

**Name:** Nectarios C. Papanicolaou

**Address:** **Office:** B 211  
46 Makedonitissas Ave, CY-2417  
P. O. Box 24005, CY-1700  
Nicosia, CYPRUS

**Telephone:** **Office (Direct Line):** 22841666  
**Main:** 22841500

**E-mail:** papanicolaou.n@unic.ac.cy

**Personal:** **Birthday:** 02-01-1976

**Education:** **Graduate work:**  
  
Ph.D. in Mathematics  
University of Louisiana at Lafayette,  
Lafayette, LA  
U.S.A  
(May 2001 – May 2003)  
  
M.S. in Mathematics  
University of Louisiana at Lafayette,  
Lafayette, LA  
U.S.A  
(August 1999 – May 2001)  
  
**Undergraduate work:**  
  
B.S. in Mathematics  
(emphasis in Applied Mathematics)  
University of Cyprus,  
Nicosia, Cyprus  
(September 1994 – May 1999)

**Positions Held:**

Mathematics Coordinator  
University of Nicosia  
(September 1<sup>st</sup>, 2010 - present).

Professor of Mathematics,  
Department of Computer Science,  
University of Nicosia  
(July 2017 - present)

Associate Professor of Mathematics,  
Department of Computer Science,  
University of Nicosia  
(May 2011 – June 2017 )

Assistant Professor of Mathematics,  
Department of Computer Science,  
University of Nicosia  
(October 2007 – April 2011)

Assistant Professor of Mathematics,  
Department of Computer Science,  
INTERCOLLEGE  
(October 2003 – September 2007)

Teaching Assistant (Full Charge of two courses per semester)  
Department of Mathematics  
University of Louisiana at Lafayette  
(August 1999 – May 2003)

Mathematics Tutor at Math Lab  
Department of Mathematics  
University of Louisiana at Lafayette  
(August 1999 – May 2003)

Research Assistant (Supported under Grant No. R199524 by LaSpace, supervised by  
P.I. Prof. C. I. Christov)  
University of Louisiana at Lafayette  
(May 2000 – August 2000, May 2001 – August 2001)

#### **Areas of Concentration/ Research Interests:**

- Spectral, Finite-Difference and Finite-Element Methods for the Solution of Partial Differential Equations.
- Computational Fluid Mechanics.
- Numerical Analysis and Computational Mathematics.
- Numerical Analysis of Electromagnetic Wave Propagation in Liquid Crystals.
- Numerical Simulation of Modulated Photothermal Radiometric Signal from Semiconductors.

#### **Professional Associations**

<b>Organization/field</b>	<b>Title</b>
American Mathematical Society (AMS)	Member
Society of Industrial and Applied Mathematics (SIAM)	Member
Cyprus Mathematical Society	Member

### **Participant in funded projects:**

1. Title: “Theoretical and Numerical Investigation of Nonlinear Mathematical Models”.

Grant No: DFNI I-02/9

Duration/Funding Date: 2 years / November 2014

Amount: 260,000 BGN

Funding Agency: National Science Fund, Ministry of Education and Science of Republic of Bulgaria.

Project leader: Prof. D. Sci. N. D. Kutev, Institute of Mathematics and Informatics, Bulgarian Academy of Sciences.

Participant’s responsibility (in collaboration with Dr. Marios Christou): To implement a Galerkin Spectral Technique to investigate solitary wave interactions in the context of the Kadomtsev–Petviashvili Equation.

2. Title: “Numerical and Analytical Tools for Localized Solutions of General Wave Equations in Multidimension”.

Grant No: DDVU02/71

Duration/Funding Date: 3 years / Dec. 2010

Amount: 180,000 BGN

Funding Agency: National Science Fund of the Bulgarian Ministry of Education, Youth and Culture.

Project leader: Dr. M. D. Todorov (Technical University of Sofia).

Participant’s responsibility (in collaboration with Dr. Marios Christou): To implement a Galerkin Spectral Method based on the Complete Orthonormal Set of Christov functions to solve the Boussinesq Paradigm Equation in two spatial dimensions.

