

Olivier ELCHINGER
Born the 4th of april 1985
French nationality
Married, three children
Driving license

RESEARCHER (POSTDOC)
Faculty of Science, Technology and Communication
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Professional coordinates

University of Luxembourg — Campus Kirchberg 6, rue Coudenhove-Kalergi
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Education and training

2009 – 2012 PhD. in mathematics at University of Mulhouse
*Winner of a third prize for the thesis presentation
at the Journée de l'École Doctorale the 14th of june 2012.*

Thesis advisors Martin BORDEMANN and Abdenacer MAKHLOUF

Title Formality related to universal enveloping algebras
and study of Hom-(co)Poisson algebras

Date Thesis defended the 12th of November 2012.

Jury Referees:

Benjamin Enriquez (University of Strasbourg)
Camille Laurent-Gengoux (University of Metz)
Joakim Arnlind (University of Linköping)

Exterior member:

Martin Schlichenmaier (University of Luxembourg)
Local member: Augustin Fruchard

Agrégation externe in mathematics session 2010, rank 211

2007 – 2009 University Louis Pasteur of Strasbourg.
Master 2 and Magistère 3 of Fundamental and Applied Mathematics. Distinction Bien.
Master thesis *Construction combinatoire de l'intégrale de Kontsevich (d'après Drinfel'd et al.)* under the direction of Gwénaél MASSUYEAU.
Preparation for the national examination of agrégation.

2006 – 2007 University Louis Pasteur of Strasbourg.
Master 1 and Magistère 2 of Fundamental and Applied Mathematics. Distinction Assez Bien.
Work experience at INRIA FUTURS of Saclay. Report entitled *Introduction à l'échantillonnage de formes par des nuages de points à l'aide de fonctions distances* under the direction of Frédéric CHAZAL.

2003 – 2006 University Louis Pasteur of Strasbourg.
Licence and Magistère 1 of Mathematics. Distinction Bien.
Dissertation of Magistère entitled *Les dimensions fractales* under the direction of Patrick FOULON.

2003 Lycée of Bouxwiller.
Baccalauréat série Scientifique, Mathematics speciality. Distinction Bien.
Rallye Mathématique d'Alsace. Winner of a third prize at the thirtieth edition.

Research fields

- formality, deformation quantization
- Hom-algebras, Hopf algebras

Current research projects:

Formality for Harrison complexes, quantification of stratified spaces, hypersurfaces

Publications

- in preparation* *On formality of free and enveloping algebras*
with M. BORDEMANN, S. GUTT, A. MAKHLOUF.
- July 2015* *Brackets with (τ, σ) -derivations and (p, q) -deformations of Witt and Virasoro algebras*, Forum Mathematicum. ISSN (Online) 1435-5337, ISSN (Print) 0933-7741, DOI: 10.1515/forum-2014-0132
with K. LUNDENGÅRD, A. MAKHLOUF, S. D. SILVESTROV.
- August 2014* *Study of formality for the Heisenberg algebra*
arXiv:1409.0175 [math.QA], 15p.
- March 2011* *Twisting Poisson algebras, coPoisson algebras and Quantization*, Travaux Mathématiques, **XX** pp. 83–120, 2012.
Special Issue based on the Commemorative Colloquium dedicated to Nikolai Neumaier, Mulhouse, France, Juin 2011
with M. BORDEMANN, A. MAKHLOUF.
- September 2010* *Formality and free algebras*,
Oberwolfach reports – DOI: 10.4171/OWR/2010/43
Deformation Methods in Mathematics and Physics Report No. 43/2010
pp.2543–2546 with M. BORDEMANN, S. GUTT, A. MAKHLOUF.
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Talks

- October 2015* Lecture in the conference Algebra and Group theory at Université de Haute-Alsace of Mulhouse : “*Brackets defined with (τ, σ) -derivations and (p, q) -deformations of Witt algebras*”.
- October 2015* Lecture in the Working Group in Algebra, Geometry and Quantization at University of Luxembourg : “*Perturbation of formality for universal enveloping algebras*”.
- January 2014* Lecture in the seminar Groupes de Lie et analyse harmonique at Institut Élie Cartan : “*Formalité liée aux algèbres enveloppantes*”.
- December 2013* Lecture in the Working Group in Algebra, Geometry and Quantization at University of Luxembourg : “*Formality related to enveloping algebras*”.
- December 2013* Lecture at the seminar Georges REEB of LMIA : “*Brackets defined with (τ, σ) -derivations and (p, q) -deformations of Witt algebras*”.
- July 2012* Lecture in the seminar Georges REEB of LMIA : “*À propos de structures Hom-algébriques*”.
- June 2012* Lecture in the séminaire quantique of IRMA at University of Strasbourg : “*Formalité des algèbres enveloppantes et libres*”.
- October 2011* Lecture in the international workshop AGMP-7 at Université de Haute-Alsace of Mulhouse : “*Formality and free algebras*”.
- October 2011* Lecture in the seminar Georges REEB of LMIA : “*Formalité et algèbres libres*”.
- September 2010* Lecture in the Mathematisches Forschungsinstitut Oberwolfach, Young Researchers Session : “*Formality and free algebras*”.

