

Dr Ovidiu Dumitru BAGDASAR FIMA SFHEA

1. PERSONAL DETAILS

Dr Ovidiu Bagdasar

Associate Professor in Mathematics
School of Computing and Engineering
University of Derby
Markeaton Street Campus,
Phybus Road, Derby, DE22 3BD

Tel: 01332 59 3352

E-mail: o.bagdasar@derby.ac.uk; ovidiubagdasar@gmail.com

Web: <http://www.derby.ac.uk/staff/ovidiu-bagdasar/>

ORCID: <https://orcid.org/0000-0003-4193-9842>

Twitter: <https://twitter.com/BagdasarO>

LinkedIn: <https://www.linkedin.com/in/ovidiu-bagdasar-3541a46b/>



2. TERTIARY/HIGHER EDUCATION

- **PhD Mathematics**, Babeş-Bolyai University, 2015
Project: *On the geometry and applications of complex recurrent sequences*
- **PhD Applied Mathematics**, EST Marie Curie Fellow, University of Nottingham, 2011
Project: *Stochastic receptor-ligand binding under force*
- **PG Cert HE**, University of Derby, 2013
- **MSc Mathematics (Distinction)** (Real and Complex Analysis – 10/10), Babeş-Bolyai University, 2007
- **BSc Hons Mathematics** (1st, Valedictorian, grade 9.97/10), Babeş-Bolyai University, Cluj-Napoca, 2006
- **Qualified Teacher Status** (2006) (Mathematics KS3, KS4, KS5)
- **BA Pastoral Theology** (Orthodox) (4 years avg: 9.59/10, Graduation Exam: 9.81/10), UAB Alba Iulia, 2016

3. APPOINTMENTS AND EXPERIENCE

- **Jan 2019 – present:** Associate Professor in Mathematics, University of Derby
- **Sept 2015 – Jan 2019:** Senior Lecturer in Mathematics, University of Derby
- **Jan 2012 – Sept 2015:** Lecturer in Mathematics, University of Derby
- **Sept 2007 – May 2011:** PG Teaching Assistant, School of Mathematical Sciences, University of Nottingham
- **June 2007 – May 2010:** EST Marie Curie Fellow, University of Nottingham

4. CONTRIBUTIONS TO TEACHING AND STUDENT SUPPORT

(a) Organisational responsibilities

- **Member of CIC** (College International Committee, 2018 - present)
- **Member of CRC** (College Research Committee, 2017- 2020)
- **Responsible Metrics Champion** (2020 -)
- **Research Excellent Framework** (coordinated output selection for UoA 11 Computing)
- **Associate Member of CELT** (Centre for Excellence in Learning and Teaching, 2018 - present)
- **Industrial partnerships:** UPN (Group Project 2018), Vretta (2018-), Maple and Mobius (2018-).
- **Placement year tutor:** (Mathematics, 2012-)
- **Mathematics Competitions organizer:** Organized 15+ editions of the Derby Maths Quiz (2012-)
- **Outreach activities coordinator:** (Mathematics, 2016-) (worked with DANCOP, School Liaison, Outreach)
- **Module leadership:** Computational Mathematics (L4 – Comp, 2012-), Calculus (L4 Maths) (2013-), Modelling with Differential Equations (L6 - Maths) (2013-), Optimization (L6&7, Mathematics) (2015-)
- **Turing scheme coordinator** (April 2021-, College of Science and Engineering)

- **Erasmus/International activities Departmental coordinator** (Electronics, Computing and Maths)
 - a) New academic partnerships
 - Romania
 - Babes-Bolyai University (MoU, visits, research, Erasmus)
 - Polytechnic University of Bucharest (Erasmus, research)
 - “1 Decembrie 1918” University of Alba Iulia (MoU, research grants, conferences, Erasmus)
 - West University of Timisoara (Erasmus)
 - Alexandru Ioan Cuza University of Iasi (staff visits, joint research, conferences)
 - Turkey (Bogazici – Erasmus, Nevsehir – Erasmus, staff visits, research grants)
 - Slovenia (Maribor), Moldova (Khisinev), Portugal (Beira Interior)
 - China (Anhui – First Erasmus ICM KA107 partnership at Derby)
 - Italy (Calabria and Catania – Erasmus, Bolzano - Turing)
 - India (Jadavpur and Alagappa University – MoU, joint research, visits and Turing scheme)
 - Thailand (KMUTT and RMUTT in Bangkok, research visits, conferences, Turing scheme)
 - b) Prepared documentation for Erasmus ICM mobility with partners in **China**, India, Vietnam, Laos, etc
 - c) Supported several UoD academics and students to travel abroad with Erasmus
 - d) Hosted more than 15 Erasmus visitors, who taught mini courses to Derby students

