

## Jiaxiong Hu

---

CONTACT INFORMATION	Computational algebra group, Department of Mathematics, Simon Fraser University, 8888 University Dr, Burnaby, BC, Canada, V5A1S6.	(306)341-4696, jha107@sfu.ca <a href="http://www.cecm.sfu.ca/~jha107">http://www.cecm.sfu.ca/~jha107</a>
RESEARCH INTERESTS	Polynomials algorithms in Computer Algebra. Using Computer Algebra to study algebraic structures.	
EDUCATION	<b>September, 2010 to present:</b> <b>Department of Mathematics, Simon Fraser University</b> Ph.D. Candidate, Pure Mathematics (expected December 2013) <ul style="list-style-type: none"><li>• Thesis Topic: <i>A parallel algorithm to compute the greatest common divisor of sparse multivariate polynomials.</i></li><li>• Supervisor: Michael Monagan</li></ul> <b>September, 2007 to August, 2009:</b> <b>Department of Mathematics and Statistics, University of Saskatchewan</b> Master of Science in Mathematics, August 2009 <ul style="list-style-type: none"><li>• Thesis Topic: <i>Invariant Lie polynomials in two and three variables.</i></li><li>• Supervisor: Murray Bremner</li></ul> <b>September, 2004 to May, 2007:</b> <b>Department of Mathematics and Statistics, University of Saskatchewan</b> Honors, Bachelor of Science in Mathematics, May 2007	
PREPRINTS AND PUBLICATIONS	Murray R. Bremner and Jiaxiong Hu, <i>On Kruskal's theorem that every <math>3 \times 3 \times 3</math> array has rank at most 5</i> , submitted 6 September 2012.  Murray R. Bremner and Jiaxiong Hu, <i>Canonical forms of small tensors over <math>\mathbb{F}_2</math></i> , submitted 22 June 2012.  Murray R. Bremner and Jiaxiong Hu, <i>The fundamental invariants of <math>3 \times 3 \times 3</math> array</i> , submitted 13 December 2011, accepted 24 April 2012 by Mathematics of Computations.  Murray R. Bremner and Jiaxiong Hu, <i>Lie invariants in two and three variables</i> , submitted 7 July 2010, accepted 27 January 2011 by Algebra Colloquium.  Jiaxiong Hu, Master thesis, <i>Invariant Lie polynomials in two and three variables</i> , University of Saskatchewan. August 2009.	
CONFERENCE TALKS	<i>Lie invariants in the natural representation of <math>sl(2)</math> and <math>sl(3)</math></i> , The Third Annual Meeting of the PRAIRIE NETWORK for Research in Mathematical Science, April, 2009.	
OTHER TALKS	<i>A parallel algorithm to compute the GCD of sparse multivariate polynomials</i> , presentation for Ph.D thesis proposal exam, Simon Fraser University, August, 2012.	

*Computing invariant Lie polynomials in the representation of  $sl(2)$  and  $sl(3)$* , presentation in Computer Algebra Group, Simon Fraser University, January, 2010.

*Complete reducibility of representation*, presentation in Lie Algebra course, Queen's University, November, 2009.

*Root systems of semi-simple Lie algebras*, presentation in Lie Algebra course, Queen's University, September, 2009.

*Fast Hermite Normal Form algorithm*, presentation in graduate course Math872, University of Saskatchewan, April, 2009.

*Relation between  $SU(2)$  and  $SO(3)$* , presentation in Lie theory seminar, University of Saskatchewan, March, 2009.

*Lie Invariants of degree 10*, presentation in nonassociative algebras seminar, University of Saskatchewan, December, 2009.

*Hall basis construction algorithm*, presentation in nonassociative algebras seminar, University of Saskatchewan, September, 2009.

*Finding primes and the Solovay and Strassen test*, presentation in graduate course Math872, University of Saskatchewan, December, 2007.

*Free groups*, presentation in honour student seminar, University of Saskatchewan, March, 2007.

*Topological Groups*, presentation in honour student seminar, University of Saskatchewan, March, 2007.

TEACHING  
EXPERIENCE

Spring	2012	Teaching Assistant, Algebra Workshop, Simon Fraser University
Spring	2011	Teaching Assistant, Algebra Workshop, Simon Fraser University
Fall	2010	Teaching Assistant, Calculus Workshop, Simon Fraser University
Fall	2009	Teaching Assistant, Math Help Centre, Queen's University
Fall	2009	Marker, Math221, Queen's University
Winter	2009	Teaching Assistant, Math110/124/226, University of Saskatchewan
Fall	2008	Teaching Assistant, Math110/123/225, University of Saskatchewan
Summer	2008	Teaching Assistant, Math225, University of Saskatchewan
Winter	2008	Teaching Assistant, Math116/124/224, University of Saskatchewan
Fall	2007	Teaching Assistant, Math110, University of Saskatchewan
Summer	2007	Marker, Math110/116, University of Saskatchewan
Winter	2007	Marker, Math110, University of Saskatchewan
Fall	2006	Marker, Math110, University of Saskatchewan

FINANCIAL  
SUPPORT

2011–2012	Teaching/Researching assistantship, Simon Fraser University
2010–2011	Teaching/Researching assistantship, Simon Fraser University
2009–2010	Teaching/Researching assistantship, Queen's University
2009–2010	Queen's University Scholarship, Queen's University
2009–2010	International Student Scholarship, Queen's University
2008–2009	Teaching/Researching assistantship, University of Saskatchewan
2007–2008	Teaching/Researching assistantship, University of Saskatchewan
2006–2007	Honors Student Scholarship, University of Saskatchewan

RELEVANT SKILLS	Languages:	English, Chinese.
	Operation systems:	Linux, Windows, Mac.
	Programming:	Maple, C, Latex, HTML/CSS.

REFERENCES

**Murray Bremner**, Professor,  
Department of Mathematics and Statistics,  
University of Saskatchewan,  
106 Wiggins Road (McLean Hall),  
Saskatoon, SK, S7N 5E6, Canada.  
(306)966-6122, [bremner@math.usask.ca](mailto:bremner@math.usask.ca).

**Michael Monagan**, Professor,  
Department of Mathematics,  
Simon Fraser University,  
8888 University Dr,  
Burnaby, BC, V5A 1S6, Canada.  
(778)782-4279, [monagan@cecm.sfu.ca](mailto:monagan@cecm.sfu.ca).