 1990-1994

BGF at Orsay, 1990-1993

ATER at Orsay 1993-1994

Researcher, IMAR Bucharest, 1994-1996
Senior researcher III, IMAR Bucharest, 1996-present

4 Research interests

Algebraic geometry
String theory
Mathematical physics

5 Teaching experience

Calculus and linear algebra-Paris XI Orsay University
Basic algebraic geometry-University of Bucharest
Galois theory-University of Bucharest
Riemann surfaces-SNSB
Sheaf theory-University of Bucharest
SNSB Course - Spring 2016 - Topology of Algebraic Varieties
SNSB Course - Spring 2017 - Algebraic curves and surfaces by examples

6 Talks in Conferences

- On geometric weight systems, Talk at CAIM-2021, 17-18 September (2021).
- Group representations and plane curves invariants, Talk at: MITRE-2021 , Chisinau, 1-3 July, (2021).
- Lie algebroids and weight systems, Talk at: XIV. International Workshop LIE THEORY AND ITS APPLICATIONS IN PHYSICS , Sofia, 20 - 26 June, (2021)
- Lie theory and infinitesimal extensions in algebraic geometry , Talk at: XIII. International Workshop LIE THEORY AND ITS APPLICATIONS IN PHYSICS , Varna, 17 - 23 June, (2019).
- Plane curves invariants from quantum braid groups representations , Talk at: The Ninth Congress of Romanian Mathematicians , Galati, June 28 - July 3, (2019).
- Rota-Baxter operators and elliptic curves , Talk at: The 25-th Conference on Applied and Industrial Mathematics - CAIM 2018 , Chisinau, 20 - 23 September, (2018).
- On a Class of Rota-Baxter Operators with Geometric Origin , Talk at: International Conference of the Balkan Physical Union 10th Jubilee , Sofia, 26 - 30 August, (2018).
- $(0; 2)$ - Mirror symmetry and omalous bundles on complete intersection surfaces of general type , Talk at: COST Action MP1405 "Quantum Structure of Spacetime" III. Annual Workshop : Quantum Spacetime '18 , Sofia, 19 - 23 February, (2018).
- Special bundles and superstrings , Talk at: • The 25-th Conference on Applied and Industrial Mathematics - CAIM 2017 , Iasi, 14-17 September (2017).

- Freeness of arrangements and extendability of bundles , Talk at: • International Conference on Recent Trends in Pure and Applied Mathematics , Alba-Iulia, 31 July-4 August (2017).
- Freeness, extendability and arrangements , Talk at: • X. International Symposium: QUANTUM THEORY AND SYMMETRIES , Varna, 19-25 June (2017).
- A stable version of Terao conjecture , Talk at Mathematics-Informatics Colloquium, Curtea de Arges, 10-11 October (2016).
- A problem connected with Terao conjecture , Talk at CAIM 2016, Craiova, 15-18 September (2016).
- $(0; 2)$ -Mirror symmetry on surfaces , Talk at Workshop for Young Researchers in Mathematics, Constanta, 19-22 May (2016).
- Quantum sheaf cohomology on surfaces of general type , at ICTAMI, Alba Iulia, 17 September (2015).
- Heegaard-Floer homology and cuspidal multiple planes , at Workshop for Young Researchers in Mathematics, Constanta, 21 May (2015).
- Horrocks theory and applications , at Workshop for Young Researchers in Mathematics, Constanta, May (2014).
- Geometry of the Sasakura bundle , at Locally free geometry seminars, Bucharest, September (2013).
- Stable bundles on complete intersection Calabi Yau threefolds. ICTAMI 2009 Alba Iulia
- Restriction of stable bundles on a jacobian of genus 2 to an embedded curve. ICTAMI 2007 Alba Iulia
- Extension of instantons. International workshop on Algebraic Geometry, Commutative Algebra and Topology, 2001 Pitesti
- Introduction to physics. Talk given at Dept. of Mathematics of Bucharest University 2000
- Fourier-Mukai transform on abelian surfaces. Algebraic Geometry Summer School, 2000 Pitesti

7 Talks in Seminars (recent)

- Khovanov-Rozansky homology I-IV, at Geometric methods in algebra and topology Seminar, IMAR, October-November (2021).
- Lectures on link homologies, at Geometric methods in algebra and topology Seminar, IMAR, 24 September (2021).
- On the Kontsevich's graph complex, at Geometric methods in algebra and topology Seminar, IMAR, 19 March (2021).
- Foliations and characteristic classes I-IV, at Geometric methods in algebra and topology Seminar, IMAR, February-March (2021).
- Introduction to flat and Higgs bundles I-XIV, at Geometric methods in algebra and topology Seminar, IMAR, October (2020)-February (2021).
- Braid group action on derived categories of coherent sheaves I-IV, at Geometric methods in algebra and topology Seminar, IMAR, October-December

(2020).