(b) Contributions to teaching materials

- Redesigned several UG and PG modules, my focus being on e-assessment and interactive learning
- O. Bagdasar, *Concise Computer Mathematics: Tutorials on Theory and Problems* (22k downloads) SpringerBriefs in Computer Science, 2013 <https://link.springer.com/book/10.1007/978-3-319-01751-8>
- Supervised numerous BSc and MSc dissertations

(c) Contributions to teaching innovation and student support

- Numeracy Training courses with Vretta: This project increased pass rates from 85% to 89% in 2019-20 and 2020-21 (and to 98% for students who completed the training). The courses are deployed via Blackboard or the Library’s Maths Skills page: <https://libguides.derby.ac.uk/maths/courses>
- With support from Vretta Inc, in 2020 I have developed and deployed online exams which are automatically generated, graded (with moderation), and provide full solutions and feedback. This practice has been praised by External Examiners and adopted by other colleagues in the department.
- Co-founder and member of the University of Derby Maths student society.
In collaboration with the students we have designed the Maths@Derby brand, advertised through
 1. **Website (blogs, events, videos):** <https://www.derbymathsociety.com/>
 2. **YouTube:** <https://www.youtube.com/channel/UCYMmOAhcXsBlhhN062cdEfw>.
We have interviewed students, Erasmus guests, and also the President of the IMA
 3. **Twitter:** @DerbyMaths, @DerbyMathsSoc (which I promote through @BagdasarO).
- Black History Month OR Society Case studies: <https://bit.ly/3twdvNw>
- Social learning to enable effective online learning. I have refined note-taking techniques with live polls in Blackboard Collaborate and OneNote Notebook, and enabled peer-learning in MS Teams.
Student blog <https://celt.wp.derby.ac.uk/level-up-your-resources-and-engage-in-real-time-with-onenote/>

These innovations have been presented at relevant conferences and events.

- TALMO 21: <http://talmo.uk/planningahead.html>
- Advance HE Learning and Teaching 2021: <https://bit.ly/3yVcn60>
- ALTC 21 <https://www.youtube.com/watch?v=qwlwpaEMZ5I>
- EAMS 2021: Closing the Numeracy Gap <https://bit.ly/3CtqC31>

(d) Nominations

- **2021** – National Teaching Fellow, **2021** – Personal Academic Tutor of the Year
- **2019** – Inspirational Teaching Award, **2019** – VP Education Award
- **2018** – National Teaching Fellow

5. CONTRIBUTIONS TO ADMINISTRATION AND MANAGEMENT

- **Supported REF2021 unit submission (UoA 11, outputs)**
- **Programme Leadership**
 - a) MSc Big Data Analytics (2017-), *Mediterranean College* (2018 -) and *Online* (Jan 2019 -)
 - b) MSc Computational Mathematics (2015 - 2019)

I took over MSc Big Data Analytics in December 2017, with 7 students. We have developed online and collaborative provisions, with 60 active students at Derby and 30 in Greece. The MScBigData MS Team I setup helps 100+ students, staff and alumni, to get updates on seminars, careers, and job opportunities. I support students to publish research, setup profiles, and work with the Data Science Research Centre.

- **Member of validation panels for PG programmes**
- **College Consultation Group on Mathematical Education** (2018-)
- **Line Manager** for two new mathematics lecturers supporting the MathsHub (2020- present)

6. RESEARCH INTERESTS

My research includes topics in number theory, optimization, computational, discrete, or applied mathematics. Recently I have developed an interest in applications of data science to the investigation of criminal networks. I am also working with technology partners to fulfil the dream of “a world where everyone enjoys maths”, which involves aspects of mathematical education, including mathematical anxiety.

7. POSTGRADUATE STUDENT SUPERVISION

- I have successfully supervised six PhD students
 1. Haresh Singh Kainth (2014)
 - *“A Data Dependency Recovery System for a Heterogeneous Multicore Processor”*
 2. Craig Bower (2020):
 - *“Non-stationary Thresholding Bandit Problems”*
 3. Lucia Cavallaro (Est completion. Oct 2021)
 - *“Network Features in Complex Applications”*
 4. Enrico Ferrara (Estimated completion. Oct 2021)
 - *“Data collection and analysis in urban scenarios”*
 5. Sam O’Neill (Estimated completion. Oct 2021)
 - *“Analysis of Problems Modelled as Network Equilibrium Flows”*
 6. Laura Erhan (Estimated completion. Oct 2021)
 - *“Internet of Things Analytics at the Edge and Cloud”*
- Currently I am supervising 1 PhD students
 7. Francis Malute (Estimated completion. Oct 2022)
 - *“Augmenting Security in Cloud-Assisted Internet of Things (IoT): A Machine Learning Approach”*
- I have supervised multiple MRes students to successful completion.
- Since 2017 I have been a mentor for a number of PhD students in other institutions, especially at the Ramanujan Centre for Higher Mathematics, in Alagappa University, India and KMUTT (Thailand).

