Curriculum Vitae

Stephen Binns

Personal Details:

Name:	Stephen Ernest Binns
Nationality:	New Zealander
Address:	(home) PO Box 1181 Dhahran, 31261 Saudi Arabia (office) Department of Mathematics and Statistics King Fahd University of Petroleum and Minerals PO Box 5046 Dhahran, 31261 Saudi Arabia
Phone:	+966 3 860 6074 (home) +966 3 860 2720 (office)
email	binns@kfupm.edu.sa, sebinns@gmail.com
homepage:	http://faculty.kfupm.edu.sa/math/binns

Position: Assistant Professor,
Department of Mathematics and Statistics
King Fahd University of Petroleum and Minerals (2007 – present).

Previous Position: Post-doctoral fellow, Department of Mathematics
University of Connecticut, USA (2004 – 2007).

Research Interests: Computability theory, algorithmic complexity theory,
randomness and effective dimension theory,
logic and foundational studies.

Education: PhD (Mathematics) 2003
The Pennsylvania State University, USA
Thesis Advisor: Stephen G. Simpson
Thesis title: *The Medvedev and Muchnik Lattices of* Π^0_1 *classes.*

MA (Mathematics), 1997
Victoria University of Wellington
New Zealand
Advisor: Robert Goldblatt.

BA (Mathematics, Scandinavian Studies), 1989
Auckland University
New Zealand

Publications: Completeness, Compactness, Effective Dimension
Mathematical Logic Quarterly (submitted 2012).

Compressibility and Kolmogorov Complexity (with Nicholson).
Notre Dame Journal of Formal Logic, (to appear 2012).

Relative Kolmogorov Complexity and Geometry.
Journal of Symbolic Logic, Volume 76, Issue 4, 2011.

Finding paths through narrow and wide trees (with Kjos-Hanssen).
Journal of Symbolic Logic, Volume 74, Issue 1, 2009.

Π^0_1 classes with complex elements.
Journal of Symbolic Logic, Volume 73, Issue 4, 2008.

Self-embedding of computable trees
(with Kjos-Hanssen, Lerman, Schmerl and Solomon).
Notre Dame Journal of Formal Logic, Volume 49, Number 1, 2008

Hyperimmunity in $2^{\mathbb{N}}$.
Notre Dame Journal of Formal Logic, Volume 48, Number 2, 2007

Publications: *(continued)*

On a conjecture of Dobrinen and Simpson concerning almost everywhere domination
(with Kjos-Hanssen, Lerman, and Solomon).
Journal of Symbolic Logic, Volume 71, Issue 1, 2006.

Small Π^0_1 classes.
Archive for Mathematical Logic, Volume 45, May 2006.

Embeddings into the Medevdev and Muchnik lattices of Π^0_1 classes
(with Stephen Simpson).
Archive for Mathematical Logic, Vol 43, Number 3, April 2004.

A Splitting Theorem for the Medvedev and Muchnik Lattices.
Mathematical Logic Quarterly, Vol 49, Issue 4, May 2003.

Presentations:

Structure and Information.
KFUPM mathematics seminar,
Dhahran 2007.

VSMALL-A subsystem of second-order arithmetic.
AMS Sectional Meeting,
Storrs 2006.

Fast growing trees.
Connecticut Logic Seminar 2005.

Small Π^0_1 Classes.
Penn State Logic Seminar 2002.

The Medvedev and Muchnik Lattices.
AMS Sectional Meeting,
University of Wisconsin 2002.

Awards:

KFUPM Internal Research Project 2008-2009 (# IN80410).
Algorithmic Complexity and Effectively Closed Classes.

Society of Actuaries Exam P.

Associaion of Symbolic Logic, travel award.
Logic Colloquium, Helsinki 2003.

Charles H. Hoover Memorial Teaching Award.
PSU Mathematics Department 2002.

Mid-Atlantic Mathematical Logic Seminar, travel award
MAMLS conference Washington DC 2001.

Courses taught:

Undergraduate:	Elementary Discrete Mathematics and Algebra, Calculus I and II, Multivariable Calculus, Differential Equations, Linear Algebra, Introduction to Mathematical Proof, Logic, Analysis, Set Theory, Computability and Complexity Theory, Basic Financial mathematics and Probability Theory.
Graduate:	Logic and Computability Theory.
Courses designed:	Set Theory and Applications. Computability and Complexity theory.
Undergraduate Projects:	Goldstein sequences, Surreal Numbers.
Multi-section courses coordinated:	Finite Mathematics, Undergraduate Seminar.
Graduate Students:	One Masters student - computability theory.

References:

Dr David Reed Solomon
Associate Professor
University of Connecticut
david.solomon@uconn.edu

Dr Bjørn Kjos-Hanssen
Associate Professor
University of Hawaii
bjoern@math.hawaii.edu

Dr Hattan Tawfiq
Chairman, Department of Mathematics and Statistics
KFUPM
hattan@kfupm.edu.sa