SIMON COWELL

CURRICULUM VITAE

Born:	
in:	
Citizenship:	British
Address:	Faculty of Exact Sciences,
	Aurel Vlaicu"University of Arad,
	Arad,
	Romania
Mobile:	
E-mail:	

EDUCATION

- Ph.D., Mathematics, University of Missouri, May 2009.

    - Thesis Topic: Asymptotic Unconditionality
    - Thesis Advisor: Prof. Nigel J. Kalton

- Ph.D., Mathematics, University of Wales, Swansea, United Kingdom, May 2003.

    - Thesis Topic: Unitary Banach Algebras
    - Thesis Advisor: Dr. Geoffrey V. Wood

- B.Sc., Mathematics, University of Wales, Swansea, United Kingdom, May 1999.

    - First Class Honours

RESEARCH INTERESTS

Mathematics for Reliability in Engineering; Mathematics for Medical Imaging; Complex Analysis, with a background in Functional Analysis and Banach Space Theory.

PROFESSIONAL EXPERIENCE

- Senior Research Fellow (post-doctoral level), Aurel Vlaicu"University of Arad, July 2017 - Present.

- Associate Professor (for teaching), Aurel Vlaicu"University of Arad, July 2017 - Present.

- Assistant Professor, United Arab Emirates University, August 2009 - June 2017.

- Postdoctoral fellow, University of Missouri, August 2003 - May 2004.

PUBLICATIONS

- Valeriu Beiu, Simon Cowell, and Vlad Dǎgo, *The Posets for Reliability: How Fine Can They Be ?*, International Workshop on Soft Computing Applications SOFA18, Arad, Romania, September 13-15, 2018, in press. https://doi.org/10.1007/pending

- Simon Cowell, Valeriu Beiu, Leonard Dǎ, and Philippe Poulin, *On the Exact Reliability Enhancements of Small Hammock Networks*, IEEE ACCESS, Vol. 6, 2018, pp. 25411-25426. doi: 10.1109/ACCESS.2018.2828036

- Simon Cowell, Vlad Dǎgoi, Noemi-Clara Rohatinovici and Valeriu Beiu, *Effective Conductances of Moore-Shannon Hammocks*, IEEE International Conference on Nanotechnology IEEE-NANO'18, Cork, Ireland, July 23-26, 2018, art. 8626295 (pp. 14). https://doi.org/10.1109/NANO.2018.8626295

- Vlad Dǎgoi, Simon Cowell, Valeriu Beiu, *Ordering Series and Parallel Compositions*, IEEE International Conference on Nanotechnology IEEE-NANO'18, Cork, Ireland, July 23-26, 2018, art. 8626408 (pp. 14). https://doi.org/10.1109/NANO.2018.8626408

- Noemi-Clara Rohatinovici, Simon Cowell, Leonard Dǎ, Philippe Poulin, Vlad Dǎgoi, Valentina Emilia Balas and Valeriu Beiu, *On Algorithms for Evaluating the Reliability of Large Hammock Networks*, 7th International Conference on Computers Communications and Control (ICCCC), May 2018, Oradea, Romania

- Vlad Dǎgoi, Simon Cowell, Sorin Hoarǎ, Ǎstorel Gapar and Valeriu Beiu, *Could Series and Parallel Compositions Improve on Hammocks ?*, 7th International Conference on Computers Communications and Control (ICCCC), May 2018, Oradea, Romania

- Valeriu Beiu, Simon Cowell, Vlad Dǎgoi, Sorin Hoarǎ and Ǎstorel Gapar, *Hammock versus hammock*, 7th International Conference on Computers Communications and Control (ICCCC), May 2018, Oradea, Romania

- Mariana Nagy, Simon Cowell and Valeriu Beiu, *Are 3D Fibonacci Spirals for Real? – From Science to Arts and Back to Science*, 7th International Conference on Computers Communications and Control (ICCCC), May 2018, Oradea, Romania

- Simon Cowell, Valeriu Beiu, Leonard Dǎ, and Philippe Poulin, *On Cylindrical Hammock Networks*, 17th IEEE International Conference on Nanotechnology, Pittsburgh, PA, USA, July 2017.