8. EXTERNAL ACADEMIC ACTIVITIES

- External PhD Examiner panel member
 - 2021 – SRM Institute of Science and Technology, India
 - 2021 – Women University of Lahore, Pakistan
 - 2020 – UBB Cluj, Romania
- Guest editor of co-editor of special issues:
 - Proceedings of [TREPAM’17](#)
 - Proceedings of [TCDM’18](#).
 - [SI of the International Journal of Difference Equations](#)
- Book proposal reviewer: Springer, CRC Press, Birkhauser

- Reviewer for several journals, including
 - Mathematics and Computers in Simulation (Elsevier)
 - Applied Mathematics and Computation, Journal of Number Theory (Elsevier)
 - Journal of Inequalities and Applications (Springer)
 - Journal of Integer Sequences
 - Punjab Journal of Mathematics
 - Mathematical Reviews
 - Mathematics (MDPI)
- External advisor
 - BSc in Data Science and Data Analytics, Faisalabad University, Pakistan (2021)
 - STEM Foundation Programme, Edge Hill University, UK (2020)
 - BSc Computing and BSc/MSc Pastoral Theology, “1 Decembrie 1918” University of Alba Iulia
- Editorial Board and Guest Editor
 - Nonlinear Convex Analysis and Optimization (Thailand)
<https://ncao.design.blog/editorial-board-member/>
 - Education and Technology – Turkey: <https://dergipark.org.tr/en/pub/egitek/board>
 - Octogon Mathematical Magazine
 - Guest Editor: - SI Dynamical Systems: Advances in Theory and Applications, [Axioms](#) (Q1)
- SI Grid Computing and Cloud Computing, Mathematics (Q1)
- Various media webinars and interviews:
 - Can STEM be taught online? (organised by DigitalEd)
<https://www.linkedin.com/feed/update/urn:li:activity:6709417841965203456/>
 - University of Derby becomes Vretta’s first Academic Hub in the UK
<https://www.vretta.com/blog/the-university-of-derby-becomes-vretta-s-first-academic-hub-in-the-uk-to-support-student-success-in-mathematics/>
 - Research into the analysis of criminal networks in collaboration with external partners
<https://www.derby.ac.uk/news/2021/data-science-research-aims-to-unravel-crime-networks/>
- Workshops and conferences organized
 - RISMAA’2021 - <http://rismaa.uab.ro/>
 - ICMCMSE’20, Alagappa University, India (session chair, invited speaker)
 - [TCDM’18](#) – Co-chair, editor of special issue, lead host for keynote speakers
 - UoD Workshop on “Current issues in the Mathematical Education” (April 2018)
 - UoD Workshop on “Effective Mathematical Education: Improving accessibility, reducing anxiety” (Dec 2018)
 - [TREPAM’17](#) - organizing committee, editor of special issues (ENDM Elsevier, UAB Press)
 - ICMCMSE’17, Alagappa University, India (session chair, keynote speaker, proceedings editor)
 - [TCDM’16](#) – organizing committee
 - [ICTAMI’15](#) – organizing committee
- Visiting stages abroad
 - December 2019: Visiting researcher at Anhui University, China
 - September 2019: Visiting scholar at King Mongkut University (KMUTT), Thailand
 - June 2019: Erasmus mobility to Nevsehir University, Turkey
 - January 2019: Erasmus mobility to Alba Iulia, Romania
 - October 2018: Erasmus mobility to Nevsehir University, Turkey
 - August 2018: Project visit to Alba Iulia, Romania
 - May 2018: Erasmus mobility to UBB Cluj, Romania
 - January 2018: Erasmus mobility to Alba Iulia, Romania
 - May 2017: Erasmus mobility to Alba Iulia, Romania
 - February 2017: Ramanujan Centre for Higher Mathematics, Alagappa University, India
 - January 2017: Erasmus mobility to Cluj Napoca, Romania
 - May 2016: Erasmus mobility to Cluj Napoca, Romania
 - January 2016: Erasmus mobility to Alba Iulia, Romania
 - May 2015: Erasmus mobility to Cluj Napoca, Romania
 - January 2015: Erasmus mobility to Alba Iulia, Romania
- Research group affiliation
 - External collaborator of the [Analysis and Optimization Research Group](#), UBB Cluj, Romania
 - Data Science Research Centre (UoD), CyberSecurity, MARG (Maths Anxiety)
 - [Fixed Point Theory and Applications Research Group](#), KMUTT, Thailand
 - [Ramanujan Centre for Higher Mathematics](#), Alagappa University, Tamil Nadu, India

