

CURRICULUM VITAE

SEIDON ALSAODY

Personal Data.

- Date of Birth: 1986-09-08
- Nationality: Swedish
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Degrees.

- May 2015: Ph.D. in Mathematics, Uppsala University. Thesis: A Categorical Study of Composition Algebras via Group Actions and Triality. Advisor: Prof. Ernst Dieterich.
- December 2012: Ph.Lic. in Mathematics, Uppsala University. Thesis: On Finite-Dimensional Absolute Valued Algebras.
- June 2010: M.Sc. in Mathematics, Uppsala University. Thesis: Generalisations of the Algebraic Theory of Connective Segmentation.
- June 2008: B.Sc. in Physics, Uppsala University. Thesis: Complex Geometry.

Positions.

- September 2016 – Present: KAW Postdoctoral Fellow, Institut Camille Jordan, Université Claude Bernard Lyon 1, France.
- August 2015 – August 2016: Visiting Lecturer, Dept. of Mathematical Sciences, Chalmers University of Technology and the University of Gothenburg, Sweden.
- July 2010 – June 2015: Doctoral Student, Dept. of Mathematics, Uppsala University, Sweden.
- August – December 2009: Teacher, Dept. of Mathematics, Uppsala University, Sweden.
- July 2006 – June 2009: Teaching Assistant and Teacher, Dept. of Mathematics, Uppsala University, Sweden.

Research.

Publications.

- (9) (With P. Gille) Isotopes of Octonion Algebras, \mathbf{G}_2 -Torsors and Triality. Submitted for publication. Preprint
- (8) (With A. Stolin) Lie Bialgebras, Fields of Cohomological Dimension at Most 2 and Hilbert's Seventeenth Problem. *J. Algebra* 476 (2017), 368–394. Link Preprint

- (7) Composition Algebras and Outer Automorphisms of Algebraic Groups via Triality. *Comm. Algebra* 45 (2017), 2401–2416. [Link](#) [Preprint](#)
- (6) Classification of the Finite-Dimensional Real Division Composition Algebras having a Non-Abelian Derivation Algebra. *J. Algebra* 445 (2016), 35–77. [Link](#) [Preprint](#)
- (5) An Approach to Finite-Dimensional Real Division Composition Algebras through Reflections. *Bull. Sci. Math.* 139 (2015), 357–399. [Link](#)
- (4) Corestricted Group Actions and Eight-Dimensional Absolute Valued Algebras. *J. Pure Appl. Algebra* 219 (2015), 1519–1547. [Link](#)
- (3) Morphisms in the Category of Finite-Dimensional Absolute Valued Algebras. *Colloq. Math.* 125 (2011), 147–174. [Link](#)
- (2) (With J. Serra) Connective Segmentation Generalized to Arbitrary Complete Lattices. In: P. Soille, M. Pesaresi, and G. K. Ouzounis (Eds.): *ISMM 2011, LNCS 6671* (2011), 61–72. [Link](#)
- (1) Determining the Elements of a Semigroup. U.U.D.M. Report 2007:3, ISSN 1101-3591, Dept. of Mathematics, Uppsala University.

Invited Conference Talks.

- (3) Lie Bialgebras from a Cohomological Viewpoint. *Lie Theory, Cohomology and Geometry in Wildrose Country; a workshop in honour of Vladimir Chernousov and Arturo Pianzola*, University of Alberta, Canada, August 2017.
- (2) From Hilbert’s Seventeenth Problem to Quantum Groups via Pfister Forms. *Algebraic Mini-Workshop in honour of E. Dieterich and K.-H. Fieseler*, Uppsala University, Sweden, September 2016.
- (1) Lie Bialgebras and Belavin–Drinfeld Cohomology via Quaternion Algebras and Hilbert’s 17th Problem. *Algèbre et Théorie des Nombres, Rencontres Lyon/Ottawa*, Lyon, France, June 2016.

Invited Seminar Talks.

- (8) Algèbres d’octonions, trialité et \mathbf{G}_2 -torseurs. Institut Fourier, Grenoble, France, May 2017.
- (7) Groupes quantiques, bigèbres de Lie, cohomologies, et le 17e problème d’Hilbert. Institut de mathématiques de Bourgogne, Dijon, France, April 2017.
- (6) Composition Algebras via Lie Algebras and Affine Group Schemes. Chalmers University of Technology and the University of Gothenburg, Sweden, October 2015.
- (5) Finite Dimensional Absolute Valued Algebras. Universidad de Almería, Spain, October 2013.
- (4) Finite Dimensional Real Division Composition Algebras with Nonabelian Derivation Algebras. Universidad de Zaragoza and Universidad de La Rioja, Spain, October 2013.
- (3) An Approach to Absolute Valued Algebras by Reflections. Universidad de Zaragoza and Universidad de Málaga, Spain, October 2013.
- (2) Induced Group Actions and Finite-Dimensional Real Division Algebras. Uppsala University, Sweden, September 2012.
- (1) Generalizing Connective Segmentation to Arbitrary Complete Lattices. Centre for Image Analysis, Uppsala, Sweden, September 2011.

Selected Conference Talks.

- (10) Les octonions et leurs symétries exceptionnelles. Journée de l’équipe AGL de l’Institut Camille Jordan, Lyon, France, January 2017.

