



## PERSONAL INFORMATION

**Aurelian Nicola**

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## WORK EXPERIENCE

01/10/2019–Present

**Dean Faculty of Mathematics and Computer Science**

“Ovidius” University of Constanta, Romania

- Support the faculty mission and make central to all decisions and actions
- Oversee professional development budget and approve all faculty grants
- Oversee faculty and academic staff recruitment, onboarding, and retention and supervise all matters relating to the lives of faculty.
- pursues the fulfillment of the decisions of the management of the university and the faculty at the level of the department he leads.
- proposes the development strategy of the department, defining its short and long term objectives; is accountable to the department for achieving the proposed objectives;
- monitors the judicious use of the department's infrastructure and resources and is responsible for their management

01/10/2016–Present

**Associate professor**

Faculty of Mathematics and Computer Science

124, Bvd. Mamaia, Virtual Library, Floor 1

“Ovidius” University of Constanta, Romania

Teaching and research activities

01/10/2016–01/10/2019

**Head of Department**

Faculty of Mathematics and Computer Science

124, Bvd. Mamaia, Virtual Library, Floor 1

“Ovidius” University of Constanta, Romania

Teaching and research activities

16/01/2019–28/07/2019

**Professional skills assesor**

Faculty of Mathematics and Computer Science

124, Bvd. Mamaia, Virtual Library, Floor 1

“Ovidius” University of Constanta, Romania

Professional competency evaluator in project POCU / 320/6/21/122837, ProInfo - resource preparation in Computer Science.

23/01/2019–27/04/2019

**Teaching expert**

“Ovidius” University of Constanta, Romania

Education expert in the ProInfo project - training of human resources in Informatics, POCU / 320/6/21/122837.

01/06/2018–06/10/2018

**Specialist inspector for training, evaluation and professional selection**

“Ovidius” University of Constanta, Romania

Training activities. Professional evaluation and selection activities. Development of practice bases in Ovidius University of Constanta by setting up, arranging and equipping the Circle of Excellence in the training of the socio-educational animator.

14/08/2016–13/01/2018 **IT Specialist / Computer Researcher**

“Ovidius” University of Constanta, Romania

MATE-INFO.NET “Adapting university curricula to the National Qualifications Framework in Higher Education and creating a virtual network to improve interaction with the business environment to support economic and social development, Project funded by the European Social Fund through the Sectoral Operational Program Human Resources Development 2007-2013, Contract identification number: POSDRU / 156 / 1.2 / G / 136858, Ovidius University of Constanta

14/08/2015–13/08/2017 **IT Specialist**

“Ovidius” University of Constanta, Romania

Project member – MARSPLAN BS EASME/EMFF/2014/1.2.1.5/2/SI2.707672 MSP LOT 1 /BLACK SEA/MARSPLAN-BS, documentation and research activities for the specifics of the project, information dissemination activities using the project website, and maintenance activities and creation of tools necessary for dissemination using WordPress technology.

01/10/2005–01/10/2016 **University Lecturer**

Faculty of Mathematics and Computer Science

124, Bvd. Mamaia, Virtual Library, Floor 1

“Ovidius” University of Constanta, Romania

Teaching and research activities

08/07/2015–13/12/2015 **Expert trainer**

“Ovidius” University of Constanta, Romania

Member in the project POSDRU / 189 / 2.1 / G / 156686 SMIS code: 59294,

PC-Practical for Career

06/11/2014–05/11/2015 **Analyst Programmer**

“Ovidius” University of Constanta, Romania

Member in the project POSDRU / 156 / 1.2 / G / 139720 SMIS code: 53215, Research of the educational reality-fundamental coordinate of the training of future teachers.