9. INVITED TALKS AND SEMINARS (SELECTION)

- 05 Jan 2022: American University of Kuwait - Mathematics Department (<https://bit.ly/3G9EION>)
 - Invited Talk: *On some special polynomials with applications to the study of partitions*
- 25 Oct 2021: The Ontario Colleges Mathematics Association 40th Annual Conference (<https://bit.ly/3aPTsPV>)
 - Keynote Talk: *Mathematics on the Edge: From the classroom to applications and infinity*
- 28 June 2021: iEducare, Malaysia. Talk: *Problem Solving skills: A mathematical key to employability*
- 19 May 2021: Data Science Research Seminar (60 min), UoD, UK
 - Talk: *Mathematics, poetry in symbols and formulae: infinity, fractals and recurrences*
- 28 April 2021: ANSCSE'24, 24th International Annual Symposium on Computational Science and Engineering Kasetsart University, Nakhon Pathom, Thailand (http://chem.flas.kps.ku.ac.th/ANSCSE24/?page_id=705)
 - Invited Talk: *Computational mathematics: from pseudoptimality to the structure of criminal networks*
- 21 January 2021: Mediterranean College, Greece
 - Guest lecture: *Computational Mathematics and Numeracy Training*
- 14 Nov 2020: International forum on Internet of things and Cloud/Edge Coordination (Anhui University, China)
 - Invited Talk: *Algorithms for a better life: Applied Mathematics on the Edge*
- 15 October 2020: Analysis and Optimization Research Seminar (60 min), UBB Cluj, Romania
 - Talk: *Recurrent Sequences* (book presentation) www.cs.ubbcluj.ro/~grupanopt/
- 26 September 2019: ISB Bucharest: *Problem solving: Your key to securing a job*
- 14 September 2019: IWANA'2019, Chon Buri, Thailand
 - Invited talk: *From classical theory to new results for polynomials, partitions and integer sequences*
- 9 September 2019: Guest speaker at Rajamangala University, Bangkok, Thailand
 - *Mathematical education and problem solving in the era of Big Data*
 - *Big Data: Theoretical background, impact in the real world and examples*
- 6 September 2019: NCOA'2019, Bangkok, Thailand
 - Invited talk: *Unifying local-global type properties in vector optimization*
- 3-4 September 2019: ICMMCI'2019, Alagappa University, India (Keynote Speaker)
- 1-3 April 2019: Czech Republic (visited 2 high-schools and recruitment partners)
- January 2019: Invited presentations at 4 high schools in Alba Iulia and Brasov
- 7 June 2018: UBB Cluj, Romania, Faculty of Mathematics:
 - Complex Analysis Research Seminar (30 min): ["On cyclotomic polynomial coefficients"](#)
 - Analysis and Optimization Seminar (60 min): "Traffic Assignment Problem: Methods&Simulations"
- 13 Feb 2018: ISB Bucharest: *Problem solving: The key to student employability*
- 12-13 October 2017: Kishinev State University, Moldova
- 23 May 2017: MOS UBB Cluj Research centre for Modelling, Optimization and Simulation)
 - Optimum versus equilibrium solutions in traffic flow management
- 24 February 2017: Mannar Thirumalai Naicker College, Madurai, India.
 - Keynote address at the inauguration of the Research Centre for Mathematics
- 20-22 February 2017: [ICMMCMSE'17](#), Alagappa University, India
 - 20.02.2017 – Keynote presentation: "Traffic Modelling: Methods and algorithms"
 - 21.02.2017 – Keynote presentation: "Recurrent sequences: Recent results and conjectures"
- 12 December 2015: IMA East Midlands branch, Nottingham Trent University
 - Talk: ["Mathematics of beauty: On infinity, fractals and recurrent sequences"](#)
- 2 April 2015: UBB Cluj, Romania, Faculty of Mathematics:
 - Mechanics and Astronomy Research Seminar (30 min):
Talk: ["Lubrication in cell adhesion: deterministic results and simulations for a simplified model"](#)
 - Complex Analysis Research Seminar (30 min):
Talk: ["On the geometric patterns produced by Horadam sequences in the complex plane"](#)
 - Analysis and Optimization Research Seminar (60 min):
Talk: [Extremal properties of generalized convex vector-valued functions](#)
- 7 March 2015: Early Career Mathematicians' Spring Conference, University of Sheffield:
 - Talk: [How to be happy while solving \(other people's\) problems](#)
- 16 February 2015: Guest Lecture for Subjects in Computer Science, University of Derby:
 - Talk: ["On the Visualisation of Number Sequences"](#)
- 22 August 2014: Hanbat National University, Korea: "Mathematics of beauty: on recurrences and emotions"
- 30 May 2014: UBB Cluj, Romania, Interdisciplinary seminar: "On the Mathematics of beauty"
- 29 October 2013: Open University Seminar, "The geometric patterns of complex Horadam sequences"
- 26 April 2013: SSMI, Cluj Romania. Talk: "Applied Mathematics: from life to formulas"

10. OTHER INFORMATION

(a) Professional Memberships

- HEA - Higher Education Academy (FHEA 2013-2020, SFHEA Senior Fellow 2020-)
- LMS - London Mathematical Society (2020-)
- IMA - Institute of Mathematics and its Applications (MIMA Member 2012-2020, FIMA Fellow 2020-)
Local Committee Member, East Midlands branch (2012-)
- ISDE - International Society of Difference Equations (2017-)
- AMS - American Mathematical Society - Member (2014-)
- SSMR - Romanian Mathematical Society (2013-)
- Marie Curie Alumni Network (2011-), E-Assessment Association (2021-).

