

ALLYSA LUMLEY

CONTACT INFORMATION

University of Lethbridge
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Citizenship: Canadian

RESEARCH INTERESTS

Analytic number theory, Riemann Zeta function, primes in arithmetic progression, Dirichlet L -functions.

EDUCATION

Master of Science in Mathematics (Number Theory) 2012-2014

University of Lethbridge

GPA: 4.0

Thesis Title: *Explicit Results On Primes*

Supervisors: Dr. Habiba Kadiri & Dr. Nathan Ng

Bachelor of Science in Mathematics (with Distinction) 2005-2010

University of Lethbridge

GPA: 3.53

AWARDS

University of Lethbridge

Graduate Student Scholarship (\$3000) 2014

Profiling Award (\$1750) 2013

Simpson-Markinch Scholarship (\$1000) 2009

Keith and Hope Ferguson Memorial Scholarship (\$1000) 2009

Chinook Summer Research Award (\$5625) 2009

Jason Lang Scholarship (\$1000 each) 2007-2008, 2006-2007 and 2005-2006

University of Lethbridge general Academic Achievement Award (\$1000) 2007-2008

Dean's Honor List Fall 2007

Rutherford Scholarship (\$2500) 2005

PUBLICATIONS

H. Kadiri & A. Lumley, *Short Effective Intervals Containing Primes*, *Integers* 14(2014), Paper No A61, 18 pp.

Submitted or in preparation:

H. Kadiri & A. Lumley, *New Explicit Bounds for $\psi(x; q, a)$* , in preparation, 30 pp.

ACADEMIC ACTIVITIES

Conference and Seminar Presentations*New Bounds for $\psi(x; q, a)$*

Canadian Number Theory Association XIII Carleton University, Ottawa ON, Canada	June 2014
Pacific Institute for the Mathematical Sciences Young Researchers Conference University of British Columbia, Vancouver BC, Canada	June 2014
Alberta Mathematics Dialogue (AMD), University of Alberta, Augustana Campus, Camrose AB, Canada	May 2014
Alberta Number Theory Days, Banff International Research Station (BIRS), Banff AB, Canada	April 2014
Number Theory and Combinatorics Seminar, University of Lethbridge	March 2014

Canadian Mathematical Society Winter Meeting

Ottawa Marriott, Ottawa, Ontario, Canada, December 2013

Additional Seminars

University of Lethbridge, Lethbridge AB, Canada	
Bounded Gaps Seminar, multipart presentation of Zhang's 2013 paper Arithmetic of Elliptic Curves	November 2013 May 2013

Graduate Number Theory Lectures, University of Lethbridge

Seive of Eratosthenes and Rankin's Trick (2 lectures)	November 2012
P-adic Numbers (4 lectures)	October 2012

Undergraduate Lectures on Complementary Pairs, University of Lethbridge

Comparison of Complex Complementary Pairs <i>CCP</i> and Real Pairs	August 2010
Arithmetic of CCP and building new from old	August 2010

Advanced Group Theory Seminar, University of Lethbridge

Weekly lectures on course material Spring 2010

Undergraduate lectures in Analytic Number Theory, University of Lethbridge

Arithmetic Functions	May 2009
Tchebycheff's Bounds for $\pi(x)$	May 2009
Upper Bounds for the Riemann Zeta Function	June 2009
Lower Bounds for the Riemann Zeta Function and the nonvanishing on $Re(s) = 1$	June 2009
Zero-free Region for the Riemann Zeta Function	June 2009

Conferences Attended

- Pacific Institute for the Mathematical Sciences (PIMS) Young Researchers Conference (YRC) in Mathematics and Statistics*
University of Alberta, Edmonton AB, Canada May 21-24, 2013
- Alberta Number Theory Days 2013*
BIRS, Banff AB, Canada May 10-12, 2013
- Canadian Number Theory Association Meeting (CNTA) XII*
University of Lethbridge, Lethbridge AB, Canada June 2012
- Alberta Number Theory Days 2009*
University of Calgary, Calgary AB, Canada April 2009

Workshops Attended

- Institute of Advanced Study and Park City Mathematics Institute Undergraduate Summer School, "Arithmetic of L-functions"*
Park City, Utah, USA June-July 2009
- PIMS Mathematical Biology Summer Workshop*
University of Alberta, Edmonton AB, Canada May 2008

Summer Research Projects

- Exploration of Complementary Pairs, MUB's and Latin Squares.*
Supervisor: Dr. Kharaghani Summer 2010
- Explicit bounds for prime counting function $\psi(x; q, a)$.*
Supervisor : Dr. Kadiri Summer-Fall 2009
- The distribution of squarefree integers.*
Supervisor : Dr. Kadiri Summer 2008