01/10/2000–01/10/2005 **Graduate Teaching Assistant**

Department of Mathematics and Statistics, 26 Richmond Street, Glasgow, G1 1XH

University of Strathclyde, United Kingdom

Teaching and research activities

01/10/1996–01/10/2000 **Teaching assitant**

Faculty of Mathematics and Computer Science

124, Bvd. Mamaia, Virtual Library, Floor 1

“Ovidius” University of Constanta, Romania

Teaching and research activities

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EDUCATION

- 01/10/2000–01/08/2005 **PhD in Mathematics**  
 Department of Mathematics and Statistics, 26 Richmond Street, Glasgow, G1 1XH  
 University of Strathclyde, United Kingdom  
 Numerical solution of Hamilton-Jacobi equations using adaptive moving meshes
- 01/10/1997–01/03/2000 **M. Sc. in Mathematics**  
 Faculty of Mathematics and Computer Science  
 The Weizmann Institute of Science  
 234 Herzl Street, Rehovot 7610001 Israel  
 Stability of discrete shocks for difference approximations to systems of conservation laws
- 01/10/1996–01/10/1997 **M.Sc. in Mathematics** Master  
 Faculty of Mathematics and Computer Science  
 124, Bvd. Mamaia, Virtual Library, Floor 1  
 "Ovidius" University of Constanta, Romania  
 Applications of Lie algebras to hyperbolic partial differential equations.
- 01/10/1991–01/10/1996 **B.Sc. in Mathematics and Computer Science**  
 Faculty of Mathematics and Computer Science  
 124, Bvd. Mamaia, Virtual Library, Floor 1  
 "Ovidius" University of Constanta, Romania  
 Geometric multigrid methods for solving one-dimensional convection-diffusion problems.

**PERSONAL SKILLS**

Mother tongue Romanian

Limbile străine

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
english	C2	C2	C2	C2	C2
french	B1	B1	B1	B1	B2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

Communication skills

- team spirit: within the faculty team and as a member of research teams
- communication skills: teaching activities and specialized seminars at the "Ovidius" University of Constanta; lucrative interaction at the level of collegial relations; participation in scientific research teams; participation in national and international scientific events.
- communication skills: teaching activities and specialized seminars at the "ovidius" university in Constanta; lucrative interaction at the level of collegial relations; participation in scientific research teams; participation in national and international scientific events.
- skills of working with adults acquired in the activity of trainer.
- skills to work with young people acquired from the organization and management of pedagogical practice.
- skills for the practical application of national and international programs and working in partnership.
- skills and competences for introducing new information and communication technologies, pedagogical innovation.

- communication skills in the context of educational events as an organizer and leader.
- social competencies highlighted by the quality of teacher.

#### Organisational / managerial skills

- Dean and Head of Department : 33 teachers, over 500 students.
- Experience in organizing international conferences, summer schools.
- Experience in coordinating and compiling accreditation / periodic evaluation files for different specializations.
- I participated in the organization of several events: international and national conferences, competitions for pupils and students, events for the popularization of mathematics and computer science for high school students and for students.

#### Job-related skills

- Skills of research, organization, openness to creativity and innovation
- Ability to analyze and synthesize

#### Computer skills

- Writing documents specific to the field of Mathematics and Informatics using specific tools.
- Implementation and administration of research project sites using Wordpress or Javascript technologies.
- Writing courses and interactive labs for students.
- Implementation of specific techniques for high precision scientific calculation.
- Object-oriented implementation of the necessary programs in various research projects
- Operating systems: Windows, Linux, Ios,
- Editing tools: MS Office package: Winword, Powerpoint, Visio, LaTeX, Office, Beamer, Notepad, Sublime
- Programming languages: C, C ++, MatLab, Java, Python, Pascal, Assembly, C #, Ruby.
- Mathematical Software: MatLab, Maple, Mathematica, Octave, SciLab
- Web technologies: HTML, XML, CSS, JavaScript, Ajax, Maven, Frameworks, Wordpress

#### Other skills

- Member of the organizing committee of the ESTIC computer science contest (2012-2018).
- Member of the Mathematical Sciences Society, Romania (SSMR)
- Diploma of Excellence of the Faculty of Mathematics and Informatics (for the scientific research in the field of informatics materialized through ISI articles in 2007).
- Awards for the quality of teaching activity, Ovidius University of Constanta, Faculty of Mathematics and Informatics, 2006-2007, 2007-2008, 2008-2009.
- Member of over 20 research grants.
- Founder of the ECDL Center from the Faculty of Mathematics and Informatics of the Ovidius University of Constanta

#### Driving licence B

### ADDITIONAL INFORMATION

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#### Conferences

- Juncu Gh., Nicola A., Popa C. - A numerical study of laminar ow past two circulating spheres in

tandem, Proceedings of the XXXII-nd "Caius Iacob" National Conference on Fluid Mechanics and its Technical Applications, October 16 - 17, 2009, Elie Carafoli "National Institute for Aerospace Research INCAS Bucharest, Romania, pages 132-137 (ISSN 2067 4414).