(b) Projects

- 2020-: Criminal Networks analysis through mathematical modelling and data science (ongoing)
- 2020- MathsHub –maths support for University of Derby students, staff, and outreach (£250k)
- 2019- Maple ambassador (Maths Software for symbolic calculations and Engineering simulations) (£35k)
- 2018- Numeracy skills training for all Derby students and staff, with Vretta Inc. (£50k)
*Developed 12 training courses used by 2000+ students at University of Derby, partners, and SMEs. As of Jan 2022, 500+ digital badges have been awarded <https://libguides.derby.ac.uk/maths>.
Impact: <https://www.e-assessment.com/resources/closing-the-numeracy-gap-at-the-university-of-derby/>*
- 2018-: Mobius (Mathematical Software –deployed at UoD for developing E-Assessment in Maths) (£40k)
This product provides advanced maths support, with step-by-step solutions and automatic marks.
- 2017: IPEC Alba Iulia (Ceramics coloring project)
- 2017: UPN (Logistics, Maths Group Project at UoD)
- 2015: Mathematical Anxiety (multiple projects in Romania, Turkey, etc)
- 2014: Bosch Thermotechnology (VSM - Value Stream Mapping)

(c) Funding

1. LMS grant ref. 52007 – £1,900 travel grant to visit Dr. Tilahun, Addis Ababa (Ethiopia), January 2022.
2. PN-III-P2-2.1-PED-2016-1835: [Computational Models for the reproduction of ceramic colors](#) 103K Euro (co-investigator). This project aims to optimise the reproduction and correction of ceramic colors, in partnership with IPEC Alba Iulia. The project involves a number of academics from UoD, Huddersfield, UAB Alba Iulia, and three Erasmus students from Derby.
3. Predictive Analytics and Data Visualization Platform for University Admission (£180k, UoD 2018) - Selected
4. Erasmus 2019-1-UK01-KA107-061230 (87.520 Euro) – Successful
Erasmus mobilities to support student and research students mobility between University of Derby and Anhui University of China, within the field of Mathematics, Computing & Engineering.
5. Erasmus 2019-1-UK01-KA201-595B1D25 (449.724 Euro) – Unsuccessful
TIMS – Technology Innovation and Mathematics Success involved University of Derby, University of Nevsehir and Marmara (Turkey), “1st Decembrie 1918” University (Romania) and Haninge Kommun (Sweden), and Vretta Inc, a technology company based in Canada. The project proposed innovative mathematics teaching backed by pedagogic research on Maths Anxiety and technologies, within regional schools in the partner’s countries.
6. Undergraduate Research Scholarship Scheme (£2,200/project)
 - URSS 2016-041: *“On the geometry and applications of complex recurrent sequences” Eve Hedderwick prepared a poster, attended TREPAM’17, co-authored a paper in ENDM and gave the VoT 2018.*
 - URSS 2017-054: *“Automatic Design and Correction of Ceramic Colours” Manzal and Chandni Mohammad are visiting UAB Alba Iulia between July-September 2018 as Erasmus training students.*
 - URSS 2017-073: *“Water Management and Renewable Energy for Sustainable Agriculture Under Climate Change” (with T. Wilmshurst). Navraj Ghataure developed renewable energy for Kenyan farms.*
 - URSS 2018-026: *“Innovative technologies and best practices in e-learning for Mathematics Education”*
7. OCIS projects (On Campus Internship Scheme)
 - Summer 2021: *Four students worked 240 hours worked on MathsHub materials and promotion in social media.*
 - Summer 2019: *One student worked 120 hours to develop Mobius e-assessment materials.*
 - Summer 2018: *Four students worked 420 hours to develop the Maths materials. The projects (Maths formula booklet, Outreach materials, E-Assessment) were co-supervised with academic colleagues.*
8. DANCOP funding - £9400 (2018) *Maths Education support in local schools with Outreach and School Liaison. We trained a student team of 20 members to support Mathematics activities at Derby and in local schools.*

(c) Conferences and workshops (selection)

