CV:

CURRENT POSITION:

- Since Septembre 2011: Maître de Conférences (research and teaching) at University Jean Monnet, (Saint Etienne) in the lab Institut Camille Jordan.

PAST RESEARCH EXPERIENCES:

- September 2010 - August 2011: ATER at University of Angers (Lab: Laboratoire Angevin de REcherche en MATHématiques). Key words: symmetric Hilbert schemes, commuting varieties, Nakajima’s quiver varieties.

- September 2009 - August 2010: ATER at University of Brest (Lab: Laboratoire de Mathématiques de Brest). Key words: singular locus of algebraic schemes, commuting schemes, nilpotent pairs.

- September 2006 - November 2009: PhD thesis under the supervision of Thierry Levasseur at University of Brest (Laboratoire: LMB). Key words: semisimple symmetric Lie algebras, algebraic varieties, commuting varieties, nilpotent elements, sheets, Slodowy slices.

PUBLICATIONS AND PREPRINTS:

Publications in peer-reviewed journals:


Last update: February 12, 2019

• ______ , Composantes irréductibles de la variété commutante nilpotente des algèbres de Lie symétriques semi-simples, [In french] (Irreducible components of the nilpotent commuting variety of symmetric Lie algebras), *Annales de l’institut Fourier*, **59** (2009), 37-80.

**Preprints:**

• M. Boos and ______ : Parabolic conjugation and commuting varieties, arXiv:1604.08840, (accepted in *Transformation Groups*)

**Workshop acts:**


**RESEARCH TALKS:**

**During international meetings:**

• *Slice induction and sheets* at “Geometric Methods in Representation Theory”, Lancaster, 2014

• *The commuting variety of semisimple symmetric Lie algebras* at “Symmetric Spaces and Generalizations II”, Levico Terme, Italy, 2012.

• *Sheets of semisimple symmetric Lie algebras* at “Algebraic groups”, Oberwolfach, Germany, 2010.

**During national meetings:**

• *Sheets and Induction* at “meeting of the network Théorie de Lie Algébrique et Géométrique” Poitiers, 2015

• *Commuting varieties and Hilbert schemes* at “Journées d’Algèbre, Dualité et algèbre non-commutative” (GTIA), Clermont Ferrand, 2013

• *Sheets of symmetric Lie algebras* at “meeting of the network Géométrie, Dynamique et Représentations des Groupes 3066”, Lyon, 2010

**Other talks:** (Lab seminars and others)

• From nested Hilbert schemes to quivers, Dijon 2016.

• Categorical quotients and Chevalley’s theorems, Saint-Etienne 2016 (team day).

• Geometric bestiary on the (co-)adjoint action, Saint-Etienne 2016 (ANR meeting).


• Nested Hilbert schemes and commuting varieties, Clermont-Ferrand 2013 | Saint-Etienne, 2012 (team day) | Saint-Etienne 2013 (working group) | Lyon 2013.

• PhD results: Brest 2009 (defense)| Paris VII 2010 (enveloping algebras).


**SUPERVISION:**

**PhD advisor:**


**Master level:**

• 2017: Kenny Phommady, *Polynomiality of S(\(g\))^\(g\) with \(g\) a semisimple Lie algebra and introduction to the polynomiality problem of S(\(p\))^\(p\) with \(p\) a parabolic subalgebra*, Master 2 of Ecole Normale Supérieure de Lyon, 4 months, codirection with Florence Fauquant-Millet.

• 2013: Bruno Laurent, *(B,N)-pairs and finite groups of Lie types*[In French], Master 1 of Ecole Normale Supérieure de Lyon, 6 weeks

**Undergraduate:**

• 2017-2018: Romain Tabard, *Crossing in graphs of polynomials and permutations*, Licence 3, one year, during courses


• 2016: Geoffrey Just and Tristan Canale, *Propositional calculus, completeness and 1st order logic*, Licence 3, one semester, during courses.


**REVIEW:**


• Reviewer for *MathSciNet* since 2016.

**INVOLVEMENT IN FUNDED PROJECTS:**

• Member of the french Grant ANR *Geolie* (Geometric methods in Lie theory)
Working groups / Lecture groups:
Involvement including talks:

• *Crystal Basis and diagrammatic algebras*, Lyon, 2018-2019.
• *Algebraic stacks* (and organisation), Saint-Etienne, 2018.
• *Parabolic contractions: degenerate flag varieties and polynomiality of the algebra of invariants* (and organisation), Saint-Etienne, 2017.
• *Working group in algebra in Saint-Etienne*, (and co-organisation) 2016-2017
• *Grothendieck topologies* (and co-organisation), Saint-Etienne, 2016.
• *Slices in Lie theory* (and co-organisation), Working groupe emanating from ANR (french grant) GeoLie, 2016-?.
• *$A_{\infty}$-Structures* (and co-organisation), Saint-Etienne, 2015-16
• *Triangulated categories*, Saint-Etienne, 2014-15
• *Nakajima’s quiver varieties*, Lyon, 2012-13
• *Non-commutative deformation of nilpotent orbits*, Saint-Etienne, 2011-12