- S. Petra, A. Nicola, C. Popa, C. Schnorr, Primal versus Dual Formulations of the  $\ell_1$  - Regularized Least Squares Problem for Tomographic Particle Image Reconstruction, GAMM 81st Annual Scientific Conference in Karlsruhe.
- A. Nicola, C. Popa and U. Rude, Coarse grid correction by aggregation / disaggregation with application in image reconstruction, Article first published online: 11 OCT 2011, DOI: 10.1002 / pamm.201010357.
- Juncu Gh., Nicola A., Popa C., Nonlinear iterative methods for water flow in variably saturated porous media, Proceedings of the 6th and 7th Workshops on Mathematical Modeling on Environmental and Life Sciences Problems, September 5-9, 2007 and October 22 -25, 2008, Constanta, Romania; Romanian Academy Publishing House, Bucharest 2010, 183-190
- Juncu Gh., Nicola A., Popa C., Udrescu T., Nonlinear Multigrid Methods for Groundwater Flow Problems in Heterogeneous porous media, Proceedings of the 6th and 7th Workshops on Mathematical Modeling on Environmental and Life Sciences Problems, September 5-9, 2007 and October 22-25, 2008, Constanta, Romania; Romanian Academy Publishing House, Bucharest 2010, 45-56.
- J.A Mackenzie and A. Nicola, A Discontinuous Galerkin Moving Mesh Method for Hamilton-Jacobi Equations, Int. Conference on Boundary and Interior LayersBAIL 2006.

## Publications

### Books and chapters in books

- C. Popa, A. Nicola, D. Chiricioaia, A. Prozorov, C. Bogdan, Exercises and Complements of Numerical Analysis, Ovidius Constanta University Printing House, 2000.
- Introduction to the algorithm of distributed applications (chapter), pg.261-308, in "Distributed multimodal virtual environments, volume I", Popovici Dorin-Mircea (coordinator), Bogdan Crenguța-Mădălina, Rusu Andrei, Chelai Ozten, Nicola Aurelian, Ed .Universitaria - ISBN: 978-606-14-0833-7 / 978-606-14-0834-4 Ed. ProUniversitaria, ISBN: 978-606-26-0049-5 / 978-606-26-0050-1, 2014.
- Advanced systems for analysis and reconstruction and image processing "from the volume Distributed Multimodal Virtual Media - Volume IV, Dorin-Mircea Popovici, Constantin Popa, Aurelian Nicola, Eugen Petac, Ed. Universitaria, Craiova, 2015.

### Publications in ISI journals

- The Variation of the Salt Concentration at the Discharge of a River into a Saline Water G Juncu, A Nicola, ES Curcă - Analele Universitatii" Ovidius" Constanta-Seria, Seria Matematica 28 (2), 137-147 , 2018.
- Gh. Juncu, A. Nicola, C. Popa, "Splitting methods for the numerical solution of multi-component mass transfer problems", Mathematics and Computers in Simulation, Vol 152, Pag. 1-14, 1.10.2018.
- Juncu Gh., Nicola A., Popa C., Stroila E. - Preconditioned conjugate gradient and multi-grid methods for numerical solution of multi-component mass transfer equations: I. Diffusion-reaction-equations, Numer. Heat Transfer A 66 (11) (2014), 1268-1296; IF - 1,847
- Juncu Gh., Nicola A., Popa C., Stroila E. - Preconditioned conjugate gradient and multi-grid methods for numerical solution of multi-component mass transfer equations: II. Convection-diffusion-reaction equations, Number. Heat Transfer A 66 (11) (2014), 1297 - 1319; IF - 1.84
- A. Nicola, S. Petra, C. Popa, C. Schnorr, On a general extending and constraining procedure for linear iterative methods, Intern. Journal of Computer Mathematics, Volume 89, Issue 2, (2012). ISSN 0020-7160; IF - 0.542;
- Juncu Gh., Nicola A., Popa C. "Nonlinear multigrid methods for Numerical solutions of the Variably Saturated Flow Equation in Two Space Dimensions, Transport in Porous Media, Vol 91, Issue 1, pp 35-47, 2012. Relative Influence Score (RIS) - 1.60
- Nicola A., Popa C., Rude U. - On a regularization technique for Kovarik-like approximate orthogonalization algorithms, Carpathian Journal of Mathematics, 27 (1) (2011), 114-122. ISSN 1584-2851; IF - 0.906
- Juncu Gh., Nicola A., Popa C., Nonlinear multigrid methods for numerical solution of the unsaturated flow equation in two space dimensions, Transport in Porous Media, 83 (2010), 637-652; cited in C29, C30. ISSN 0169-3913; IF - 1,168;

- A. Nicola, C. Popa, Sparse Matrix Techniques in Scientific Computing, Studies in Informatics and Control, Vol. 18, No.1, pp. 33-39, 2009.
- J. A. Mackenzie and A. Nicola, A Discontinuous Galerkin Moving Mesh Method for Hamilton Jacobi Equations, SIAM Journal of Scientific Computing, Vol (29) Issue 6, pp. 2258-2282, 2007. IF 1.78.
- A. Nicola, Filtering Shocks for Difference Approximations to Systems of Conservation Laws, Volume 52, Number 5-6, pp. 525-532, Romanian Journal of Physics, 2007.
- Gh. Juncu, A. Nicola, C. Popa, T. Udrescu, Nonlinear multigrid methods for solving Richards equation in two space dimensions, Carpathian Journal of Mathematics, Vol 25, Nr 1, pp. 82-91, 2009.

