

# Curriculum Vitæ

## 1 Personal

- PAUPERT, Julien, H.  
Born January 17, 1977, in Paris (France).  
French citizen, US permanent resident.  
Married, four children.
- Contact information:

Arizona State University  
School of Mathematical and Statistical Sciences  
P.O. Box 871804  
Tempe, AZ 85287-1804  
Phone: (480) 727 6661  
e-mail: [paupert@asu.edu](mailto:paupert@asu.edu)  
Homepage: <http://math.la.asu.edu/~paupert>

## 2 Employment

- 2011-present: Assistant Professor at Arizona State University.
- 2010-2011: Research Associate at the University of Fribourg.
- 2007-2010: Scott Assistant Professor at the University of Utah.
- 2006-2007: Visiting Assistant Professor at Johns Hopkins University.
- 2004-2006: “A.T.E.R.” (Instructor) at Université Paris 6.
- 2001-2004: “Moniteur” (Teaching Assistant) at Université Paris 7.

## 3 Education

- Ph.D. in Mathematics, november 2005, Université Paris 6 (France). Advisor: Elisha Falbel.  
Thesis: *Configurations of Lagrangians, fundamental domains, and discrete subgroups of  $PU(2, 1)$* .
- “Diplome d’Etudes Approfondies” (Master) in Mathematics, june 2001, Université Paris 6.

## 4 Grants and awards

- Simons Foundation Collaboration Grant for Mathematicians # 318124, 09/2014-08/2019, \$ 35,000, Principal Investigator.
- National Science Foundation grant DMS 1007340 “Complex hyperbolic reflection groups and lattices”, 07/2010-06/2013, \$ 94,573, Principal Investigator. Transferred to ASU as DMS 1249147.
- Swiss National Science Foundation grant 200021-131967/1 “Discreteness and Computation in Geometry”, 10/2010-09/2012, CHF 209,342, Co-Principal Investigator (PI: Ruth Kellerhals).
- Research fellowship (included in ATER Teaching/Research position), 09/2004-08/2006, funded by the French Ministry of Research, 30,000 euros.
- Graduate Student Fellowship, 09/2001-08/2004, funded by the French Ministry of Research, 35,000 euros.

## 5 Research

### 5.1 Publications and preprints

- (with E. Falbel) *Fundamental domains for finite subgroups in  $U(2)$  and configurations of Lagrangians*. *Geom. Dedicata* **109** (2004), 221–238.
- (with M. Deraux and E. Falbel) *New constructions of fundamental polyhedra in complex hyperbolic space*. *Acta Math.* **194** (2005), 155–201.
- *Configurations of Lagrangians, fundamental domains, and discrete subgroups of  $PU(2, 1)$* . Ph.D. Thesis. Université Paris 6 (2005). <http://math.la.asu.edu/~paupert/thesis.pdf>
- *Elliptic triangle groups in  $PU(2, 1)$ , Lagrangian triples and momentum maps*. *Topology* **46** (2007), 155–183.
- *Applications moment, polygones de configuration et groupes discrets de réflexions complexes dans  $PU(2, 1)$* . Séminaire de théorie spectrale et géométrie, Grenoble. *TSG* **24** (2007), 45–60. <http://math.la.asu.edu/~paupert/tsggrenoble.pdf>
- (with J. Parker) *Unfaithful complex hyperbolic triangle groups II: Higher order reflections*. *Pacific J. Maths.* **239** (2009), 357–389.
- *Unfaithful complex hyperbolic triangle groups III: arithmeticity and commensurability*. *Pacific J. Maths.* **245** (2010), 359–372.
- (with M. Deraux and J. Parker) *Census of the complex hyperbolic sporadic triangle groups*. *Experiment. Math.* **20** (2011), 467–486.
- *Non-discrete hybrids in  $SU(2, 1)$* . *Geom. Dedicata* **157** (2012), 259–268.
- *A simple method to compute volumes of even-dimensional Coxeter polyhedra*, in *In the Tradition of Ahlfors-Bers, VI, Contemporary Mathematics*, vol. 590, Amer. Math. Soc., Providence RI, 2013, pp. 167–175.
- (with M. Deraux and J. Parker) *A family of new non-arithmetic complex hyperbolic lattices*. *Invent. Math.* **203** (2016), 681–771.
- (with P. Will) *Real reflections, commutators and cross-ratios in complex hyperbolic space*. Preprint 2013; available at: <https://math.la.asu.edu/~paupert/commutatorfinal.pdf>.

