

CURRICULUM VITAE

1. NAME: Liana David

2. PERMANENT POSITION: Senior Researcher I at *Institute of Mathematics "Simion Stoilow" of the Romanian Academy*;
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3. LANGUAGE SKILLS: Romanian (mother tongue), English (fluent), French (fluent), Italian (fluent), German (level B2).

4. EDUCATION:

- *Undergraduate degree*: 1990 - 1995, *University of Timisoara* (Romania); graduated with final grade 10 (highest), graduation exams 9.50; Dissertation title: "Cone fields on vector bundles". Thesis supervisor: Prof. Dan I. Papuc.

- *Master degree*: 1995 - 1996, *University of Timisoara*; topics: functional analysis and differential geometry; graduated with 10; Dissertation title: "Positive operators on vector bundles".

- *Part III of the Mathematical Tripos (Certificate of Advanced Study in Mathematics)*: 1996 - 1997, *University of Cambridge* (Great Britain); courses: complex manifolds and differential equations (Prof. Nigel Hitchin), algebraic topology (Prof. Graeme Segal), functional analysis (Prof. Timothy Gowers), The Atiyah-Singer Index Theorem (Prof. Anthony Wassermann), differential geometry (Prof. Denis Barden). Course graduated with *Distinction*.

- *Ph.D degree*: 1998 - 2001, *University of Edinburgh* (Great Britain). Thesis title: "The Penrose transform and its applications". Supervisor: Prof. Toby N. Bailey. Graduation date: 10th of July 2001.

5. SCHOLARSHIPS:

- *British Cambridge Chevening Scholarship* (from Cambridge Overseas Trust and the British Council), to do Part III at University of Cambridge.

- *Faculty Scholarship* (from University of Edinburgh) and *Overseas Research Students (ORS) Award* (from Scottish Funding Council) to study for a Ph.D at University of Edinburgh.

- Several *grants* to participate at summer courses and workshops.

6. POST-DOCTORAL and LONG TERM POSITIONS:

- October 2001 - June 2002: EDGE post-doctoral fellow at *Ecole Polytechnique*, Palaiseau (France).

- July 2002 - September 2003: EPSRC post-doctoral research assistant at *University of Hull* (Great Britain).

- October 2003 - June 2004: EPSRC post-doctoral research assistant at *University of Glasgow* (Great Britain).

- March 2006 - March 2008: CariLuca-SNS junior research visiting fellow at *Centro di Ricerca Matematica "Ennio de Giorgi", Scuola Normale Superiore di Pisa* (Italy).

- September 2013 - September 2016 (17 months): Humboldt Research Fellow at *University of Mannheim* (Germany) and *University of Hamburg* (Germany).

- Present: Permanent position (Senior Researcher I) at *Institute of Mathematics "Simion Stoilow" of the Romanian Academy* (IMAR).

7. SHORTER TERM POSITIONS:

- 2005 (3 months): CNRS researcher at *Ecole Polytechnique*, Palaiseau (France).

- 2008 (2 months): Visiting Researcher at *The "Abdus Salam" International Center for Theoretical Physics*, Trieste (Italy).

- 2010 (6 weeks): Senior Research Fellow at *University of Glasgow* (Great Britain).

- 2012 (2 months): Visiting Researcher at *Institut des Hautes Etudes Scientifiques* (France).

8. ROMANIAN RESEARCH GRANTS:

- Director of the research project PN-III-ID-P4-PCE-2016-0019 (period July 2017 - December 2019).
- Director of the research project CNCS-UEFISCDI PN-II IDEI-1187/2008 (period 2008-2011).
- Director of the research project PN-II-ID-PCE-2011-3-0362 (period 2011-1014).
- Member of the research team of the CEx grant no. 2-CEx 06-11-22/25.07.2006 (period 2006-2008).
- Member of the research team of the CNCS grant GR-54/2007, code 811 (period 2006-2008).