- Simon Cowell, Leonard Dǎ, Valeriu Beiu and Philippe Poulin, *On hammock networks - sixty years after*, 12th International Conference on Design & Technology of Integrated Systems In Nanoscale Era (DTIS), Palma de Mallorca, 2017, pp. 1-6. doi: 10.1109/DTIS.2017.7929871

- P. Poulin and Simon Cowell, *de Branges spaces with bi-Lipschitz phase for large distances*, Miskolc Mathematical Notes, Vol. 16 (2016), no. 1, pp. 517-532.

- S. R. Cowell, *A formula for the reliability of a d-dimensional consecutive-k-out-of-n:F system*, Article ID 140909, International Journal of Combinatorics, (2015), 5 pages.

- S. R. Cowell, *The number of $n \times n$ binary matrices having a contiguous 2×2 submatrix whose every element is 1*, A255936, OEIS Foundation Inc., The On-Line Encyclopedia of Integer Sequences, March 2015.

- S. R. Cowell and P. Poulin, *Complete Interpolating Sequences vs Riesz Bases of Reproducing Kernels*, Acta Mathematica Academiae Paedagogicae Nyégyháziensis **30** (2014), 103 - 109.

- S. R. Cowell and N. J. Kalton, *Asymptotic Unconditionality*, Oxford Quarterly J. Math. (2010) 61(2): 217 - 240.

- J. Becerra Guerrero, S. R. Cowell, A. Rodguez Palacios, G. V. Wood, *Unitary Banach Algebras*, Studia Math. **162** (2004), no. 1, 25-51.

PRE-PRINTS

- S. R. Cowell, *On the Computation of the Shannon Capacity of a Discrete Channel with Noise.* arXiv:1701.08731v2, January 2017.

- S. R. Cowell and P. Poulin, *Early Transcendental Analysis*, arXiv:1506.03697v1, June 2015.

IN PREPARATION

- S. R. Cowell, *A possible application of normal numbers to cryptography.*

TEACHING EXPERIENCE

- September 2017 - Present. *Senior Research Fellow (post-doctoral level), Faculty of Exact Sciences, "Aurel Vlaicu" University of Arad, Romania.* As Lecturer:

  - Graph Algorithms
  - Mathematical and Computational Logic

- August 2009 - June 2017. *Assistant Professor, Mathematics Department, United Arab Emirates University, UAE.*
  As Course Coordinator:

  - Linear Algebra & Engineering Applications

  As Lecturer:

  - Set Theory and Logic
  - Calculus I for Science
  - Calculus II for Science
  - Real Analysis I
  - Complex Analysis I
  - Calculus II for Engineering
  - Contemporary Applications of Mathematics
  - Undergraduate Research Projects:
    * *A Construction of the Real Numbers*
    * *The Fundamental Theorem of Algebra*
    * *The Traveling Salesman Problem*
    * *Graph Colouring Problems*
  - Differential Equations & Engineering Applications
  - Linear Algebra & Engineering Applications
  - Introduction to Analysis
  - Calculus I for Engineering

  As Coordinator of the Math Club:

  - Student activity - *An Experiment with the Central Limit Theorem*

- August 2003 - May 2009. *Postdoctoral Fellow, then Teaching Assistant, University of Missouri Department of Mathematics.* As Lecturer:

- Finite Mathematics, Lecturer
- College Algebra for Non-Calculus Bound Students, Lecturer
- Elements of Calculus, Lecturer
- Calculus II for Social and Natural Sciences, Lecturer

As Teaching Assistant:

- Calculus II Recitation
- Advanced Calculus I Recitation
- Advanced Calculus II Recitation
- Precalculus Mathematics Recitation

- August 1999 - May 2003. *Graduate Student, Mathematics Department, University of Wales, Swansea, United Kingdom.*

  - Various grading duties.

AWARDS AND GRANTS

- Funded by the European Union through the European Regional Development Fund under the Competitiveness Operational Program (*BioCell-NanoART = Novel Bio-inspired Cellular Nano-architectures*, POC-A1-A1.1.4-E nr. 30/2016)

- UEFISCDI Award for the paper "On the Exact Reliability Enhancements of Small Hammock Networks" being published in IEEE Access (2017 JCR Impact Factor 3.557).