- Rozansky-Witten invariants revisited: Kapranov's viewpoint, at Geometric methods in algebra and topology Seminar, IMAR, 30 July (2020).
- Gelfand-Fuks cohomology and Cheeger-Chern-Simons classes (Lectures on characteristic classes XXV), at Geometric methods in algebra and topology Seminar, IMAR, 18 June (2020).
- Secondary invariants of (holomorphic/flat) vector bundles, (Lectures on characteristic classes XIX-XXIV), at Geometric methods in algebra and topology Seminar, IMAR, March - June (2020).
- Hochschild cohomology and Atiyah classes I-VII, at Geometric methods in algebra and topology Seminar, IMAR, November - March (2019-2020).
- Lectures on characteristic classes I-XVII, at Geometric methods in algebra and topology Seminar, IMAR, October - March (2019-2020).
- Reidemeister torsion and the volume of hyperbolic knots, at Geometric methods in algebra and topology Seminar, IMAR, 03 January (2020).
- On twisted Alexander polynomials, at Geometric methods in algebra and topology Seminar, IMAR, 12 December (2019).
- Lie theory and algebraic geometry I-II, at Geometric methods in algebra and topology Seminar, IMAR, October (2019).
- Atiyah class and Riemann-Roch type results I-III, at Geometric methods in algebra and topology Seminar, IMAR, May (2019).
- Quivers and braid group actions on derived categories I-II, at Geometric methods in algebra and topology Seminar, IMAR, 26 April, 10 May (2019).
- Hyperkahler categories I-XIV, at Geometric methods in algebra and topology Seminar, IMAR, January- April (2019).
- Link invariants coming from algebraic geometry, at Geometric methods in algebra and topology Seminar, IMAR, 21 December (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants XVI, at Geometric methods in algebra and topology Seminar, IMAR, 14 December (2018).
- Derived categories in complex geometry and link invariants, at Topology Seminar, IMAR, 14 December (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants XV, at Geometric methods in algebra and topology Seminar, IMAR, 7 December (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants XIII, at Geometric methods in algebra and topology Seminar, IMAR, 23 November (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants XII, at Geometric methods in algebra and topology Seminar, IMAR, 23 November (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants X, at Geometric methods in algebra and topology Seminar, IMAR, 9 November (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants IX, at Geometric methods in algebra and topology Seminar, IMAR, 9

November (2018).

- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants VII, at Geometric methods in algebra and topology Seminar, IMAR, 2 November (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants VI, at Geometric methods in algebra and topology Seminar, IMAR, 26 October (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants V, at Geometric methods in algebra and topology Seminar, IMAR, 19 October (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants IV, at Geometric methods in algebra and topology Seminar, IMAR, 05 October (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants III, at Geometric methods in algebra and topology Seminar, IMAR, 05 October (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants II, at Geometric methods in algebra and topology Seminar, IMAR, 28 September (2018).
- Hyperkähler geometry and low dimensional topology: Rozansky-Witten invariants I, at Geometric methods in algebra and topology Seminar, IMAR, 28 September (2018).
- Braid group actions on derived categories of sheaves, at Geometric methods in algebra and topology Seminar, IMAR, 13 July (2018).
- Higgs bundles and related topics VIII, at Geometric methods in algebra and topology Seminar, IMAR, 11 May (2018).
- Higgs bundles and related topics VII, at Geometric methods in algebra and topology Seminar, IMAR, 30 April (2018).
- Higgs bundles and related topics VI, at Geometric methods in algebra and topology Seminar, IMAR, 27 April (2018).
- Higgs bundles and related topics V, at Geometric methods in algebra and topology Seminar, IMAR, 20 April (2018).
- Higgs bundles and related topics IV, at Geometric methods in algebra and topology Seminar, IMAR, 13 April (2018).
- Differential equations and hyperplane arrangements IV, at Geometric methods in algebra and topology Seminar, IMAR, 4 April (2018).
- Higgs bundles and related topics III, at Geometric methods in algebra and topology Seminar, IMAR, 30 March (2018).
- Higgs bundles and related topics II, at Geometric methods in algebra and topology Seminar, IMAR, 26 March (2018).
- Higgs bundles and related topics, at Geometric methods in algebra and topology Seminar, IMAR, 23 March (2018).
- Differential equations and hyperplane arrangements III, at Geometric methods in algebra and topology Seminar, IMAR, 9 March (2018).
- Differential equations and hyperplane arrangements II, at Geometric methods in algebra and topology Seminar, IMAR, 7 March (2018).

- Invariants of plane curves and representations of the braid group, at Geometric methods in algebra and topology Seminar, IMAR, 5 January (2018).
- Differential equations and hyperplane arrangements, at Geometric methods in algebra and topology Seminar, IMAR, 3 January (2018).
- Exceptional bundles associated to degenerations of surfaces (after P. Hacking), at Algebraic Geometry Seminar, IMAR, March (2016).
- The BGG correspondence III, at Topology Seminar, IMAR, June (2013).

8 Visits abroad

Oldenburg University 2001

9 Other professional activities

Co-organized an International Conference Algebraic Geometry, Commutative Algebra and Topology, Constanta, 2002

Since August 2017 I Co-organized at IMAR the Seminar Geometric Methods in Algebra and Topology

Reviewing journal articles for Mathematical Reviews

Since May 2020 member of the Scientific Council at IMAR

10 Grants

1. Project Director: Vasile Brinzanescu

Title: Invarianti ai structurilor algebrice, geometrice si topologice
ISAGET 2-CEx06-11-20

Period: July 2006 - June 2008

2. Project Director: Dorin-Mihail Popescu

Title: Cooperare internationala in domeniul algebrei, geometriei
si topologiei

CIDAGT 249-Cex-M3-249-2006

Period: 2006 - 2006

3. Project Director: Nicolae Manolache

Title: Metode combinatoriale, algebrice, topologice in algebra si geometrie

MATAG 05-D11-11/04.10.05

Period: October 2005 - July 2006

4. Title: European algebraic geometry research training network EAGER

Period: 1996 - 2000