- 28-30 April 2021: ANSCSE24, Thailand
- 30 January 2020: Advance HE STEM conference, Manchester, UK
- 22-24 January 2020: ICMCMSE'2020 (Alagappa University, India)
- 17-24 December 2019: UK-Jiangsu 2020 Workshop, Zhenjiang, Erasmus meeting in Hefei (China)
- 12-13 October 2019: GEBA'2019 (Iasi, Romania)
- 5-14 September 2019: NCOA'2019, IWANA'2019 (Thailand)
- 3-4 September 2019: ICMCCI'2019, Alagappa University, India
- 27-29 June 2019: EURO2019, Dublin, Ireland
- 15-19 June 2019: NUMTA, Crotona, Italy
- 9-10 April 2019: The e-Assessment Question, London
- 31 January 2019: Advance HE STEM Conference
Talk: "Improving numeracy skills through technology: Three pilot projects by the University of Derby and Vretta"
- 4 – 7 November 2018: Informs'18 Annual Meeting, Phoenix, AZ (oral presentation)
JOGO Informs Issue Highlights: Unifying Local-global Type Properties in Vector Optimization
- 27 June – 1 July 2018: ICVANO, Martin Luther University, Halle (oral presentation)
- 16-20 December 2017: 4th Conference on OMS Havana, Cuba (talk) (with N. Popovici and S. Berry)
- 25-28 September 2017: FGI 2017 Germany (talk on Transportation management: methods and algorithms for solution)
- 31 July-4 Aug 2017: TREPAM'17 (talk), UAB, Romania
- 24-28 July 2017: 23rd ICDEA ([On the dynamical properties of certain complex recurrent sequences](#)), Timisoara, Romania
- 4-6 April 2017: 7th ICMSAO UAE (talk: New results and conjectures on 2-partitions of multisets)
- 20-22 February: [ICMCMSE'17](#), Alagappa University, India (Keynote)
- 25-29 August 2016: XIIIth Colloq Fr-Ro (talk: Extremal properties of explicitly quasiconvex vector functions)
- 19-22 May 2016: XXth SSMR (talk: On the geometry of linear recurrences in the complex plane)
- 22-23 March 2016: 1st TCDM (talk: "On the number of tuples with the same lcm")
- 12 December 2015: IMA East Midlands (talk: "[Mathematics of beauty: On infinity, fractals and recurrences](#)")
- 17-19 September 2015: ICTAMI (talk: "[On arithmetic tuples and Integer Tuples with the same LCM](#)")
- 6-10 July 2015: 25th BCC (talk: "On the enumeration of integer tuples having the same lcm")
- 7 March 2015: IMA ECM 2015, University of Sheffield: [How to be happy while solving \(other people's\) problems](#)
- 22 August 2014: Hanbat National University, Korea, Mathematics of beauty: on recurrences and emotions (talk)
- 13-21 August 2014: ICM 2014, Seoul, Korea, On the enumeration of periodic generalized Horadam sequences (talk)
- 6-11 August 2014: ANTS XI, Korea, On certain computational and geometric properties of Horadam orbits (poster)
- 30 May 2014: UBB Cluj, Faculty of Mathematics, Interdisciplinary seminar – On the Mathematics of beauty
- 29 May 2014: UBB Cluj, Faculty of Mathematics, On some properties and applications of Horadam sequences
- 29 October 2013: OU Maths Seminar (Invited talk: The geometric patterns of complex Horadam sequences")
- 1-5 July 2013: 24th BCC (talk: "Enumeration of periodic Horadam sequences")
- 26 April 2013: SSMI (Guest speaker: "Applied Mathematics: from life to formulas")
- 12-13 September 2012: HEA Induction Course for New Mathematics Lecturers, Nottingham, UK
- 1-7 July 2010: ESOF 2010 (European Science Open Forum) – Turin, Italy (Marie Curie Workshop - poster)
- 13-26 September 2009: Summer School in Parameter Estimation in Physiological models (talk)
- 15-17 July 2009: MMBNOTT/MRM, University of Nottingham (Poster "Ligand receptor binding under force").
- 16-22 July 2008: ESOF 2008 (European Science Open Forum) – Barcelona, Spain (poster).

(d) Invited speakers and Erasmus guests (selection)

- 17.09.2018 Preda Mihailescu (Professor, Gottingen): "*With Mathematics on the road*" (Public lecture)
- 22.11.2017 Nicolae Popovici (Professor, UBB cluj): *New algorithms for solving discrete vector optimization problems*
- May 2015, 2016, 2017, 2018 - Professor Nicolae Popovici - UBB Cluj, Romania (Erasmus visits)
- March 2016, March 2017, March 2018, March 2019 - Dr Ioan Lucian Popa, UAB Alba Iulia, Romania
- Sept 2017 - Jan 2018 - Imre Szigmond (PhD student, UBB Cluj, Romania) *Project: Gamification within Higher Education*
- July 2017 - Sept 2018: - Elif Tekin (PhD student, Belikeshir, Turkey) *Project: Water Treatment Optimization*
- 12.09.2017 Valeriu Anisiu (Professor UBB Cluj Napoca, Romania):
Solving difficult mathematical problems with Computer Algebra Systems (focus on Maple)
- 18.03.2016 Dr. Ioan Lucian Popa (UAB Alba Iulia, Romania): *Dynamical Systems: A state-of-the-art survey*
- June 2016 - Dr Zalan Bodo - UBB Cluj Romania
- 27.02.2015 Colm Mulcahy (Professor of Mathematics, US): "*Mathemagic with a deck of cards*"
- 08.10.2015 Ashley Buckner (Senior OR Analyst, GORS): "*From Electrons to the Unemployed: A (Rather) Random Walk through Maths, Statistics and Modelling*"
- 21.10.2013 Dr Daniel Porumbel (Lille, France): "*Upper and Lower Bounds for Capacitated Arc Routing*"