Conferences and summer schools

- October 2015** Université de Haute-Alsace of Mulhouse. Conference *Algebra and Group theory*.
- June 2014** CIRM Marseille. Geometric and quantum topology in dimension 3.
- June 2014** Université de Metz. Journées Metz-Mulhouse.
- June 2013** Université de Haute-Alsace of Mulhouse. Journées du GDR Théorie de Lie Algébrique et Géométrie.
- November 2012** Université de Haute-Alsace de Mulhouse. Formation in *Mathematica*.
- September 2012** Université de Haute-Alsace of Mulhouse. Symposium of geometries.
- October 2011** Université de Haute-Alsace of Mulhouse. International conference *Algebra Geometry Mathematical Physics 7*.
- September 2011** University of Strasbourg. Conference *Groupes quantiques, catégorification et tresses*.
- September 2011** Göteborgs Universitet, Sweden. Summer school *Mathematical Topics in Quantum Mechanics and Quantum Information*.
- June 2011** Université de Haute Alsace of Mulhouse. Journées Metz-Mulhouse.
- June 2011** Université de Haute-Alsace of Mulhouse. Commemorative Colloquium dedicated to Nikolai NEUMAIER.
- September 2010** Mathematisches Forschungsinstitut Oberwolfach, Allemagne. Workshop *Deformation Methods in Mathematics and Physics*.
- avril 2010** Université de Haute-Alsace of Mulhouse. Seminar Sophus LIE.
- April 2010** Centro de ciencias de Benasque Pedro Pascual, Espagne. Summer school *Combinatorics and Control*.
- September 2009** University of Luxembourg. International conference *Geometry and Quantization*.
- September 2009** University of Luxembourg. Summer school *Geometry and Quantization*.

Professional experience

- 2014–2015** Math teacher in High school Lycée Mangin at Sarrebourg.
- 2012–2014** Research and teaching assistant at University of Mulhouse.
- 2009 – 2012** Teaching mission 64h eqTD / year.
Teaching assistant in first and second year in mathematics, at IUT GEII, teaching in Master 1 : computer assisted mathematics.
- Summer 2008** Work experience at Bureau d'Études d'Étienne Petit.
2 months Using symmetries of crystalline material to reduce tensor equations.
- Summer 2007** Work experience at INRIA FUTURS.
1 month Worked on a research article, and programming.
- Summers 2005/06** Summer work at E.I.M.M. of Bischheim.
2 months Assembly/disassembly of TGV metal casting
- Summers 2004/05** Summer work at Super U in Ingwiller.
4 months Work in bakery.
- Summer 2003** Animator at centre culturel of Wingen.
2 weeks
- March 2000** Work experience in primary school of Niedersoultzbach. School grade CM1-CM2.
- February 2000** Work experience at the enterprise BASLER in Strasbourg. Enterprise which manufactures electronic material.

Details of the teaching mission

- **Lectures and tutorials on functions of several variables** at IUT GMP (Génie Mécanique et Productique) of Mulhouse (22h). Preparation and grading of tests and final examination.
- **Lectures and tutorials of linear algebra** at IUT GMP (Génie Mécanique et Productique) of Mulhouse (20h). Preparation and grading of tests and final examination.
- **Lectures and tutorials in Mathematics and statistics** in L1 AES (Social and economical administration) at Université de Haute-Alsace of Mulhouse (48h). Planning and correction of terminal examination and tests grading.
- **Tutorials in bilinear algebra** in L2 Math-Info at Université de Haute-Alsace of Mulhouse (16h).
- **Computer assisted mathematics class in M1 enseignement** at Université de Haute-Alsace of Mulhouse (10h). Preparation of lessons and exercises with *Mathematica*, examination correction on computer.
- **Tutorials on power series in L2 Cycles Préparatoires** at Université de Haute-Alsace of Mulhouse (16h). Preparation and grading of tests.
- **Tutorials on function of two variables in L2 Cycles Préparatoires** at Université de Haute-Alsace of Mulhouse (16h). Preparation and grading of tests.
- **Tutorials on affine geometry in L2 Math-Info** at Université de Haute-Alsace of Mulhouse (9h). Examination supervision.
- **Tutorials on general mathematics in L1** at Université de Haute-Alsace of Mulhouse (30h). Examination supervision and grading.
- **Mathematics tutorials of first and second years** at IUT GEII (Génie Électrique et Informatique Industrielle) of Mulhouse (14h). Examination supervision, preparation and grading of tests.
- **Practical work on computer** at IUT GEII (Génie Électrique et Informatique Industrielle) of Mulhouse (24h). Introduction to Scilab, preparation and grading of tests.
- **Analysis tutorials in L1** at Université de Haute-Alsace of Mulhouse (18h). Examination supervision, preparation and grading of tests.
- **Algebra tutorials in L1** at Université de Haute-Alsace of Mulhouse (8h).

Skills

French Native speaker

English B2 level of European Language Portfolio

German Scholar level (notions of alsatian)

Office automation Common use of \LaTeX , text and spreadsheet programs (Libre Office).

Programming Initiation in C/C++, Caml, Scilab. Mastery of Maple and *Mathematica*.

Exploitation system Use of Windows and GNU/Linux.