

# Curriculum Vitae

June 2011

## Personal Details

**Name:** László Egri  
**Year of Birth:** 1980  
**Natonality:** Hungarian  
**Status in Canada:** Permanent Resident  
**E-mail** laszlo.egri@mail.mcgill.ca

## Research Interest

I am interested mainly in complexity theory, with a special focus on the complexity of constraint satisfaction problems.

## Education

Institution	Period Attended	Degree
McGill University	2007-	PhD in Computer Science Advisor: Denis Thérien
McGill University	2005-2007	MSc in Computer Science (Dean's Honour List) Advisors: Denis Thérien and Pascal Tesson
McGill University	2001-2004	BSc in Psychology (First Class Honours)
Corvinus University of Budapest	Fall semester of 2000	NA (1 <sup>st</sup> semester of a program in Economics)

## Awards, Distinctions

Award	Additional Information	Value	Period Held
Top-up Award for NSERC scholarship	From School of Computer Science, McGill University	\$5000	2009
Top-up Award for NSERC scholarship	From School of Computer Science, McGill University	\$5000	2008
NSERC Canada Graduate Scholarship D3	National competition	3 x \$35000	2007/09 – 2010/09
Recruitment Excellence Fellowship	From McGill University	\$5000	2007
<i>Declined:</i> FQRNT Bourses de doctorat en recherche	National competition	<i>NA</i>	<i>NA</i>
<i>Declined:</i> McGill Major	From McGill University	<i>NA</i>	<i>NA</i>

McGill Graduate Studies Fellowship	From McGill University	\$5000	2005
NSERC USRA	National competition	\$5500	2005/05 – 2005/09
Chosen as one of three students representing McGill at the inaugural U21 Undergraduate Research Conference at the University of Virginia.	McGill University provided airplane ticket and living costs for 3 days.	about \$1000	2005/04
Dean's Honour List	McGill University	NA	2003/09 – 2004/05
McConnell Award	From McGill University	\$1500	2002/09 – 2003/05
Sceptre Investment Award	From McGill University	\$1000	2002/09 – 2003/05
Wong Clifford Scholarship	From McGill University	\$1500	2002/09 – 2003/05
Member of Golden Key International Honour Society		NA	2002 - present
Dean's Honour List	McGill University	NA	2001/09 – 2002/04
Béla Fejér Hungarian Scholarship	National competition, 2 scholarships per year were given. All expenses to study at Upper Canada College for 2 years were covered.	about 2 x \$45000	1998/09 – 2000/05
4 <sup>th</sup> place in the national entrance competition to Karinthy Frigyes Gimnázium, Hungary	National competition (689 participants)	NA	1995
2 <sup>nd</sup> place in the physics part of the national entrance competition to ELTE Apáczay Csere J. Gyakorló Gimnázium, Hungary	National competition	NA	1995

## Publications

### *Theory of Computation:*

1. L. Egri. On Constraint Satisfaction Problems below P. To appear in the 20th Conference on Computer Science Logic (CSL), 2011.
2. C. Carvalho, L. Egri, M. Jackson, T. Niven. On Maltsev Digraphs. To appear in the 6<sup>th</sup> International Computer Science Symposium in Russia (CSR), 2011.
3. L. Egri, A. Krokhn, B. Larose, P. Tesson. The complexity of list homomorphism problems for graphs. (Special issue of *Theory of Computing Systems*, selected papers from STACS 2010). To appear.
4. L. Egri, A. Krokhn, B. Larose, P. Tesson. The complexity of list homomorphism problems for graphs, STACS, 2010.
5. L. Egri, B. Larose, P. Tesson. Directed st-connectivity is not expressible in symmetric Datalog. Proceedings of the 35<sup>th</sup> International Colloquium on Automata, Languages and Programming,

EGRI, László

Part II, (ICALP), 172-183, 2008.

6. L. Egri, B. Larose, P. Tesson. Symmetric Datalog and constraint satisfaction problems in Logspace. Proceedings of the 22nd IEEE Symposium on Logic in Computer Science (LICS), 193-202, 2007.

*Cognitive Science:*

7. Shultz, T. R., Rivest, F., Egri, L., Thivierge, J-P., & Dandurand, F. Could knowledge-based neural learning be useful in developmental robotics? The case of KBCC. International Journal of Humanoid Robotics, 4, 245–279, 2007.
8. Egri, L., & Shultz, T. R. A compositional neural-network solution to prime-number testing. Proceedings of the 28<sup>th</sup> Annual Conference of the Cognitive Science Society (CogSci). 1263-1268, 2006.
9. Shultz, T. R., Rivest, F., Egri, L., & Thivierge, J-P. Knowledge-based learning with KBCC. Proceedings of the Fifth IEEE International Conference on Development and Learning (ICDL), CDROM, 2006.
10. Egri, L., & Shultz, T. R. A compositional neural-network solution to primality testing. The Oculus, 2, 10-16, 2005.
  - o [U21 Undergraduate Research Conference presentation video](#)

*Master's Thesis (Dean's Honour List):*

The complexity of constraint satisfaction problems and symmetric Datalog.

