

Curriculum Vitæ of Kyung Il Lee

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Education

School of Mathematics, University of Leeds, UK

Ph.D. in Mathematical Logic, 2012, Supervisor: S. Barry Cooper
Thesis Title: Automorphisms and linearisations of computable orderings

Texas A&M University-Commerce, USA

M.S. in Computer Science, 2017, Supervisors: Jinoch Kim and Sang C. Suh

Western Illinois University, USA

M.S. in Mathematics, 2006, Two-year study under the supervision of Iraj Kalantari

Korea University, South Korea

M.A. B.A. course work in Philosophical Logic, 2003-04, Taught by Inkyo Chung (Unofficial)
B.S. course work in Physics, 2002-03
B.S. in Mathematics, 2002

Employment

Adjunct Instructor of Mathematics, Texas A&M University-Commerce, Fall 2016 – Present
Adjunct Instructor of Computer Science, Texas A&M University-Commerce, Spring 2016 – Present
Research Assistant of Computer Science, Texas A&M University-Commerce, Fall 2014 – Fall 2015
Postdoctoral researcher of Mathematics, Yonsei University, Fall 2012 – Spring 2014
Instructor of Mathematics, Yonsei University, Spring 2013 – Spring 2014
Instructor of Mathematics, Korea University, Spring 2013
Graduate Assistant of Mathematics, University of Leeds, Fall 2006 – Spring 2011
Graduate Assistant of Mathematics, Western Illinois University, Spring 2005 – Spring 2006

Research Interests

Pure Mathematics: Mathematical Logic, Computability Theory, Computable Model Theory
Applied Mathematics: Information Security, Cryptography, Algebraic Coding Theory
Computer Science: Distributed Computing, Feasible Big-Data Analytics

IT Skills

Languages: Java, Assembly, C/C++, Python, SQL, L^AT_EX, Magma, SageMath
Operating systems: Windows, Linux, macOS
Tools: Apache Hadoop

Teaching (5 Years of Teaching Experience)

TAMUC in United States (One and half years)

MATH 176 **Mathematics for Business Applications II** (business calculus), Spring 2017
CSCI 151 **Introduction to Computer Science & Programming** (theory and C++ labs), Spring 2017
MATH 176 **Mathematics for Business Applications II** (business calculus), Fall 2016
CSCI 151 **Introduction to Computer Science & Programming** (theory and C++ labs), Fall 2016
CSCI 549 (3B) **Automata Theory** (graduate course), Spring 2016
CSCI 549 (2B) **Automata Theory** (graduate course), Spring 2016

Seoul in South Korea (One and half years)

MAT 100201 **Calculus II** (multivariable calculus, Yonsei University), Spring 2014
MAT 6030-01 **Computability Theory** (graduate course, Yonsei University), Fall 2013
MAT 2104 **Set theory** (Yonsei University), Spring 2013
MATH 003-03 **Mathematical Logic** (Korea University), Spring 2013

Leeds in England (Two years)

MATH 1022 **Group Theory**, tutorials (two groups), Spring 2011
MATH 1331 **Linear Algebra with Applications**, tutorials (two groups), Fall 2010
MATH 1035 **Analysis**, tutorials (one group), Spring 2010
MATH 1022 **Group Theory** tutorials (one group), Spring 2010
MATH 1035 **Analysis**, tutorials (one group), Fall 2009
MATH 1225 **Geometry** tutorials (one group), Fall 2009

WIU in United States (One and half years, Experience of Being Excluded)

Drop-in tutoring, Spring 2015 – Spring 2016

Publications

Journal Articles

Kyung Il Lee. Linearisations and the Ershov Hierarchy (with S. Barry Cooper, James Gay, Charles M. Harris, and Anthony Morphett) Submitted, 32 pp.

Jinoh Kim, **Kyungil Lee**, Ilhwan Moon, Sang Suh and Ikkyun Kim. SEAS: Scalable Security Event Aggregation for Situation Analysis. Submitted, 17 pp.