- IEEE Best Paper Award for the paper "Could Series and Parallel Compositions Improve on Hammocks ?"

- UAE University Individual Research Grant COS/IRG-14/15, 31S196, *Early Transcendental Analysis*

- Supported by advisor's NSF grant 2004 - 2009.

- University of Missouri Department of Mathematics - Graduate Student Teaching Assistantship, 2004 - 2009.

- Attendance at several conferences supported by University of Missouri Department of Mathematics Graduate Student Travel Fund 2004 - 2009.

- British Council - Funding for visit to Universidad de Granada, Spain, 2002.

- Engineering and Physical Sciences Research Council - Graduate Student Grant, University of Wales, Swansea, UK, 1999 - 2003.

- Junior Foulks scholarship for undergraduate students, University of Wales, Swansea, UK, 1996.

MATHEMATICS CONFERENCES, PROGRAMS, AND PRESENTATIONS

- IEEE Nano 2018 in Cork, Ireland, *Presented a poster - Effective Conductances of Moore-Shannon Hammocks.*

- IEEE Nano 2018 in Cork, Ireland, *Presented a poster - Reliability of Matchstick Minimal Networks - The Poset Behind Compositions.*

- IJCCC 2018 in Oradea, Romania, *Presented a poster - Hammock vs Hammock.*

- Invited to attend student presentations at the American University in Dubai, March 29, 2017. *Gave a talk - Discrete Mathematics of Hammock Networks.*

- Invited to workshop at Aurel Vlaicu University of Arad, Romania, September 13-16, 2016. *Gave a talk - Reliability of Hammock Networks.*

- IEEE-NANO, Sendai, Japan, August 22-25, 2016. The 16th International Conference on Nanotechnology. *Gave a 3-hour tutorial - The Brain and the Computer Revisited Once Again*

- Wolfram Technology Tour, London, 6th June 2016.

- Virtual Workshop on Wolfram Language Image Processing, 23rd June 2015.

- Valeriu Beiu - Revealing the reliability scheme of the neurons"- as part of the UAE University Cognitive Science Research Series

- UAEU Mathematics Departmental Seminar, Thursday the 16th of April 2015.
  Gave a talk - A formula for the reliability of a d-dimensional consecutive-k-out-of-n:F system

- The 13th UAE Math Day, Paris Sorbonne University, Abu Dhabi, UAE, 14th March 2015. *Gave a talk - A Possible Application of Normal Numbers to Cryptography*

- Arab Health 2015, Dubai International Convention and Exhibition Centre, UAE, 26th - 29th January 2015.

- Web Seminar on Multiphysics Simulation for Medical Applications, 25th September 2014.

- UAEU Mathematics Departmental Seminar, Thursday the 24th of April 2014.
  Gave a talk - A Possible Application of Normal Numbers to Cryptography

- The 12th UAE Math Day, The American University in Dubai, UAE, 19th April 2014.
  Gave a talk - Early Transcendental Analysis

- Arab Health 2014, Dubai International Convention and Exhibition Centre, UAE, 27th - 30th January 2014.

- Workshop on C*-Algebras, The UAE University, April 2013.

- The 11th UAE Math Day, The UAE University, Al Ain, UAE, 28th April 2013.

- Workshop on Fractional Calculus and its Applications, UAE University, United Arab Emirates, 24th - 26th April 2013.

- The Fourth International Conference on Mathematical Sciences, UAE University, United Arab Emirates, 11th - 14th March 2012.
  Gave a talk - Complete Interpolating Sequences vs Riesz Bases of Reproducing Kernels - and edited proceedings

- The 9th UAE Math Day, Ajman University of Science and Technology, Ajman, UAE, 9th - 10th April 2011.
  Gave a talk - A Certain Tree Property in Banach Spaces

- Set Theoretic Techniques in Functional Analysis, CIEM, Castro Urdiales, Spain, 21st - 24th February 2011.

- Reflections on Mathematics Education, UAE University, Al Ain, UAE, 9th December 2010.
  Gave a talk - Impressions from a year of teaching Mathematics at the UAEU

- Estimates for Dirichlet Polynomials, by Kristian Seip, UAE University, United Arab Emirates, 3rd - 7th October 2010.

