

## Scientific Education

### *Positions*

- 2015 – • Research associate, University of Copenhagen.
- 2014 – 2015 • Research associate, University of Glasgow.
- 2011 – 2014 • Scientific assistant (Wissenschaftlicher Mitarbeiter), within Graduiertenkolleg 1493 *Mathematical Structures in Modern Quantum Physics*, Universität Göttingen.
- 2007 – 2011 • Research and teaching assistant, université Paris 7.

### *Qualifications*

- 2007 – 2011 • Ph.D. thesis: “Periodic Cyclic Cohomology of Smooth Generalised Crossed Products”, joint supervision by A. ZUK (université Paris 7) and E. GERMAIN (université de Caen).
- 2006 – 2007 • Masters Degree in Mathematics, université Paris 11.
- 2003 – 2007 • École Polytechnique, Paris. *Ingénieur diplômé de l'École Polytechnique*, March 2008.

## Research

### *Articles in refereed international journals*

- *Six-Term Exact Sequences for Smooth Generalized Crossed Products*, with M. GRENSING, *J. Noncommut. Geom.* **7** (2013), 301–333, <http://dx.doi.org/10.4171/JNCG/124>.
- *K-theory, cyclic cohomology and pairings for quantum Heisenberg manifolds*, *J. Noncommut. Geom.* **7** (2013), 499–524, <http://dx.doi.org/10.4171/JNCG/118>.
- *Fixed points of compact quantum groups actions on Cuntz algebras*, *Ann. Henri Poincaré* **15** (2014), 1013–1036, <http://dx.doi.org/10.1007/s00023-013-0265-5>.
- *On the Chern-Gauss-Bonnet theorem and conformally twisted spectral triples for  $C^*$ -dynamical systems*, with F. FATHIZADEH, *SIGMA* **12** (2016), 016, <http://dx.doi.org/10.3842/SIGMA.2016.016>.
- *Fixed point algebras for easy quantum groups*, with M. WEBER, *SIGMA* **12** (2016), 097, <http://dx.doi.org/10.3842/SIGMA.2016.097>.
- *Ergodic Actions and Spectral Triples*, with M. GRENSING, *J. Operator Theory*, **76** (2016), 2, 307–335, <http://dx.doi.org/10.7900/jot.2015sep25.2101>.

### *Preprints*

- *Spectral Triples and Generalized Crossed Products*, with M. Grensing, <http://arxiv.org/abs/1310.5993>.
- *Norm inequality and partition of (pure) states in  $C(M) \otimes M_n(\mathbb{C})$* , <http://oliviermdgabriel.free.fr/distance.pdf>.