9. RESEARCH INTERESTS:

- Quaternionic and quaternionic-Kähler geometry, CR geometry, twistor theory, generalized complex geometry, Frobenius manifolds, meromorphic connections.

10. PRIZE FOR RESEARCH:

- *PREMIUL GHEORGHE ȚIȚEA AL ACADEMIEI ROMANE* (*Gheorghe Țițea Prize of the Romanian Academy*), for publications in Riemannian geometry; awarded in Bucharest on 18th of December 2008.

11. COLLABORATORS:

- D. V. Alekseevsky (University of Edinburgh, Great Britain and University of Brno, The Czech Republic), T. N. Bailey (University of Edinburgh, Great Britain), D. M. J. Calderbank. (University of Bath, Great Britain), V. Cortes (University of Hamburg, Germany), C. Hertling (University of Mannheim, Germany), P. Gauduchon (Ecole Polytechnique and CNRS France), D. I. Papuc (West University of Timisoara, Romania), M. Pontecorvo (University Rome3, Italy), I. A. B. Strachan (University of Glasgow, Great Britain).

12. PRESENTATIONS AS INVITED SPEAKER:

- *About positive operators on the sections of a regular vector bundle*, The 25th National Conference of Geometry and Topology, University of Iasi (Roma-

nia), September 1995.

- *Several extensions of the smooth Penrose transform*, The 5th International Workshop on Differential Geometry and Its Applications, University of Timisoara (Romania), September 2001.

- *The Guillemin formula and Kähler metrics on toric symplectic manifolds*, EDGE Workshop on Differential Geometry, University of Edinburgh (Great Britain), July 2002.

- *Weyl connections and curvature properties of CR manifolds*, Yorkshire Differential Geometry Day, University of Hull (Great Britain), May 2003.

- *The Chern-Moser tensor of a CR manifold*, EDGE Workshop on Differential Geometry, Albena (Bulgaria), July 2003.

- *The Penrose transform and its applications*, Plenary Lecture at Institute of Mathematics "Simion Stoilow" of the Romanian Academy, February 2006.

- *Quaternionic connections, induced holomorphic structures and a vanishing theorem*, Conference de Geometrie e Analyse Complexe, CIRM Marseille-Luminy (France) October 2006.

- *A characterization of the quaternionic projective space by the conformal-Killing equation*, Mini-Workshop of Differential Geometry at Centro di Ricerca Matematica "Ennio de Giorgi", Pisa (Italy), March 2008.

- *The Bochner-flat cone of a CR manifold*, The 7th International Workshop on Differential Geometry and Its Applications, Deva (Romania) September 2005 and The "Abdus Salam" Center for Theoretical Physics, Trieste (Italy), November 2008.

- *The geometry of Bochner-flat Kähler manifolds*, Conference de Geometrie CR et Sasakienne, Universite de Luxembourg, March 2009.

- *Conformal-Killing forms in quaternionic-Kähler geometry*, Conference of Kähler and Sasaki Geometry, Universita' di Roma "La Sapienza", July 2009.

- *Dubrovin's duality for F-manifolds with eventual identities*, Congress of Romanian Mathematicians, Brasov (Romania), July 2011.

- *F-manifolds and eventual identities*, Workshop on Singularity Theory and Integrable Systems, Oberwolfach (Germany), April 2012.

- *Invariant generalized complex structures on Lie groups*, Symmetries in Geometry and Mathematical Physics, Universite de Luxembourg (Luxembourg),

September 2012 and 'Geometry and PDE's', West University of Timisoara (Romania), May 2017.

- *On cotangent manifolds, complex structures and generalized geometry*, 'Real and Complex Differential Geometry', University of Bucharest (Romania) September 2014 and 'Geometric structures related to Hermitian and almost Hermitian manifolds', University of Hannover (Germany), May 2016.

- *Regular F-manifolds: initial conditions and Frobenius metrics*, Zilele Academice Timisorene, West University of Timisoara (Romania) May 2015 and IMAR Monthly Lectures (Bucharest, Romania), January 2016.

