

STUART BURRELL

Carnegie Scholar ◇ University of St Andrews ◇ United Kingdom

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Languages English, Basic German, Basic Japanese
Programming Python, R, Git/GitHub, GAP, Unix, LaTeX, Maple.

EDUCATION

PhD, Mathematics , <i>University of St Andrews</i> Fractal geometry, dynamical systems and dimension theory.	2017 - Present
Scottish Mathematical Sciences Training Center , Graduate courses in Algebra, Analysis, Topology, Probability and Statistics	2016 - 2018
Academy for PhD Training in Statistics , Graduate courses in Statistics at the Universities of Cambridge, Durham and Glasgow.	2016 - 2017
Machine Learning Engineer Nanodegree , <i>Udacity</i>	2016 - 2017
MMath, Mathematics , First Class Honours, GPA 4.0, <i>University of St Andrews</i>	2012 - 2016

PUBLICATIONS

On the dimension and measure of inhomogeneous attractors , arXiv <i>submitted.</i>	May 2018
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SOFTWARE CONTRIBUTIONS

GAP Semigroups package Methods to decide the order and torsion problems of natural and tropical matrix semigroups.	2016
GAP Digraphs package Methods for computing the simple circuits of a digraph.	2016

EXPERIENCE

Research in Statistical Ecology and Machine Learning <i>Centre for Research into Ecological and Environmental Modelling</i> , St Andrews.	2016-2017
GAP Software Development <i>School of Mathematics and Statistics, University of St Andrews</i> , St Andrews.	Summer 2016
Laidlaw Internship in Research and Leadership <i>School of Mathematics and Statistics, University of St Andrews</i> , St Andrews.	Summer 2015
Undergraduate Research Summer School <i>School of Mathematics and Statistics, University of St Andrews</i> , St Andrews.	Summer 2014

AWARDS AND SCHOLARSHIPS

Carnegie PhD Scholarship	2016-2020
Duncan Prize , <i>University of St Andrews</i>	2016
Sanderson Prize , <i>University of St Andrews</i>	2016
The Arthur Hinton Read Memorial Prize , <i>University of St Andrews</i>	2016
ODSC Machine Learning/Deep Learning Scholarship	2016
IMA Graduate Prize Winner , <i>Institute of Mathematics</i>	2016
Graduate Medal in Mathematics , <i>University of St Andrews</i>	2016
The Principal's Scholarship for Academic Excellence , <i>University of St Andrews</i>	2012-16
The University Scholarship for Research and Leadership , <i>University of St Andrews</i>	2015
The Deans' List for Academic Excellence , <i>University of St Andrews</i>	2012-16
Gold Duke of Edinburgh Award	2013

TALKS

A brief note on the dimension of inhomogeneous attractors <i>Dynamic Days Europe</i> , Loughborough.	September 2018
A universal upper bound on the dimension of inhomogeneous attractors <i>British Mathematical Colloquium</i> , St Andrews.	June 2018
How big are inhomogeneous attractors? <i>Edinburgh Mathematical Society PG Student Meeting</i> , The Burn, Glen Esk	May 2018
On the dimension and measure of inhomogeneous attractors <i>Pure Analysis Seminar</i> , St Andrews.	April 2018
An introduction to inhomogeneous attractors <i>Pure Postgraduate Seminar</i> , St Andrews.	April 2018
An introduction to iterated function systems <i>Postgraduate Interdisciplinary Mathematical Symposium</i> , Glen Esk	February 2018
Dimension of inhomogeneous self-conformal and self-affine sets <i>School Research Day</i> , St Andrews.	January 2018
Inhomogeneous attractors and upper box dimension <i>Insitut Mittag-Leffer</i> , Stockholm, Sweden.	December 2017
Trace contrast methods in acoustic space <i>African Institute of Mathematical Sciences</i> , Cape Town, South Africa.	January 2017
An introduction to trace contrast methods <i>University of Cape Town</i> , Cape Town, South Africa.	January 2017
Sequential Monte Carlo in population dynamics <i>School of Mathematics and Statistics</i> , St Andrews.	April 2016
Artificial intelligence and Gödel's incompleteness theorems <i>School of Mathematics and Statistics</i> , St Andrews.	February 2015

OUTREACH

The journey to a PhD in Mathematics <i>UWS Summer STEM Academy</i> , Glasgow.	July 2018
Fractal geometry in nature and art <i>The Royal Society of Edinburgh</i> , Edinburgh.	February 2018

CONFERENCES

Fractals Geometry and Stochastics VI <i>Evangelische Akademie Baden</i> , The Black Forest, Germany	October 2018
CMI at 20 <i>Clay Mathematics Institute</i> , Oxford.	September 2018
Dynamic Days Europe <i>University of Loughborough</i> , Loughborough.	September 2018
Thermodynamic Formalism in Dynamical Systems <i>International Centre for Mathematical Sciences</i> , Edinburgh.	June 2018
British Mathematical Colloquium <i>University of St Andrews</i> , St Andrews.	June 2018
Fractals and Dimensions <i>Insitut Mittag-Leffler</i> , Stockholm, Sweden	December 2017
ODSC (Machine Learning/Deep Learning) London.	October 2016

TEACHING

All available student feedback data is included reported on a scale of 1 (excellent) to 5 (poor) in the categories of Explanation (E), Organisation (O) and Availability (A).

Mathematics and Statistics Tutor , <i>CAPOD, University of St Andrews</i> ,	2016 - Present
MT2502 Analysis , <i>Tutor, University of St Andrews</i>	Autumn 2018
MT1002 Mathematics , <i>Demonstrator, University of St Andrews</i>	Spring 2018
MT1002 Mathematics , <i>Tutor/Demonstrator, University of St Andrews</i>	Autumn 2017
E = 1.62, O = 1.65, A = 1.17	
MT1003 Pure and Applied Mathematics , <i>Tutor (temporary), University of St Andrews</i>	Spring 2017
MT2508 Statistical Inference , <i>Demonstrator, University of St Andrews</i>	Spring 2017
MT2504 Combinatorics and Probability , <i>Tutor/Demonstrator, University of St Andrews</i>	Autumn 2016
E = 1.17, O = 1.15, A = 1.17	
MT2000 Introduction to Python , <i>Demonstrator, University of St Andrews</i>	Autumn 2016

WORKSHOPS

Postgraduate Interdisciplinary Mathematical Symposium	January 2018
<i>University of St Andrews, St Andrews</i>	
Statistical Methods in Gibbon Conservation	August 2017
<i>Centre for Research into Ecological and Environmental Modelling, St Andrews.</i>	
Estimating Animal Abundance and Density using Acoustic Data	January 2017
<i>University of Cape Town, Cape Town, South Africa.</i>	
Scottish Mathematical Craining Center Symposium	October 2016
Perth.	
CoDiMa software carpentry	October 2016
<i>International Centre for Mathematical Sciences, Edinburgh.</i>	
Advanced PAMGuard	October 2016
<i>PAMTech, Edinburgh.</i>	
Spatial Capture-Recapture Methods	August 2016
<i>Centre for Research into Ecological and Environmental Modelling, St Andrews.</i>	
Laidlaw Leadership Program	2015
<i>endorsed by the Institute of Management, St Andrews.</i>	

PROFESSIONAL RESPONSIBILITIES

Scottish Mathematical Sciences Training Centre Council , <i>Student Representative</i>	2016 - 2017
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