Charles M. Harris, **Kyung Il Lee** and S. Barry Cooper. Automorphisms of η -like Computable Linear Orderings and Kierstead's Conjecture. To appear in the *Mathematical Logic Quarterly*, 26 pp.

Proceedings

Jinoh Kim, Ilhwan Moon, **Kyungil Lee**, Sang C. Suh and Ikkyun Kim. Scalable Security Event Aggregation for Situation Analysis, *IEEE BigDataService 2015*, San Francisco, March, 2015, 14–23.

Jinoh Kim, Ilhwan Moon, **Kyungil Lee**, Sang C. Suh and Ikkyun Kim. Incremental Processing for Massive Security Event Aggregation, *The 2015 Global Conference on Information Technology, Computing, and Applications*, Las Vegas, January, 2015, 8 pp.

Kyung Il Lee. Mindful Mathematics, *Proceedings of the Korean Society for History of Mathematics*, edited by C.I. Kim and S. Ree, Volume 23, Number 2 (Nov. 2013), 71–77.

Talks

Scalable Security Event Aggregation and Analytics, **Graduate Assistant Research Symposium**, Commerce, TX, April 28, 2015 (Poster Presentation)

Incremental Processing for Massive Security Event Aggregation, **2015 Global Conference on Information Technology, Computing, and Applications**, Las Vegas, NV, January 13, 2015

Mindful Mathematics, **Korean Society for History of Mathematics Conference**, Seoul, November 23, 2013

Computability Theory, **NIMS Logic Summer School**, Daejeon, July 9–11, 2013 (Five-Hour Tutorials)

Automorphisms of computable linear orders and the Ershov hierarchy, **Asian Mathematical Conference**, Busan, July 2, 2013

A Gentle Introduction to Computability Theory, **Korean Society for History of Mathematics Colloquium**, Seoul, August 25, 2012

Complexity of Linear Extensions in the Ershov Hierarchy, **Logic Colloquium 2009**, Sofia, July 31, 2009

Computably Well-Founded ω -c.e. Linear Extensions, **Computability in Europe 2009**, Heidelberg, July 20, 2009

Linear Orderings in the Ershov Hierarchy, and Computable Approximation, **Leeds Computability Seminar**, Leeds, October 27, 2009

An Introduction to the Turing Universe, **Logic Pure Postgraduate Seminar**, Leeds, December 11, 2008

An Introduction to Computable Orderings II, **Leeds Computability Seminar**, Leeds, October 30, 2007

An Introduction to Computable Orderings I, **Leeds Computability Seminar**, Leeds, October 23, 2007

Awards and Grants

Brain Korea 21 Postdoctoral Fellowship, Yonsei University (2012.10-2013.02)

Newton Institute Junior Member Grants for the workshop “The Incomputable”: a major workshop of the 6-month Isaac Newton Institute programme - “Semantics and Syntax: A Legacy of Alan Turing” (SAS)

ASL Student Travel Awards for the conferences CiE 2009 and LC 2009.

Leeds School of Mathematics Scholarship for a maintenance award. (2006-09)

Tetley & Lupton Scholarship through the University of Leeds. (2006-09)

Overseas Research Students Awards Scheme through the UK higher education funding Council for England. (2006-09)

Service Activities

2013-2014: Board Member, Korean Society of History of Mathematics

Memberships

Association Computability in Europe, Association for Symbolic Logic, British Logic Colloquium, London Mathematical Society, Junior Membership of the Newton Institute, Korean Association for Mathematical Logic, Korean Mathematical Society, Korean Association for Logic, Korean Society for History of Mathematics, American Mathematical Society, Association for Computing Machinery

Military Service

May 11, 1998 Discharged from the service

March 12, 1996 Enlisted in the ROK Army as a private (Service No. 96-73014528)