### 5.2 Invited talks

- Ergodic Geometry Seminar at the Ecole Polytechnique (may 2004).
- Geometry and Spectral Theory Seminar in Grenoble (january 2006).
- Ergodic Geometry Seminar at the Ecole Polytechnique (january 2006).
- Analytic Geometry Seminar in Rennes (february 2006).
- Geometry Seminar in Durham (march 2006).
- Algebra and Geometry Seminar in Brest (april 2006).
- Groups and Geometry Seminar in Toulouse (april 2006).
- “Ernest” Seminar in Luminy (april 2006).
- Geometry, Topology, Dynamics Seminar in Orsay (may 2006).
- Geometry-Topology Seminar at the University of Maryland (november 2006).

- Geometry/Topology Seminar at Brown University (december 2006).
- Geometry/Topology Seminar at the University of Chicago (march 2007).
- Pacific Northwest Geometry Seminar at the University of Utah (april 2007).
- Max Dehn Seminar at the University of Utah (september 2007).
- Topology Seminar at the University of Texas at Austin (november 2008).
- Max Dehn Seminar at the University of Utah (december 2008).
- Geometry Seminar at the University of Durham (march 2009).
- Geometry and Dynamics Seminar in Lille (march 2009).
- “Geometric Groups on the Gulf Coast ( $G^3$ )” conference in South Padre Island, Texas (april 2009).
- Topology Seminar at the University of Texas at Austin (october 2009).
- Special Session on “Lattices, Coxeter groups and Buildings” at the AMS Fall Southeastern Meeting in Boca Raton, Florida (october 2009).
- SaG Seminar at the University of Sherbrooke (november 2009).
- CIRGET Geometry and Topology Seminar in Montreal (november 2009).
- Geometry/Topology Seminar at Brown University (december 2009).
- Special Session on “Geometric Topology/Geometric Group Theory” at the Spring Topology & Dynamics Conference at Mississippi State University (march 2010).
- Bloomington Geometry Workshop at Indiana University, Bloomington (april 2010).
- Geometry/Topology Seminar at the University of Chicago (april 2010).
- Geometry/Topology Seminar at Yale University (may 2010).
- Oberseminar Geometrie at the University of Fribourg (2 talks, september-october 2010).
- Geometry Seminar at Durham University (february 2011).
- Special Colloquium at SUNY at Buffalo (march 2011).
- Ahlfors-Bers Colloquium (special session on Structures) at Rice University (march 2011), invited speaker.
- Special Colloquium at Arizona State University (march 2011).
- LMS Durham Symposium “Geometry and Arithmetic of Lattices” at Durham University (july 2011), invited speaker.
- Borel Seminar 2011 “Topics in Real and Complex Hyperbolic Geometry” in Les Diablerets, Switzerland (august 2011), invited speaker. (Cancelled because of transatlantic move).
- Number theory seminar at Arizona State University (october 2011).
- Geometry seminar at Arizona State University (7 talks, october 2011, january, february and september 2012, september 2013).
- Geometry seminar at Université Paris 6 (june 2012).
- Spectral Theory and Geometry seminar in Grenoble (june 2012).

- Geometry seminar at Indiana University, Bloomington (october 2012).
- Conference on "Algebraic Geometry and Hyperbolic Geometry – New Connections" at IMPA/Cabo Frio (june 2013), invited speaker.
- Workshop on "Exotic Geometric Structures" at ICERM, Brown University (september 2013), invited speaker.
- Topology seminar at the University of California in Santa Barbara (november 2013).
- Colloquium at the University of Nevada in Reno (december 2013).
- Geometry–Topology seminar at Caltech (february 2014).
- Second GEAR Network Junior Retreat at the University of Michigan at Ann Arbor (may 2014), invited senior speaker.
- Geometry seminar at Université Paris 6, France (june 2014).
- Borel Seminar 2014 "Discrete group actions in geometry and topology" in les Diablerets, Switzerland (june-july 2014), invited speaker.
- Ahlfors-Bers Colloquium (parallel session on Geometry) at Yale University (october 2014), invited speaker.
- Advanced Training in Mathematics Workshop on "Lattices: Geometry and Dynamics" organized by the Indian National Centre for Mathematics at IISER Mohali (december 2014), invited lecturer (4.5-hour minicourse).
- Hyperbolic Geometry seminar at the City University of New York Graduate Center (march 2015).
- Colloquium at the University of Arizona (april 2015).
- Max Dehn Seminar at the University of Utah (november 2015).
- Topology seminar at the University of California in Santa Barbara (march 2016).

### 5.3 Conferences attended

- "DEA: Algèbres de Hecke et tresses" in Luminy in april 2001.
- "Géométrie des variétés de petites dimensions et géométries spéciales" in Luminy in june 2002.
- "Géométrie hyperbolique complexe" in Luminy in july 2003.
- "Géométries à courbure négative ou nulle, Groupes discrets et rigidités" in Grenoble in june 2004.
- "Théorie géométrique et cohomologique des groupes: rigidité et déformations" in Luminy in april 2006.
- "Wasatch Topology Conference" at the University of Utah (august 2007).
- "Geometric Group Theory, Geometric Analysis, and Mapping Class Groups " at the Johns Hopkins University (may 2008).
- "Ahlfors-Bers Colloquium" at Rutgers University-Newark (may 2008).
- "Représentations de réseaux et groupes kählériens" in Nancy (may 2008).
- "Non Positive Curvature and the Elementary Theory of Free Groups" in Anogia, Crete (june 2008).
- "Wasatch Topology Conference" at the University of Utah (august 2008).
- "Wasatch Topology Conference" at the University of Utah (december 2008).