**Awards/Distinctions:**

(for teaching, research, service)

- Amongst the Winners of the Poster Prize competition at the SIAM Mathematics of Planet Earth Conference, Philadelphia, PA, USA. September 30 – October 2, 2016. Title: “A Numerical Study of Biofilm Growth in a Microgravity Environment” (with A. C. Aristotelous)
- Rhodes Outstanding Teacher Award. November, 2002.
- Teaching assistantship award and tuition waiver for graduate study at the University of Louisiana at Lafayette. August 1999-May 2003.
- ‘Distinction’: Award from the Cyprus Mathematical Society for High School Mathematics competition. 1990.

**Languages:**

Fluent in English and Greek.

**Additional Training:**

Attended a one semester course/seminar titled “Preparation for College Teachers”, University of Louisiana Lafayette.

**Research & Publications****Doctoral Dissertation:**

N.C. Papanicolaou, “A Galerkin Spectral Method for Fourth-Order Boundary Value Problems”, University of Louisiana at Lafayette, 2003.

**Journal Articles (*all refereed*)**

1. M. A. Christou, N. C. Papanicolaou and C. Sophocleous, “Numerical Similarity Solution for a Variable Coefficient  $K(m,n)$  Equation”, Computational and Applied Mathematics (COAM) 2016, pp. 1-14, Springer, ISSN 1807-0302, <http://dx.doi.org/10.1007/s40314-016-0387-8>
2. M. A. Christou, A. C. Polycarpou and N. C. Papanicolaou, “Modeling of Nematic Liquid Crystal Cells Subject to an Externally Applied Field”, Optik, 126(24): 5269–5275, 2015, <http://dx.doi.org/10.1016/j.ijleo.2015.09.016> .
3. N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou, “Frequency Agile Microstrip Antenna on a Biased Liquid Crystal Substrate”, Electronics Letters, 51(3): 202–204, 2015, DOI: [10.1049/el.2014.3856](https://doi.org/10.1049/el.2014.3856)

4. O. O. Vaneeva, N. C. Papanicolaou, M. A. Christou and C. Sophocleous, "Numerical Solutions of Boundary Value Problems for Variable Coefficient Generalized KdV Equations using Lie Symmetries", *Communications in Nonlinear Science and Numerical Simulation*, 19: 3074–3085, 2014, <http://dx.doi.org/10.1016/j.cnsns.2014.01.009>
5. A. C. Polycarpou, M. A. Christou, N. C. Papanicolaou, "Tunable Patch Antenna Printed on a Biased Nematic Liquid Crystal Cell", *IEEE Transactions on Antennas and Propagation*, 62(10): 4980-4987, 2014, [DOI: 10.1109/TAP.2014.2344099](https://doi.org/10.1109/TAP.2014.2344099).
6. M. A. Christou, N. C. Papanicolaou, "Kawahara Solitons in Boussinesq Equations using a Robust Fourier-Galerkin Spectral Method", *Journal of Applied Mathematics and Computations*, 243:245-257, 2014 [DOI: 10.1016/j.amc.2014.05.076](https://doi.org/10.1016/j.amc.2014.05.076)
7. N. C. Papanicolaou, A. C. Polycarpou, M. A. Christou, "Numerical Modeling of Electromagnetic Wave Propagation in a Liquid Crystal Cell at Oblique Incidence", *Applied Mathematics and Computations*, 219(22): 10643-10654, 2013, [DOI: 10.1016/j.amc.2013.03.136](https://doi.org/10.1016/j.amc.2013.03.136)
8. A. C. Polycarpou, M. A. Christou, N. C. Papanicolaou, "A Mode-Matching Approach to Electromagnetic Wave Propagation in Nematic Liquid Crystals", *IEEE Transactions on Microwaves Theory and Techniques*, 60(10): 2950-2958, 2012
9. M. A. Christou, N. C. Papanicolaou, A. C. Polycarpou, "Modeling the Reflection from Cholesteric Liquid Crystals using Modal Analysis and Mode Matching", *Physical Review E*, 85(3): 031702-031710, 2012
10. M. Nestoros, M. Mourouti, N. C. Papanicolaou and C. Christofides, "A photothermal microscopy investigation of carrier transport in ion implanted silicon thin films under the action of an external electric field", *Journal of Optoelectronics and Advanced Materials – Rapid Communications*, 5(5): 514-518, 2011.
11. N. C. Papanicolaou, C. I. Christov and P. M. Jordan, "The influence of Thermal Relaxation on the Oscillatory Properties of Two-Gradient Convection in a Vertical Slot", *European Journal of Mechanics–B/Fluids*, 30(1): 68-75, 2011 [doi:10.1016/j.euromechflu.2010.09.003](https://doi.org/10.1016/j.euromechflu.2010.09.003)
12. Marios Andreas Christou, Anastasis C. Polycarpou and Nectarios Papanicolaou, "Soft Polarization Diffraction Coefficient for a Conducting Cylinder–tip Wedge", *IEEE Transactions on Antennas and Propagations*, 58(12): 4082-4085, 2010 [doi: 10.1109/TAP.2010.2078479](https://doi.org/10.1109/TAP.2010.2078479)
13. N. C. Papanicolaou, C. I. Christov and G. M. Homsy, "Galerkin Technique Based on Beam Functions in Application to the Parametric Instability of Thermal Convection in a Vertical Slot", *International Journal for Numerical Methods in Fluids*, 59(9):945-965, 2009, <http://dx.doi.org/10.1002/fld.1845>.