## Conference Refereeing

International Symposium on Fundamentals of Computation Theory (FCT) 2009

Logic in Computer Science (LICS) 2009

Developments in Language Theory (DLT) 2008

## Workshop and Conference Participation, Research Visits

Research visit to work with postdoctoral fellow Catarina Carvalho	August 2010 University of Lisbon, Portugal
Barbados Workshop on Computational Complexity: Data Stream Algorithms (invitational) <i>Speakers:</i> Ben Green, Avi Wigderson	February 28 – March 7, 2010 Bellairs, Barbados
Research visit to work with postdoctoral fellow Catarina Carvalho	October 25 – November 11, 2009 University of Lisbon, Portugal
Dagstuhl Seminar: The Constraint Satisfaction Problem: Complexity and Approximability (invitational)	October 25 – 30, 2009 Leibniz-Zentrum für Informatik, Germany
Workshop: Barriers to Computational Complexity	August 25 – 29, 2009 Princeton University, US

## EGRI, László

2 <sup>nd</sup> Canadian Discrete and Algorithmic Mathematics Conference	May 25 – 28, 2009 Université de Montréal, Canada
Combinatorics, Algorithms, Randomization, and Probability Workshop	May 4 – 8, 2009 Université de Montréal, Canada
Research visit to work with professor Nicole Schweikardt.	April 7 – April 9, 2009 Goethe-Universität zu Frankfurt, Germany
Research visit to work with professor Martin Grohe.	March 22 – April 6, 2009 Humboldt-Universität zu Berlin, Germany
Barbados Workshop on Computational Complexity: Data Stream Algorithms (invitational) <i>Main Speaker: S. Muthu Muthukrishnan</i>	March 1 – March 8, 2009 Bellairs, Barbados
Barbados Workshop on Computational Complexity: Elliptic Curves (invitational) <i>Main Speaker: Renée Schoof</i>	March 2 – March 9, 2008 Bellairs, Barbados
Conference on Algorithmic Complexity and Universal Algebra	July 16-20, 2007 University of Szeged, Hungary
Workshop on Universal Algebra and the Constraint Satisfaction Problem	June 17-20, 2007 Vanderbilt University, US
Barbados Workshop on Computational Complexity: Rings and Integer Lattices in Computer Science (invitational) <i>Speaker: Manindra Agrawal</i>	February 25 – March 4, 2007 Bellairs, Barbados
Barbados Workshop on Computational Complexity: Error-correcting Codes and Computational Complexity (invitational) <i>Speaker: Madhu Sudan</i>	February 26 – March 5, 2006 Bellairs, Barbados
Inaugural U21 Undergraduate Research Conference at the University of Virginia (McGill University selected 3 students to participate)	April 6-9, 2005 University of Virginia, US

## Talks

Optimal Algorithms and Inapproximability Results for Every CSP?	November 2010, Two talks at McGill Complexity Seminar
The complexity of the list homomorphism problem for graphs	May 2009 (Invited talk at the 2 <sup>nd</sup> Canadian Discrete and Algorithmic Mathematics Conference)
Directed st-connectivity is not expressible in symmetric Datalog	Presented [5] at International Colloquium on Automata, Languages and Programming (ICALP), 2008
Linear Datalog is not equal to symmetric Datalog	Presented preliminary results of [5] at Workshop on Universal Algebra and the Constraint Satisfaction Problem, June 2007

EGRI, László

Primes is in P	Summer 2005 (Seminar Talk)
A compositional neural network solution to primality-testing	April 2005, Inaugural U21 Undergraduate Research Conference at the University of Virginia. My talk: <a href="http://hitchcock.itc.virginia.edu/URC2005/">http://hitchcock.itc.virginia.edu/URC2005/</a>
A systematic comparison of backpropagation and cascade-correlation on some benchmark problems	April 2004 (Winter 2004 Undergraduate Poster Session at McGill)

## Programming Abilities

I have experience with the following programming languages and software: Java, C, Fortran, Matlab, Maple, Python, Lisp, Scheme, Basic, and the statistical analysis software SPSS.

## Work Experience

Teaching assistant for the undergraduate course “Computers in Engineering” (Comp-208) at McGill University.	2008/09 - 2008/12
Summer research on neural networks at Laboratory for Natural and Simulated Cognition (McGill University, Canada) under the supervision of professor Thomas R. Shultz.	2004/06 – 2004/09
Summer research on neural networks at the Laboratory for Natural and Simulated Cognition (McGill University, Canada) under the supervision of professor Thomas R. Shultz.	2003/05 – 2003/09
Private English and Mathematics lessons to elementary and high-school school students on a weekly basis (Hungary).	2000/09 – 2001/02

## Volunteer Work

Supervisor at the Club des Pirouettes day camp in Montreal.	2001/06 – 2001/09
---	-------------------

## Music and Sports

Activity	Period
McGill Varsity Rowing Team	2001/09 – 2002/02
Piano and Organ lessons	1998-2000
Upper Canada College Track & Field Team	1998 fall
Upper Canada College Rowing Team	1999 winter
Track & Field	1993-1998
Piano and music theory lessons	1989-1995
Recorder lessons	1989-1992

## Sports Competitions

EGRI, László

<b>Competition</b>	<b>Position</b>	<b>Year</b>
Hungarian Championship (16 year old category) 100-meter hurdle (team)	1 <sup>st</sup>	1996
Hungarian Championship (16 year old category) 300-meter hurdle (team)	3 <sup>rd</sup>	1996
Hungarian Championship (14 year old category) 800-meter	3 <sup>rd</sup>	1994

## **Languages Spoken**

English (fluent), Hungarian (native), French (advanced), German (beginner)