- 7th HCT Maths Conference, Abu Dhabi Women's College, Abu Dhabi, UAE, 15th April 2010.

- The First International Conference on Mathematics and Statistics, American University of Sharjah, Sharjah, United Arab Emirates, 18th - 21st March 2010.

- International Conference on Analysis and Applications, Sultan Qaboos University, Oman. 24th - 26th January 2010. *Gave a talk - Asymptotic Unconditionality in Banach Spaces.*

- Banach Spaces Seminar, University of Missouri. 2003 - 2008. *Several talks given.*

- Informal Regional Functional Analysis Seminar, Texas A&M University. 8th - 10th August 2008.

- Concentration Week on Operator Algebras, Dynamics and Classifiation, Texas A&M University. 4th - 8th August 2008.

- Concentration Week on Multivariable Operator Theory, Texas A&M University. 28th July - 1st August 2008.

- Workshop in Analysis and Probability, Texas A&M University. 15th July - 10th August 2008.
  Gave a talk - Asymptotic Unconditionality.

- A Conference in Honor of Richard Rochberg on the Occasion of his 65th Birthday, Washington University in St. Louis, Missouri. 29th - 31st May 2008.

- International Conference on Interdisciplinary Mathematical and Statistical Techniques, University of Memphis. 16th - 18th May 2008.
  Gave a talk - Asymptotic Unconditionality.

- CBMS / NSF Regional Research Conference in Mathematical Sciences: Probabilistic and Combinatorial Approach in Analysis, Kent State University, Ohio. 6th - 13th August 2006.

- Banach Spaces and their Applications in Analysis, Miami University, Oxford Ohio. 22nd - 27th May 2006.

- Fifth Conference on Function Spaces, Southern Illinois University Edwardsville. 16th - 20th May 2006.

- Informal Regional Functional Analysis Seminar, Texas A&M University. 4th - 8th August 2005.

- AMS Spring Central Section Meeting, Athens, Ohio. 26th - 27th March 2004.
  Gave a talk - Almost r-double transitivity and the Banach-Mazur problem, preliminary report.

- Meeting in Memory of Wladyslaw Orlicz, University of Memphis. 16th - 19th October 2003.

- British Mathematical Colloquium, University of Birmingham, UK. 7th - 10th April 2003.
  Gave a talk - Unitary Banach Algebras.

- British Mathematical Colloquium, University of Warwick, UK. 7th - 12th April 2002.

- Collaboration, Universidad de Granada, Spain. Partially funded by the British Council. January 2002.
  Gave a talk - Unitary Banach Algebras.

- Belfast Functional Analysis Day, Queen's University Belfast, Northern Ireland, UK. 24th November 2001.

- Trends in Banach Spaces and Operator Theory, University of Memphis. 5th - 9th October 2001.

- International Conference on Banach Algebras and Cohomology, Newcastle University, UK. 25th - 28th June 2001.

COMPUTER SKILLS

- Coding in Mathematica.

- Coding in Visual Basic.

- Using *Mathematica* software to enhance teaching.

MEMBERSHIPS

- London Mathematical Society

REFERENCES

- Prof. Valeriu Beiu
  Faculty of Exact Sciences,
  Aurel Vlaicu"University of Arad,
  Complex M, Str. Elena Dragoi nr. 2-4,
  310330 Arad, Romania
  phone: +40 (0)257 219 000
  email: valeriu.beiu.uav.ro

- Dr. Philippe Poulin
  Associate Professor of Mathematics and Coordinator,
  Mathematics Division, School of Arts and Sciences
  American University in Dubai
  phone: +971 4 318 3542
  e-mail: ppoulin@aud.edu

- Prof. Mohamed Salim
  Professor of Mathematics and Chair,
  Department of Mathematical Sciences, College of Science
  United Arab Emirates University
  phone: +971 3 713 6538
  e-mail: MSalim@uaeu.ac.ae

- Dr. Adama Diene
  Associate Professor of Mathematics,
  Department of Mathematical Sciences, College of Science
  United Arab Emirates University
  phone: +971 3 713 6386
  e-mail: ADiene@uaeu.ac.ae