14. N. C. Papanicolaou, M. Nestoros and C. Christofides, "Numerical Investigation of Linear and Nonlinear Photothermal Radiometry on Silicon Wafers Using a Chebyshev Spectral Method", Journal of Neural, Parallel and Scientific Computations, 15(2):165-180, 2007.
15. N. C. Papanicolaou and C. I. Christov, "A Galerkin Spectral Method for Thermoconvection Boundary Value Problems", Journal of Neural, Parallel & Scientific Computations, 10(3):339-354, 2002.
16. N. Papanicolaou and C. I. Christov, "A Galerkin Spectral Method for Higher-Order Boundary Value Problems arising in Thermal Convection", Annuaire de l'Université de Sofia, 94:71-83, 2000. (work supported under Grant No. R199524 by LaSpace)

### Abstracts

1. A. C. Aristotelous and N. C. Papanicolaou: "A Numerical Study of Biofilm Growth in a Microgravity Environment", Society of Industrial and Applied Mathematics (SIAM) Conference on the Mathematics of the Planet Earth (MPE), Philadelphia, PA, USA, 30 September - 2 October 2016. ***Refereed. Winner of the Poster Prize competition.***
2. N. C. Papanicolaou, C. I. Christov and G. M. Homsy: "A Galerkin Technique for Coupled Thermoconvective Flows Under Gravity", American Physical Society, Division of Fluid Dynamics Meeting, San Diego, CA, November 2001.

### Refereed Conference Proceedings

1. A. C. Aristotelous and N. C. Papanicolaou: "A Discontinuous Galerkin Method for Unsteady Two-Dimensional Convective Flows". American Institute of Physics (AIP) Conference Proceedings (CP) Vol 1773, pp. 110002-(1-12), 2016; <http://dx.doi.org/10.1063/1.4965006>
2. N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou: "Electromagnetic Modeling of Printed Antennas on Nematic Liquid Crystal Cells". 10th European Conference on Antennas and Propagation (EuCAP) 2016.
3. N. C. Papanicolaou and A. C. Aristotelous: "High-Order Discontinuous Galerkin Methods for Coupled Thermoconvective Flows under Gravity Modulation". American Institute of Physics (AIP) Conference Proceedings Vol 1684, pp. 090010-(1-10), 2015; <http://dx.doi.org/10.1063/1.4934335>
4. N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou: "Numerical analysis of nematic liquid crystals as applied to tunable antennas", American Institute of