Active participation only:

• *Plactic algebras*, Saint-Etienne, 2013-14
• *Cluster algebras and applications*, Lyon, 2013-14
• *Manin’s conjecture*, Saint-Etienne, 2011-13

Teaching:

• From **September 2011** - : Maitre de conférence, 192 h per year on average, all levels (from L1 to M2 Education), all science study paths (maths, biologie, core curriculum science and technology, transversal options ...).

• **Fall 2013**: 36h of Master degree course in the Master 2 Recherche of Lyon (*Master Mathématiques et Applications*) on *Lie algebras*.

• **September 2010 - June 2011**: ATER, 192h in L1-L2 core curriculum (maths, physics, chemistry, computer science, economics).

• **September 2009 - June 2010**: Half-ATER, 96h in L1-L2 Maths/Applied Maths and Social Science.

• **September 2006 - June 2009**: Instructorship, 192h in L1-L2 Maths.

Various Duties:
• **2018**: co-organiser of the days of the national research network TLAG, Saint-Etienne, 2 days.

• **2017**: Member of a hiring committee in Angers (Geometry)

• **2016 - ?**: Member of the laboratory board and scientific council

• **2016**: Main co-organiser of GeoLie days (Kick-off meeting of the french grant GeoLie), Saint-Etienne, 3 days.

• **2012 - ?**: Organisation of a local general seminar: Séminaire Stéphanois de Mathématiques Accessibles

• **2012 - 2016**: Member of the local council (mini lab council for the Saint Etienne part of the ICJ)

• **2011 - 2015**: Person in charge of the management of teaching duties in the department

• **2009 - 2010**: Representative of ATERs at Brest’s mathematical teaching department

• **2009 - 2010**: Representative of PhD students at the Brest’s lab’s council

• **2009 - 2010**: Co-organiser of Brest’s PhD student seminar

• **2010**: Complier of the workshop act “Algebraic Group” in Oberwolfach Report 7 (2010), 1101-1163.

• and some other small tasks of interest for the community (in charge of web page of the team, of some mailing lists...)

**GENERAL TALKS AND POPULARIZATION:**

**Talks:**

• Talk intended to high school students *Infinity in mathematics* (Saint-Etienne, 2018)

• Talk at “University for all” intended to the general public: *Infinity in mathematics* (Saint-Etienne, 2017)

• Talk intended to 200 Junior high school students: *From radix to JPEG, writing numbers and images* (Cordées de la réussite, Saint-Etienne, 2014)

• Talk at Séminaire Stéphanois de Mathématiques Accessibles on *Gödel’s theorems and model theory* (Saint-Etienne, 2012)


• Presentation of the PhD subject at a high-school level (Rennes, 2008), 6 minutes talk and poster

**Facilitator:**

• Participation in popularization events of the lab: 2-3 days per years ("Mathalyon", Fête de la science, ...) since 2012.
• Facilitator of a research training course intended to middle school students (project “MATh.en.JEANS”), Montbrison 2016-2017 (Queue of dice)

• Facilitator of three research training courses intended to high school students (project “Hippocampe”, 3 days), Saint-Etienne 2016 (Error Correcting Codes) and 2015 (Cryptography), Brest 2009 (radix).

• Participation as an “expert” in a café philosophique on the subject of Infinity, Saint-Etienne 2015.

• Creation of an activity on conics, Brest 2007.

COMPUTER SCIENCE:

• Teaching: Cryptography (2nd year transversal option at Saint-Etienne), Implementation in linear algebra (2nd year, Saint-Etienne), Programming for Secondary education (Master 2 EF, intended to future teachers in secondary education, Saint-Etienne)

• Taken Courses: Error correcting codes, Goppa and Reed Salomon (level M2), Cryptography via Drinfeld modules (M2), Complexity and model theory (M1), Decidability and calculability (L3).

• Examples of recent implementations: Geometric computation in Lie algebras at a research level (defining ideals of some varieties, smooth points, ring of invariants ...) (SAGE, GAP), Elementary programs linked with cryptology (Vignère cryptanalysis, RSA...) (Maple, SAGE)

• Languages: Programming: SAGE, Python, GAP, Scratch, Caml, MAPLE, Matlab, QBasic, Web pages: HTML, PHP

LANGUAGE:

• French: Native

• English: Fluent.

• German: Basic.