## Research (continued)

### *Talks at Conferences*

- 7.2016 • Satellite conference *Compact Quantum Group*, Greifswald, Germany.  
“Compact Quantum Groups and Classifications”.
- 5.2016 • 11<sup>th</sup> French-Italian Meeting on Spectral Triples in Noncommutative Geometry.  
“Ergodic actions and spectral triples”.
- 12.2015 • Christmas conference of the GDR Noncommutative Geometry, Montpellier.  
“Ergodic spectral triples, foliations and deformations”.
- 11.2014 • Scottish Operator Algebras Seminar, University of Aberdeen.  
“Actions of compact quantum groups and inclusions of  $C^*$ -algebras”.
- 10.2014 • Workshop “Methods of Noncommutative Geometry in Analysis and Topology”,  
Universität Hannover. “Functorial Rieffel deformations and  $U(1)$ -bundles”.
- 9.2014 • Workshop “Quantum physics and non-commutative geometry”, Bonn.  
“Functorial Rieffel deformations and  $U(1)$ -bundles”.
- 6.2014 • Workshop “Noncommutative geometry and applications”, Frascati, Italy.  
“Functorial Rieffel deformations and tame smooth generalized crossed  
products”.
- 5.2014 • Workshop “Quantum groups and operator algebras”, Universität Münster.  
“Actions of compact quantum groups and inclusions of  $C^*$ -algebras”.
- 1.2014 • *Meeting on Noncommutative Geometry and Quantum Groups: Compact Quan-  
tum Principal Bundles*, Fields Institute, Toronto.  
“A case study of noncommutative  $U(1)$ -principal bundles”.
- 8.2013 • Workshop “Groups, Dynamical Systems and  $C^*$ -Algebras”, Universität Münster.  
“Lie group actions, spectral triples and generalized crossed products”.
- 6.2013 • Focus program on NCG and quantum groups, Fields Institute, Toronto.  
“Lie group actions, spectral triples and generalized crossed products”.
- 1.2013 • Conference *SubTile 2013*, CIRM, Marseille.  
“Cyclic cohomology and generalized crossed products”.
- 12.2012 • Conference *Analysis et geometry*, université Paris 7.  
“Compact quantum groups and fixed points of the Cuntz algebra”.
- 12.2012 • Christmas conference of the noncommutative geometry GDR, université de Metz.  
“Fixed points of compact quantum group action on the Cuntz algebra”.
- 6.2012 • Meeting *Noncommutative Geometry, Index Theory and Applications*, Cortona,  
Italy.  
“Compact quantum groups and fixed points of the Cuntz algebra”.
- 12.2011 • *Christmas conference GDR géométrie non-commutative*, université d’Orléans.  
“Generalised crossed products and Chern-Connes pairings” (in French).
- 6.2011 • Meeting GDRE GREFI-GENCO, IHP, Paris.  
“Pairings for Generalised Crossed Products”.
- 4.2011 • *Long Term Workshop on Automata Groups and Noncommutative Geometry*,  
université Paris 7.  
“(Periodic) Cyclic Cohomology of Quantum Heisenberg Manifolds”.
- 9.2010 • Meeting on Quantum Groups and Noncommutative Geometry, CIRM, Marseille.  
“ $kk$ -theory and Pimsner Algebras:  
Application to Quantum Heisenberg Manifolds”.
- 7.2010 • *Master Class on Cuntz-Pimsner Algebras*, university of Copenhagen.  
“Chern Character on Noncommutative Heisenberg Manifolds”.

## Research (continued)

### *Talks in Seminars*

- 12.2016 • Operator algebra seminar, university of Odense, Denmark.
- 5.2016 • Operator algebra seminar, universit  d'Orl ans.
- 5.2016 • Operator algebra seminar, universit  Paris 7.
- 3.2016 • *Topologies* seminar, universit  de Montpellier.
- 12.2015 • *Fundamental interactions* seminar, CPT, Marseille.
- 9.2015 • Free probabilities seminar, Saarbr cken university.
- 2.2015 • Algebra and Topology seminar, university of Swansea.
- 2.2015 • Operator algebra seminar, university of Copenhagen.
- 4.2014 • Analysis seminar, universit  de Metz.
- 3.2014 • Institut f r Analysis, Leibniz Universit t Hannover.
- 3.2014 • Operator algebra seminar, universit  d'Orl ans.
- 3.2014 • Operator algebra seminar, IMJ, Paris.
- 3.2013 • Mathematical Physics seminar, Lyon.
- 3.2013 • Noncommutative harmonic analysis seminar, Caen.
- 3.2013 • Geometry, algebra and operator algebra seminar, Clermont-Ferrand (in visio-conference with Potsdam and Metz).
- 2.2013 • Operator algebra seminar, Paris.
- 12.2012 • Operator algebra seminar, Paris.
- 3.2012 • Functional Analysis seminar, Besan on.
- 3.2012 • Fundamental Interactions seminar, CPT, Marseille.
- 3.2012 • Operator Algebras seminar, IMJ, Paris.
- 3.2012 • Mathematical Physics seminar, ICJ, Lyon.
- 4.2011 • Workgroup *g om trie non-commutative*, universit  de Metz.
- 2.2011 • Seminar *noncommutative harmonic analysis*, universit  de Caen.
- 11.2010 • Seminar, Universit t G ttingen.
- 6.2010 • Operator Algebras seminar, IMJ, Paris.
- 5.2010 • *Kolloquium des Graduiertenkollegs 1493*, Universit t G ttingen.
- 5.2010 • seminar *noncommutative geometry*, universit  de Toulouse.
- 3.2010 • Ph.D. students seminar, IMJ, Paris (introduction to operator algebras).
- 5–11.2009 • four talks, seminar, universit  de Caen.