- FRG conference “Geometry and Dynamics in Surfaces and 3-Manifolds II” in Park City, Utah (august 2009).
- Vogtmannfest at CIRM, Luminy (june 2010).
- William Rowan Hamilton Geometry & Topology Workshop on Knots, Surfaces and Three-Manifolds at Trinity College Dublin (september 2010).
- 46<sup>th</sup> Texas Geometry & Topology Conference at the University of Texas in Austin (october 2011).
- $G^3$  (Geometric Group Theory on the Gulf) Conference in Pensacola Beach (april 2012).
- GEAR Retreat at the University of Illinois at Urbana-Champaign (august 2012).
- Special Session on Hyperbolic Geometry at the AMS Fall 2012 Western Sectional Meeting at the University of Arizona (october 2012), main organizer.
- Winter 2012 Wasatch Topology Conference at the University of Utah (december 2012).
- Hot Topics Workshop on ”Surface subgroups and cube complexes” at MSRI (march 2013), invited participant.
- Workshop on ”Topology, Geometry and Group Theory, Informed by Experiment” at ICERM, Brown University (october 2013), invited participant.
- Mostowfest: Geometry, Analysis and Groups at Yale (october 2013).
- GEAR Retreat at the University of Maryland (march 2014).
- 52<sup>nd</sup> Texas Geometry & Topology Conference at the University of Texas in Austin (november 2014).
- Workshop on ”Dynamics on Moduli Spaces” at MSRI (april 2015), invited participant.

## 6 Teaching

- 1997-1998: Tutor in Mathematics at the Université Paris 7.
- 1998-1999: Oral examiner for undergraduates at the Université Paris 7.
- 2001-2004: “Moniteur”(Teaching Assistant) at the Université Paris 7. Courses taught: undergraduate algebra, calculus, quadratic forms, differential equations, Fourier analysis.
- 2004-2006: “ATER”(Instructor) at the Université Paris 6. Courses taught: undergraduate as above and a graduate course in Geometry.
- 2006-2007: Visiting Assistant Professor at Johns Hopkins University. Courses taught: Calculus II (fall 2006), Linear Algebra, Non-Euclidean Geometry (spring 2007; included an undergraduate research project).
- Assistant Professor at the University of Utah. Courses taught: Calculus II (fall 2007), Calculus I (spring 2008), Calculus III (fall 2008), Introduction to Algebraic and Geometric Topology (spring 2009; included an undergraduate research project), Business Algebra (fall 2009) and Introduction to Real Analysis (spring 2010).
- Assistant Professor at Arizona State University. Courses taught: Introduction to Geometry (fall 2011, spring 2012, spring 2013, fall 2014), Intermediate Abstract Algebra (spring 2012, spring 2015), Introduction to the Geometry and Topology of Manifolds I (fall 2012, fall 2014, fall 2015), Mathematical Structures (spring 2013, spring 2014), Introduction to Hyperbolic Geometry (spring 2014, spring 2016), Group Theory (fall 2015).

More details, including (some) student research projects, can be found on my teaching webpage at:

<http://math.la.asu.edu/~paupert/teaching.html>

## 7 Outreach and undergraduate mentoring

- Student research project mentor (3d-5th year students) at Utah (2007-2010).
- Organization of student Free Seminar at Fribourg (2010-2011).
- Organization of the undergraduate Differential Geometry seminar at ASU (2011-present).
- Student research project mentor at ASU, for Differential Geometry student seminar and Barrett College Honors Contracts (10 students; 2011-present).
- Presentations at freshman First Year Seminar; Math Circle and Math Awareness Day (for high school students) at ASU (2011-present).
- Math Club faculty advisor (2014-present).
- ASU faculty advisor for BASIS Scottsdale high school students (2014-present).

## 8 Service activities

- Organization of Max Dehn seminar at Utah.
- Organization of Oberseminar Geometrie at Fribourg.
- Organization of Differential Geometry seminar at ASU.
- Organization of a Special Session on Hyperbolic Geometry at the AMS 2012 Fall Western Sectional Meeting.
- Referee reports for various research journals.
- Committee chair for Joseph Wells (PhD), Chris Abram (MA), committee member for Donald Adams (PhD), Shawn Elledge (PhD), Marshall Moritz (MA), Angela Giunta, Jay Barraza (Honors Thesis).