Edmund Harriss

Assistant Clinical Professor
Department of Mathematical Sciences
SCEN 301, 1 University of Arkansas
Fayetteville, AR 72701
t: (479) 575-6332
e: eharriss@uark.edu
http://www.mathematicians.org.uk/eoh
http://www.maxwelldemon.com

Professional Preparation

PhD in Mathematics, Imperial College London 2004
Postdoctoral RA, Ergodic Optimisation, Queen Mary, University of London 2004-6
EPSRC Postdoctoral Fellowship, Geometry of Tilings, Imperial College London 2006-9

Appointments

2011-Present	Assistant Clinical Professor, University of Arkansas, 2011-Present
2010-2011	Visiting Professor, University of Arkansas, 2010 - 2011
2009-2010	Teaching Fellow, University of Leicester, 2009-2010
2006-2009	EPSRC Postdoctoral Fellowship in Mathematical Sciences, Imperial College London
2004-2006	Postdoctoral Research Assistant, Queen Mary, University of London

Publications

Books

A. Bellos and **E. Harriss**. *Visions of the Universe.* The Experiment, NY, 2016 (in preparation).
A. Bellos and **E. Harriss**. *Patterns of the Universe.* The Experiment, NY, 2015
French Edition: *Les Formes magiques de l'univers.* Robert Laffont, Paris 2016

Selected Papers

M. Mehboudi, K. Utt, H. Terrones, E. Harriss, A. Pacheco SanJuan, and **S. Barraza-Lopez**
Strain and the optoelectronic properties of nonplanar phosphorene monolayers.
Proceedings Of The National Academy Of Sciences 112(19):5888 – 5892, 2015.

P. Arnoux and **E. Harriss** *What is ... a Rauzy fractal?*
Notices Amer. Math. Soc., 61(7):768–770, 2014.

S. Akiyama and **E. Harriss** *Pentagonal domain exchange*.
Discrete Contin. Dyn. Syst., 33(10):4375–4400, 2013.

D. Frettlöh and **E. Harriss** *Parallelogram tilings, worms, and finite orientations.*
Discrete Comput. Geom., 49(3):531–539, 2013.

P. Arnoux, E. Harriss, S. Ito, and **M. Furukado**
Algebraic numbers, free group automorphisms and substitutions on the plane.
Trans. Amer. Math. Soc., 363:4651–4699, 2011.

E. Harriss *From oranges to modems.*
Nature, (475):168, July 2011

Art Work

2016	*Technically Beautiful: The Intersection of Math* Exhibition in the Shen Gallery, Packer Collegiate Institute, New York
2016	*Domes in Drake's Grove* Land Art Installation with Carl Smith (Landscape Architecture) and Angela Carpenter (Architecture)
2016	*Elevator Deformations* Commission for University of Arkansas, Champions Hall
2015 *S*	*Spira-gyroid* Barn-raising sculpture at JMM 2015

2014 *Floating Lines*
Exhibition in the Kitrell Gallery, University of Arkansas
2013 *Six pieces on patterns and functions*
Commission for University of Newcastle, UK
2010 *Wall designs for Mathematics Learning Centre*
Commission for Imperial College London, UK

Other Activities

2013-present *CAMel*
Software Plugin for Rhino/Grasshopper for CAM (Computer Aided Manufacturing)
2016 *Mathematical CAM craft*
ICERM workshop: *Illustrating Mathematics*
2016 *Coloring Outside the Sines*
Art Infusion Cultural Hour, Crystal Bridges Museum of American Art, AR
2016 *Coloring Mathematics*
Spring Break Specials, Crystal Bridges Museum of American Art, AR
2016 *Coloring Outside the Sines*
Family Fridays, MoMath, New York
2014 *Great Balls of Paper*
Family Fridays, MoMath, New York

Biography

Edmund is a mathematician and mathematical artist, driven by a passion to communicate the beauty and utility of mathematical thinking beyond the discipline. Last year he published "Patterns of the Universe" a bestselling coloring book of images drawn from across mathematics; a second book "Visions of the Universe" is due out in November. His mathematical research is in discrete geometry studying the structure of tilings and patterns, themes that also influence his artwork. Beyond mathematics he has applied these ideas to the study of 2d crystals such as Graphene; this work appeared in the Proceedings of the National Academy of Science. His research has also appeared in Nature and the Notices of the American Mathematical Society. He recently started a research collaboration into the geometry of robot control and 3d printing. This grew out of the development of interdisciplinary courses in CNC design and programming, involving students from across the humanities, sciences, engineering and architecture. His artwork has been commissioned by several universities including Imperial College in London.