11. PUBLICATIONS

A. BOOKS

1. D. Andrica, **O. B.**, G. Țurcaș: Topics on Discrete Mathematics and Combinatorics, Cluj University Press, 2021 (300pp, in press).
2. D. Andrica, **O. B.**: Recurrent sequences: Key results, Applications and Problems, Springer, 2020 (418 pages).
3. **O.B.**, 'Concise Computer Mathematics: Tutorials on Theory and Problems', Springer Briefs in Computer Science, 2013.
4. **O.B.**, N. Popovici: 'Optimization techniques: Tutorials on Theory and Problems', Springer Briefs (in preparation 120 pages)

B. JOURNAL ARTICLES (refereed, selection) Full list on Google Scholar: <https://bit.ly/3flbkqa>

1. L. Cavallaro, A. Ficara, P. De Meo, G. Fiumara, S. Catanese, **O. Bagdasar**, Antonio Liotta, Criminal networks analysis in missing data scenarios through graph distances, *PLoS one* 16 (8), e0255067 (2021) [IF: 2.740].
2. D. Andrica, **O. Bagdasar**, On k-partitions of multisets with equal sums, *Ramanujan Journal of Mathematics*, 55, 421-435 (2021)
3. D. Andrica, **O. Bagdasar**, On Generalized Lucas pseudoprimality of level k, *Mathematics* 9 (8), 838 [IF: 1.747]
4. D. Andrica, **O. Bagdasar**, On some new arithmetic properties of the generalized Lucas sequences, *Meditt. J. Math* (2021) [IF: 1.220]
5. D. Andrica, **O. Bagdasar**: Pseudoprimality related to the generalized Lucas sequences, *Mathem. Comput Sim.* (2021) [IF: 1.620]
6. D. Andrica, **O. Bagdasar**, G.-C. Turcas, On some new results for the generalised Lucas sequences, *Analele Stiintifice ale Universitatii Ovidius Constanta* 29(1), 17-36 (2021) [IF: 0.452]
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C. BOOK CHAPTERS

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2. BC Yang, D. Andrica, **O. Bagdasar**, M. Th. Rassias: On Two Kinds of the Hardy-Type Integral Inequalities in the Whole Plane with the Equivalent Forms, In: Mathematical Analysis in Interdisciplinary Research, Springer (to appear, 2021)
3. Ficara A. et al. (2020) Social Network Analysis of Sicilian Mafia Interconnections. In: Cherifi H., Gaito S., Mendes J., Moro E., Rocha L. (eds) Complex Networks and Their Applications VIII. COMPLEX NETWORKS 2019. Stud in Comp Intelligence, vol 882. Springer
4. D. Andrica, **O. Bagdasar**, GC Țurcaș: The number of partitions of a set and superelliptic Diophantine Equations, In: Discrete Mathematics and Applications, Springer, pp 35-55 (2020)
5. O'Neill S., **Bagdasar O.**, Liotta A. (2020) An Online Learning Approach to a Multi-player N-armed Functional Bandit. In: Sergeyev Y. Kvasov D. (eds) Numerical Computations: Theory and Algorithms. NUMTA 2019. Lecture Notes in Comp Sci, vol 11974 Springer
6. V. Lowndes, **O. Bagdasar**, S. Berry: Chapter 6 "Case Studies: Using Heuristics" in Guide to Computational Modelling for Decision Processes: Theory, Algorithms, Techniques and Applications (Springer, 2017)
7. **O. Bagdasar**, N. Popovici, S. Berry: Sect. 7.3 "Transportation management: methods and algorithms" in Guide to Computational Modelling for Decision Processes: Theory, Algorithms, Techniques and Applications (Springer, 2017)

D. CONFERENCE PAPERS PROCEEDINGS

1. P Mrozek, J Panneerselvam, O Bagdasar, Efficient Resampling for Fraud Detection During Anonymised Credit Card Transactions with Unbalanced Datasets, 2020 IEEE/ACM 13th International Conference on Utility and Cloud Computing
2. **O. Bagdasar**, A. Birlutiu, M. Chen and I-L Popa, Qualitative Case Study Methodology: Automatic Design and Correction of Ceramic Colors, 21st ICSTCC, Romania (2017)
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4. G. Illsley, **O. Bagdasar**, Understanding the fear of mathematics: Recipes for students and teachers, 8th International Symposium "Mathematical Education in the Current European Context", December 16th, Romania (2017).
5. M. Stublely, **O. Bagdasar**, On the role of Open Questions in the Mathematical Education, 7th International Symposium "Mathematical Education in the Current European Context", December 16th, Romania (2016).
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7. M. Trovati, **O. Bagdasar**, 'Influence Discovery in Semantic Networks: An Initial Approach', Proceeding of 16th UKSim, 5pp (2014).
8. **O. Bagdasar**, M. Chen, 'A Horadam-based Pseudo-random number generator', Proceeding of 16th UKSim, 5pp (2014).
9. **O. Bagdasar**, The Number of Pairs of Integers with the Same lcm, 3rd International Symposium "Mathematical Education in the Current European Context", November 23rd, Romania (2012).