- *Twist, elementary deformation, and the KK-correspondence in generalized geometry*, 'Workshop for Young Researchers in Mathematics' (IMAR), May 2017, and 'Special metrics and symmetries on complex manifolds', University of Regensburg (Germany), September 2018.

13. TEACHING EXPERIENCE:

- *Tutorials in differential geometry* to 2nd and 3rd year undergraduates at University of Timisoara, 1995 - 1996, February 2001 - June 2001.

- *Tutorials in algebra, analysis, geometry*, to 2nd year undergraduates at University of Edinburgh, January 1998 - January 2001.

- *Tutorials at the Intensive Course on Differential Geometry, Homogenous Spaces and Integrable systems*, Durham (England), September 2002.

- *Course on conformal geometry and twistor theory*, SNSB Bucharest, February-May 2017.

14. PRESENTATIONS IN SEMINARS:

- Talk about the exponential map of a Riemannian manifold, "Part III talks", University of Cambridge (Great Britain), 1996.

- Talk about Penrose transforms, mini-workshop for Ph.D students, The Burns (Scotland), 1999.

- Talk about the Penrose transform for currents, Akureyri (Iceland), 1999.

- Talk at the Ph.D's students seminar, University of Edinburgh (Great Britain), 2000.

- Talk about the Atiyah-Ward Ansatz in 3-dimensions, University of Edinburgh (Great Britain), 2000.

- Series of talks about weakly Bochner-flat Kähler manifold, University of Hull (Great Britain), 2002.
- Talk about Bochner-flat Kähler manifolds, University of Glasgow (Great Britain), 2003.
- Series of talks about CR geometry, Institute of Mathematics "Simion Stoilow" of the Romanian Academy, 2004.
- Series of talks about twistor theory, Institute of Mathematics "Simion Stoilow" of the Romanian Academy, 2005.
- Talk about CR geometry, Scuola Normale Superiore di Pisa (Italy), March 2006.
- Talks about CR and quaternionic geometry, Università degli Studi di Firenze (Italy), May 2006.
- Talk about quaternionic geometry, Università degli Studi dell'Aquila (Italy), December 2007.
- Talk about conformal-Killing forms on quaternionic-Kähler manifolds, Institute of Mathematics "Simion Stoilow" of the Romanian Academy, April 2008, and The Besse Seminar, Ecole Polytechnique (Palaiseau, France), March 2009.
- Talk on complex structures and generalized geometry, University of Hamburg (Germany), January 2016.

15. PARTICIPANT AT THE FOLLOWING SHORT COURSES AND CONFERENCES:

- *Scuola Matematica Interuniversitaria*, Perugia (Italy) 1995.
- *Scuola Matematica Interuniversitaria*, Cortona (Italy) 1998.
- *Summer Course in Quantum Geometry*, Akureyri (Iceland), 1999.
- *The Geometry of Isomonodromic deformations*, Oxford (UK) 2000.
- *EDGE meeting on differential geometry*, Marseille (France) 2002.
- *Workshop on symplectic geometry*, Vienna 2003.
- *European Congress of Mathematics*, Stockholm 2004.

- *Differential Geometry and Topology*, Intensive Research Period, Pisa (Italy) 2004.

- *Extremal Kähler metrics and Kähler-Ricci flow*, Intensive Research Period, Pisa 2008.

- *Geometric Flows and Geometric Operators*, Intensive Research Period, Pisa 2009.

- *Topology and Geometry: A conference in the memory of Stefan Papadima*, IMAR, May 2018.

16. OTHER RELEVANT EXPERIENCE:

- Referee for: *Mathematical Proceedings of the Cambridge Philosophical Society*; *Annals of Global Analysis and Geometry*; *Journal of Geometry and Physics*; *Differential Geometry and Its Applications*, *Manuscripta Mathematica*, etc.

- As a student at the University of Timisoara, I took part in the organization of several national and international workshops in mathematics, which were held in Timisoara during the period 1992-2001.