#### ISI Proceedings

- Juncu Gh., Nicola A., Popa C. - A numerical study of laminar ow past two circulating spheres in tandem, Proceedings of the XXXII-nd "Caius Iacob" National Conference on Fluid Mechanics and its Technical Applications, October 16 - 17 , 2009, Elie Carafoli "National Institute for Aerospace Research INCAS Bucharest, Romania, pages 132-137 (ISSN 2067 4414)
- J. A. Mackenzie and A. Nicola, A Discontinuous Galerkin Moving Mesh Method for Hamilton Jacobi Equations, SIAM Journal of Scientific Computing, Vol (29) Issue 6, pp. 2258-2282, 2007. IF 1.78.
- Juncu Gh., Nicola A., Popa C. "Nonlinear multigrid methods for Numerical solutions of the Variably Saturated Flow Equation in Two Space Dimensions, Transport in Porous Media, Vol 91, Issue 1, pp 35-47, 2012. Relative Influence Score (RIS) - 1.60

#### Publications in journals indexed in international databases

- A. Nicola, C. Popa and Ulrich Rude, Projection algorithms with corrections, Journal of Applied Mathematics & Informatics, Vol 29 (2011), No 3-4, pp697-712.
- L. Grecu, A. Nicola, Some results on simultaneous algebraic techniques in image reconstruction from projections, ROMAI J., 5, 2 (2009), 79 {96}.
- A. Nicola, C. Popa, Preconditioning by an extended matrix technique for convection-diffusion-reaction equations, Rev. Rum. Number Analysis. Et Theorie de L'Approx., Volume 37, no. 2, 2008, p181-190 Cluj-Napoca.
- A. Nicola, C. Popa, Kaczmarz Extended versus Augmented System Solution in Image Reconstruction, ROMAI Journal 6, 1 (2010), 142-152.
- A. Nicola, Stability of Discrete Shocks for Difference Approximations to Systems of Conservation Laws, University Ovidius Scientific Annals, Constanta, Vol (13) Nr 2, 2005, 1-17.
- Nicola A., Popa C. - Constrained Jacobi projection algorithms for image reconstruction, Scientific Bulletin of the Politehnica University of Timisoara, 55 (69), Fascicola 1 (2010), 42 - 55.

#### Projects

- 2004-2006, member of the project team "Computer system based on high performance calculation methods for simulating complex phenomena of nanofluid flow through porous, multiphase, chemical reactions"; PNCDI INFOSOC Nr. 131 / 20.08.2004.
- 2005-2007, member of the implementation team of the project "Mathematical modeling in diffusion processes"; CEEEX-05-D11-25 / 5.10.2005 (project coordinated by the Institute of Mathematical Statistics and Applied Mathematics, Bucharest).
- 2007-2010, member in Using Virtual Reality in Multimodal 3D Reconstruction of Historic Sites (T.O.M.I.S.), PNCDI 2 - 11-041 / 18.09.2007.
- 2010-2013, member of HapticMed - Haptic Interfaces in Medical Applications, Contract Nr. 128 / 2.06.2010, SMIS code 12271, Project ID 567. POSDRU / 189 / 2.1 / G / 156686 - PPC-Career Practical! (short term expert - tutor) (5 months) Project member - MARSPLAN BS EASME / EMFF / 2014 / 1.2.1.5 / 2 / SI2.707672 MSP LOT 1 / BLACK SEA / MARSPLAN-BS.
- Project member - Code: CNFIS-FDI-2018-0492, "Development of practice bases in" Ovidius "University of Constanta by setting up, arranging and equipping the Circle of Excellence Expert teacher training, Project" ProINfo-human resource training in Informatics ", Cod: POCU / 320/6/21/122837.
- Education expert,, Project "ProINfo-training of human resources in Informatics", Code: POCU / 320/6/21/122837.
- Professional training expert, Project "ProINfo-training of human resources in Informatics", Code: POCU / 320/6/21/122837, in collaboration with SIVCO Romania.