E. MATHEMATICAL NOTES (SELECTION)

These are mostly short research works addressing Open Questions from the Octogon Mathematical Magazine.

1. **O. Bagdasar** and M. Stublely (Maths, 3rd Year)
 - a. On OQ.3184 in Octogon Math. Mag, 24 (2) (2016)
 - b. On OQ.4595, On OQ.4537 in Octogon Math. Mag, 25 (1) (2017)
2. **O. Bagdasar**, A. Birnie, C. Pissarides and A. Ahmad (MSc Computational Mathematics students):
 - a. On OQ.3166, On OQ.3484 in Octogon Math. Mag, 24 (2) (2016)
 - b. On OQ.3928, On OQ.4259, On OQ.4537 in Octogon Math. Mag, 25 (1) (2017)
3. **O. Bagdasar**, R. Connis and A. Baker: On OQ.4836 and OQ.4837 in Octogon Math. Mag, 25 (1) (2017)
4. **O. Bagdasar**, On OQs.603 and 1248, in Octogon Math. Mag, Vol. 14 (2006)
5. **O. Bagdasar**, On OQ.1263, Octogon Math. Mag, Vol. 11 (2006)

F. CONTRIBUTIONS TO THE ONLINE ENCYCLOPEDIA OF INTEGER SEQUENCES (OEIS)

- 100+ new sequences added <https://oeis.org/search?q=Bagdasar%20&sort=created>
- Some of my students added new integer sequences to the OEIS Encyclopedia:
(Ralph Tatt: <https://oeis.org/A303748> and Craig White: <https://oeis.org/A303427>).

MY WORK IN PRESS

- Eurekalert.org: <https://tinyurl.com/EurekAlertOrg>
- Galileo net.it: <https://tinyurl.com/GalileoNewsWebsite>
- Ansa.it: <https://tinyurl.com/AnsaPhysMathIta>
- ZME Science.com: <https://tinyurl.com/ZmeScienceCom>

VOLUNTARY WORK

- **2003 - 2007:** representative for the students in Mathematics within the Faculty Council, UBB Cluj, Romania.
- **2008 - 2012:** Romanian Society, University of Nottingham (founder, Treasurer, Vice-president, Social Secretary).
- **2009 - 2015:** Romanian Orthodox Parishes in Liverpool (reader).
- **2008 - present:** Romanian Orthodox Parishes in Nottingham (reader, choir director, treasurer, trustee).

PERSONAL SKILLS

- **Intelligent, passionate, energetic, kind-hearted, humorous, communicative, musical**
- **Languages:** Romanian (native), English (proficient), French (intermediate), Greek (church use)
- **IT Skills:** Experienced user: LaTeX, Matlab, Maple, Office 365.

12. REFEREES

1. Professor Tom Ward (Pro Vice-Chancellor Education, Mathematics)
Newcastle University
<https://www.ncl.ac.uk/executive/profile/wardtom.html>
Email: tom.ward@newcastle.ac.uk
2. Professor Martin Bohner (Curators' Professor of Mathematics and Statistics)
Martin Bohner, Missouri University of Science and Technology
<http://web.mst.edu/~bohner/>
Email: bohner@mst.edu
3. Professor Dr. Habil. Adrian Petrusel (Mathematics, Pro-VC)
Babes Bolyai University of Cluj Napoca
<http://math.ubbcluj.ro/~petrusel/index-en.html>
Email: petrusel@math.ubbcluj.ro
4. Professor Dorin Andrica (Mathematics)
Babes Bolyai University of Cluj Napoca
Email: adandrica@math.ubbcluj.ro
5. Professor Preda Mihăilescu (Mathematics)
Georg-August University of Goettingen
Email: preda.at.uni-math.gwdg.de
6. Professor Dr. Habil. Florin Pop (Computer Science and Distributed Systems)
University Politehnica of Bucharest, Romania
<https://florinpop.ro/>
Email: florin.pop@cs.pub.ro
7. Professor Antonio Liotta (Data Science and Computer Networks)
Free University of Bozen Bolzano
<https://www.unibz.it/en/faculties/computer-science/academic-staff/person/41903-antonio-liotta>
Email: antonio.liotta@unibz.it