- (9) Quantum Groups, Belavin–Drinfeld Cohomology and Quaternion Algebras. Mini-symposium talk at the 7th European Congress of Mathematics, Berlin, Germany, July 2016.
- (8) Composition Algebras and Some of Their Connections. 27th Nordic Congress of Mathematicians, Stockholm, Sweden, March 2016.
- (7) Composition Algebras via Lie Algebras of Derivations and Automorphisms of Algebraic Groups. Algebraic Groups and Lie Algebras International Workshop, Norris Point, Newfoundland, Canada, August 2015.
- (6) Composition Algebras, Triality, and Automorphisms of Algebraic Groups. AMS–EMS–SPM International Meeting, Porto, Portugal, June 2015.
- (5) Using Derivations to Understand Eight-Dimensional Algebras. Fall Meeting of the Swedish Mathematical Society, Gothenburg, Sweden, November 2014.
- (4) Eight-Dimensional Absolute Valued Algebras. Third Mile High Conference on Nonassociative Mathematics, Denver, Colorado, USA, August 2013.
- (3) Morphisms of Absolute Valued Algebras: Description, Irreducibility and Factorization. VI International Conference on Non Associative Algebra and Its Applications, Zaragoza, Spain, November 2011.
- (2) Connective Segmentation Generalized to Arbitrary Complete Lattices. International Symposium on Mathematical Morphology, Intra, Italy, July 2011.
- (1) On Morphisms of Finite Dimensional Absolute Valued Algebras. Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, Massachusetts, USA, April 2011.

Organization of Conferences.

- Co-organizer of the special session Non-Commutative Algebra, Meeting of the Catalan, Spanish, Swedish Math Societies, Umeå, Sweden, June 2017.
- Member of the organizing committee, Quantum Algebras, Quantum Integrable Models and Quantum Information, satellite conference to the 7th European Congress of Mathematics, Kristineberg, Sweden, July 2016.

Selected Grants and Scholarships.

- Grant for a post-doctoral position abroad from the Knut and Alice Wallenberg Foundation, 2016.
- Grant from the G S Magnuson Foundation via the Royal Swedish Academy of Sciences, 10 500 SEK, 2015.
- Liljewalch Travel Scholarship via Uppsala University, 8 158 SEK, 2015.

Teaching, Supervision and Pedagogics.

Undergraduate Courses at Chalmers University of Technology.

- As Main Lecturer: Mathematics for Marine Engineers, Discrete Mathematics, Linear Algebra, Mathematics for the Preparatory Year.

Undergraduate Courses at Uppsala University.

- As Main Lecturer: Basic Algebra, Abstract Algebra, Advanced Linear Algebra, Calculus in One Variable.
- As Seminar Teacher: Preparatory Course in Mathematics, Basic Course in Mathematics, Basic Algebra, Abstract Algebra, Linear Algebra, Calculus in One Variable, Calculus in Several Variables, Elementary Probability and Statistics.

Graduate Course at the University of Gothenburg.

- As main lecturer (joint with A. Stolin): Lie algebras and bialgebras.

Students Supervised.

- Kronosjö, A., Hurwitz 1, 2, 4, 8-sats [Hurwitz's 1, 2, 4, 8-Theorem], undergraduate thesis, Uppsala University, Sweden, 2013.
- Lilja, K., Kvaternioner [Quaternions], undergraduate thesis, Uppsala University, Sweden, 2013.

Pedagogic Activities and Distinctions.

- Nominated for the Pedagogical Prize of the IT-Section, Chalmers University of Technology Student Union, Sweden, 2016.
- Academic Teacher Training Course, Uppsala University, Sweden, 2013.
- Supervision of Writing Assignments and Degree Projects Course, the University of Gothenburg, Sweden, 2016.
- Muntliga metoder i matematik [Oral Methods in Mathematics]. Poster and seminar talk at the Pedagogic Conference of the Faculty of Science and Technology, Uppsala University, Sweden, 2014.

Community Service.

- Reviewer for Mathematical Reviews.
- Co-organizer of the Algebra Seminar, Institut Camille Jordan, Lyon, France.
- January 2011 – December 2014: Organizer of the Seminar Series 'Matematikseminariet' for Undergraduate Students, Dept. of Mathematics, Uppsala University, Sweden.
- October 2010 – June 2011: Member of the Faculty Board, Faculty of Science and Technology, Uppsala University, Sweden.
- September 2010 – December 2011: Member of the Equal Opportunities Workgroup, Dept. of Mathematics, Uppsala University, Sweden.
- September 2010 – June 2011: Chair of the PhD Students' Council of the Faculty of Science and Technology, Uppsala University, Sweden.

Outreach.

- Key-note speaker, Autumn Meeting of Matematiska föreningen, Uppsala University, Sweden, December 2015.
- Kvaternioner [Quaternions], lecture for high school students, Fönster mot naturvetenskap, the University of Gothenburg, Sweden, October 2015.
- Tal i högre dimensioner [Numbers in Higher Dimensions], public lecture, SciCafé Uppsala, Sweden, April 2015.

Education.

- July 2010 – June 2015: Doctoral Studies in Mathematics, Dept. of Mathematics, Uppsala University, Sweden.
- January – May 2010: Research Internship (as part of the Master Programme in Mathematics), ESIEE Paris, France.
- August 2008 – June 2010: Master Programme in Mathematics, Uppsala University, Sweden.
- August 2005 – June 2008: Scientific Programme in Physics, Uppsala University, Sweden.

Membership in Learned Societies. Member of the European Mathematical Society, Svenska matematikersamfundet and Société mathématique de France.

Language Proficiency. Swedish (native/bilingual), English (full professional); French (professional); Arabic (adequate); Latin (elementary).