TEACHING EXPERIENCE

Course	Role	Location	Term
Calculus II	Marker	Lethbridge	Fall 2007
Calculus II	Marker	Lethbridge	Spring 2008
Essential Mathematics (FNTP)	Tutor	Lethbridge	Fall 2008
Group and Ring Theory	Marker	Lethbridge	Spring 2008
Geometry	Marker	Lethbridge	Fall 2008
Linear Algebra I	Marker	Lethbridge	Spring 2009
Calculus II	Marker	Lethbridge	Fall 2009
Calculus III	Marker	Lethbridge	Fall 2009
Combinatorics	Marker	Lethbridge	Spring 2010
Elementary Number Theory	Marker	Lethbridge	Spring 2010
Calculus II	Marker	Lethbridge	Fall 2012
Calculus IV	Marker	Lethbridge	Spring 2013
Calculus I	Marker	Lethbridge	Summer 2013
Calculus II	TA & Marker	Lethbridge	Fall 2013
Analysis I	Marker	Lethbridge	Fall 2013
Calculus I	TA	Lethbridge	Spring 2014
Linear Algebra I	TA	Lethbridge	Fall 2014 & Spring 2015
Calculus II	TA	Lethbridge	Fall 2014 & Spring 2015

TA=Teaching Assistant

FNTP=First Nations Transitions Program

PROFESSIONAL ACTIVITIES AND SKILLS

Work Experience

Position	Duties	Employer	Term
Research Assistant	Research problems and write papers.	University of Lethbridge	September 2014-July 2015
Fun with Math Outreach Program Coordinator	Prep all materials for problem solving sessions, guide students through activities, advertise, go to schools to encourage interest in program and write year end reports.	University of Lethbridge	September 2014-April 2015
Math Help Session Coordinator	Supervise tutors, deploy people effectively during busy nights, help students and write year end reports.	University of Lethbridge	January 2013-April 2014
Conference Helper for CNTA XII	Help with registration, chair sessions and run miscellaneous errands.	University of Lethbridge	June 2012
Shift Supervisor	Deploy staff effectively, ensure all duties completed, run breaks and deposit money.	Starbucks Coffee Canada	October 2010-July 2012
Personal Tutor for University level courses	Help students with supplementary lessons.	Self-Employed	September 2006-April 2010
Bookkeeper	Keep records of daily cash flow and deposit money.	Petro-Canada	August 2006-August 2010

Volunteer

Event	Organizer	Term
Arts and Science Booth Fair	University of Lethbridge	January 2015, 2014 & 2013
Arts and Science Booth Fair	University of Lethbridge	September 2014, 2013 & 2012
Ahead of the Herd Early Registration	University of Lethbridge	June 2014
Open House for New Students	University of Lethbridge	October 2012, 2013 & 2014
Contact for PIMS YRC	PIMS YRC 2014	October 2013-May 2014
Graduate Student Representative for Mathematics	University of Lethbridge	September 2013-May 2014
Contact for PIMS YRC	PIMS YRC 2013	October 2012-May 2013
Fundraised (\$1300) for Mathematics Scholarship	University of Lethbridge Math Club	January 2010-April 2010
Help Sessions for Mathematics	University of Lethbridge Math Club	January 2009-April 2010
Founded Math Club	N/A	January 2009
Undergraduate Student Representative for Mathematics	University of Lethbridge	September 2009-April 2010

Mathematics Outreach

Event	Description	Organizer	Term
AMD	Presentation about Fun With Math at conference	University of Lethbridge	May 2015
Logic and Puzzles	Leader in advanced problem solving session for grade 11 students	Catholic Central High School	April 2015
SWATCA	Presentation about Fun With Math at annual teacher convention	SWATCA	February 2015
Play Day	Fun short math activities for children of all ages	University of Lethbridge	February 2015, 2014 & 2013
Logic and Puzzles	Helper in problem solving session for grade 11 students	Catholic Central High School	September 2014
Fun With Math	Problem solving sessions for grades 7-12	University of Lethbridge	September 2012-April 2014
Logic and Puzzles	Problem solving session for grades 7-9	Canada Wide Science Fair	May 2013
Computer Science Education Day	Help Kids program robots	LUMACS	December 2012
Seek your own proof at the Galt Museum	Detective activity for young children	LUMACS	August 2010

SWATCA= South Western Alberta Teacher's Conference Association

Other Skills

Programming Languages: C++, Maple, Sage, Gp Pari

Language Proficiency : English, native language. French, reading (intermediate), written & spoken (basic).

REFERENCES

Dr. Habiba Kadiri

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Dr. Nathan Ng

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University of Lethbridge, Lethbridge, Alberta, T1K 3M4 Email: nathan.ng@uleth.ca

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Dr. Hadi Kharaghani (Teaching Reference)

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