### *Attended Conferences*

- 10.2016 • *Conference: Noncommutative Index Theory*, Warsaw.
- 10.2016 • *Conference: Cyclic Homology*, Warsaw.
- 8.2016 • *Masterclass: Kasparov products and applications*, Copenhagen.
- 6.2016 • *Symposium: the mathematical legacy of Uffe Haagerup*, Copenhagen.
- 4.2016 • *Gauge Theory and Noncommutative Geometry*, Nijmegen (Netherlands).
- 11.2015 • *Uffe Haagerup Memorial Symposium*, Odense (Denmark).
- 11.2015 • *Conference on Noncommutative Geometry*, CIRM, Marseille.
- 10.2015 • *Lecture series: Quasidiagonality of nuclear  $C^*$ -algebras*, Copenhagen.

## Research (continued)

- 10.2015 • *Algebraic structures of Hochschild complexes*, university of Copenhagen.
- 8.2015 • *Young Mathematicians in C\*-Algebras*, university of Copenhagen.
- 7.2015 • *Conference on Quantum Groups and Quantum Information*, Herstmonceux, UK.
- 7.2015 • *Noncommutative Geometry and Spectral Invariants*, Montréal.
- 4.2015 • *Advances in Non-commutative geometry*, université Paris 7.
- 3.2015 • North British Functional Analysis Seminar, University of Edinburgh.
- 12.2014 • *Future directions for non-commutative geometry*, HIM Bonn.
- 11.2014 • North British Functional Analysis Seminar, University of Leeds.
- 9.2014 • *Classification, Structure, Amenability and Regularity*, University of Glasgow.
- 12.2013 • Christmas conference of the noncommutative geometry GDR, université de Caen.
- 11.2013 • 33<sup>rd</sup> LQP Workshop “Foundations and Constructive Aspects of QFT”, Universität Göttingen.
- 7.2013 • *Master Class on Classification of Non-Simple Purely Infinite C\*-Algebras*, university of Copenhagen.
- 6.2013 • *Rigidity and Group Actions*, université Paris 7.
- 5.2013 • *Quantization, topological models and generalized geometries*, Bayrischzell.
- 3.2013 • *Approximation properties and harmonic analysis for quantum groups*, Cergy.
- 7.2012 • *Noncommutative Geometry*, Fudan university, Shanghai.
- 3.2012 • *Operator algebras, Quantum groups and Tensor categories*, université de Caen.
- 11.2011 • 65<sup>th</sup> birthday of E. KIRCHBERG, university of Copenhagen.
- 9.2011 • *Workshop on Noncommutative Geometry*, MFO Oberwolfach.
- 9.2011 • *Group in Action in Harz*, Sankt Andreasberg.
- 11.2010 • *Conference K-Theory, C\*-Algebras and Index Theory*, Universität Göttingen.
- 10.2010 • *School Higher Index Theory and Differential K-Theory*, Universität Göttingen.
- 9.2010 • *Quantum Groups and Noncommutative Geometry*, CIRM, Marseille.
- 9.2010 • *Workshop on Quantum Groups and Physics*, université de Caen.
- 7.2010 • *Master Class on Cuntz-Pimsner Algebras*, university of Copenhagen.
- 12.2009 • *Geometry and Analysis in Paris*, université Paris 7.
- 10.2009 • *Quantum Spacetime and Noncommutative Geometry*, La Sapienza, Rome.
- 9.2009 • *Noncommutative Geometry and Quantum Physics*, Vietri Sul Mare, Italie.
- 7.2008 • *Annual Meeting GDR Noncommutative Geometry*, Aspet, France.
- 11.2007 • *États de la recherche : Géométrie non-commutative*, université de Metz.
- 10.2007 • *Workshop on Noncommutative Manifolds II*, SISSA, Trieste.
- 9.2007 • *Aperiodic Order*, CIRM, Marseille.
- 4.2007 • 60<sup>th</sup> birthday of A. CONNES, IHÉS et IHP, Paris.

### *Research stays*

- 14–18.9.2015 • Work with M. WEBER on fixed point algebras and partition quantum groups, university of Saarbrücken.
- 21–27.6.2015 • Work with F. FATHIZADEH on twisted spectral triples and conformal deformations in the case of ergodic actions of compact Lie groups, CalTech.
- 7–28.9.2014 • Hausdorff Trimester Program *Noncommutative Geometry and its Applications*, HIM – Bonn University. Work with F. FATHIZADEH on twisted spectral triples.

## Research (continued)

- 7.2–10.3.2014 • Work with J. KELLENDONK on Real  $K$ -theory, in relation with topological insulators, universit  Lyon 1.
- 4–29.3.2013 • Work with J. KELLENDONK and S. RICHARD on scattering in relation with  $K$ -theory and index theorems, universit  Lyon 1.
- 4–8.6.2012 • Work with F. LLED  on actions of compact quantum groups on  $C^*$ -algebras in relation with Doplicher-Roberts theory, Carlos III university, Madrid.
- 18.10–18.11.2010 • Work with D. BAHNS on quantum Hall effect, G ttingen Universit t.

## Teaching and Administrative Tasks

### *Teaching*

- 2016 • Advanced vector spaces, University of Copenhagen: 24h, tutorial group.
- 2015 – 2016 • Noncommutative Geometry, University of Copenhagen: 24h, tutorial group.
- 2015 • Introduction to Real Analysis, University of Glasgow: 10h, tutorial group.
- 2014 • Graph theory, Universit t G ttingen: 20h, masters students. Seminar organised jointly with O. Baues, supervising students preparing their presentations.
- 2012 – 2013 • Riemannian geometry, Universit t G ttingen: 20h, masters students. Tutorial group – lectures by V. Pidstrygach.
- 2010 – 2011 • Algebra and analysis for first year math. students, universit  Paris 7: 98h. Lectures and tutorial group, organisation of the course with fellow PhD student M. Gaume. Coordination of the different groups by J.-Y. Ducloux.
- 2008 – 2010 • Algebra and analysis for first year chemistry students, universit  Paris 7: 64h. Tutorial group – lectures by B. Gentou.
- 2007 – 2008 • Course on the computational software *Mathematica*, universit  Paris 7: 64h, first year students. Lectures and tutorial groups under the direction of M. Teissier.

### *Research seminars and Workgroups*

- 2015 • Organiser of the team’s *Analysis seminar*, university of Glasgow.
- 2013 – 2014 • Organiser of the seminar *QFT and operator algebras*, Universit t G ttingen.
- 2012 – 2014 • Organiser of the *postdoc seminar*, Universit t G ttingen.
- 2009 • Organiser of the *Tomita-Takesaki* workgroup, universit  Paris 7.

### *Administrative and Organisational Tasks*

- 2015 – 2017 • Participation to the “Maths en Jeans” workgroup (introduction to mathematical research for high school students, French high school in Copenhagen).
- 2016 • Organisation of the conference *Young Mathematicians in  $C^*$ -Algebras* (YMC\*A), 7–11 August 2017, university of Copenhagen.
- 2015 – 2016 • Organisation of the international masterclass “Sums of self-adjoint operators: Kasparov products and applications” (22–26 August 2016) with R. Nest and M. Goffeng.
  - Reviewer for *Mathematical reviews* of the AMS.
  - Referee for the *Internat. J. Math.* and *J. Noncommut. Geom.*
- 30.1.2012 • Support of the evaluation of the Graduiertenkolleg 1493, *Mathematical Structures in Modern Quantum Physics*, Universit t G ttingen.
- 14.12.2010 • Creation of the website of the conference *Analysis and Geometry*, universit  Paris 7.

## Teaching and Administrative Tasks (continued)

- 28.3-8.4.2010 • Support of the *Long Term Workshop on Automata Groups and Noncommutative Geometry*, including creation of the website, universit  Paris 7.
- 12.2009 • Support of the conference *Geometry and Analysis in Paris*, including creation of the website, universit  Paris 7.
- 2009 – 2010 • Representative of the math. PhD students' association. Responsible for IT aspects, universit  Paris 7.

## Miscellaneous

- French: mother tongue.
- German: written, spoken and read.
- $\LaTeX$ : good skills.
- English: excellent skills.
- Chinese: elementary.
- Caml, Java, Mathematica: notions.