Physics (AIP) Conference Proceedings Vol 1629, pp 444-451, 2014; <http://dx.doi.org/10.1063/1.4902307>

5. M. A. Christou, N. C. Papanicolaou, and A. C. Polycarpou: "A Nematic Liquid Crystal Tunable Patch Antenna". 8th European Conference on Antennas and Propagation (EuCAP) 2014, pp. 1875-1878, DOI: [10.1109/EuCAP.2014.6902162](https://doi.org/10.1109/EuCAP.2014.6902162)
6. N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou: "Numerical characterization of nematic liquid crystal microstructures under applied electric fields, American Institute of Physics (AIP) Conference Proceedings Vol 1561, pp 309-317, 2013; <http://dx.doi.org/10.1063/1.4827241>
7. A. C. Polycarpou, M. A. Christou, N. C. Papanicolaou: "A 2D Finite Difference / Finite Element Analysis of Reconfigurable mm-Wave Circuits in the Presence of Nematic Liquid Crystals", 7th European Conference on Antennas and Propagation (EUCAP) 2013, pp. 2356-2360. IEEE, 2013.
8. Papanicolaou, N. C.; Christou, M. A.; Polycarpou A. C.: "Numerical analysis of nonlinear electromagnetic waves in nematic liquid crystal cells." AIP Conference Proceedings. Oct. 2012, Vol. 1487 Issue 1, pp. 288-295.
9. M. A. Christou, A. C. Polycarpou and N. C. Papanicolaou: "Modal Analysis and Solution of Electromagnetic Wave Propagation in Cholesteric Liquid Crystal Cells". Proc. IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, July 8-14, 2012, in Chicago, IL, USA, 978-1-4673-0462-7/12, ©2012 IEEE
10. Papanicolaou, N. C., A. C. Polycarpou, and M. A. Christou. "Numerical solution of a non-linear Maxwell problem for the characterization of nematic liquid crystals." 6th European Conference on Antennas and Propagation (EUCAP) 2012, pp. 664-668. IEEE, March 2012.
11. N. C. Papanicolaou, "A Beam-Fourier Technique for the Numerical Investigation of 2D Nonlinear Convective Flows". AIP Conf. Proc. 1404: 97-105 (2011); doi: 10.1063/1.3659908
12. N. C. Papanicolaou, "2D Regimes of Non-Fourier Convection". Proc. 2<sup>nd</sup> Int. Conf. on Applications of Mathematics in Technical and Natural Sciences, Sozopol, Bulgaria, June 21-26, 2010. AIP CP 1301: 282-290.
13. N. C. Papanicolaou, C. I. Christov and P. M. Jordan: "Two-Gradient Convection in a Vertical Slot with Maxwell-Cattaneo Heat Conduction". Proc. 1<sup>st</sup> Int. Conf. on Appl. Math. Tech. Natural Sciences, Sozopol, Bulgaria, June 22-27, 2009. AIP CP 1186: 231-239.
14. N. C. Papanicolaou and C. I. Christov: "On Beam-like Functions with Radial Symmetry". Post-proceedings of the 34<sup>th</sup> International Conference on Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 8-14, 2008. American Institute of Physics. CP 1067: 122-130.

15. N. C. Papanicolaou and C. I. Christov: "On Beam-Function Spectral Expansions for Fourth-Order Boundary Value Problems: Advantages and Disadvantages", Post-proceedings of the 33<sup>rd</sup> Int. Conf. Appl. Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 8-14, 2007. AIP CP 946: 119-126.
16. N. C. Papanicolaou, M. Nestoros and C. Christofides: "Numerical Simulation of Nonlinear PhotoThermal Radiometry on Silicon Wafers using a Chebyshev Galerkin Method", Proc. Third Int. Conf. Neural, Parallel and Scientific Computations", Morehouse College, Atlanta, U.S.A., 3: 188-192, 2006.
17. N. C. Papanicolaou: "Modelling Thermoconvective Flow In a Vertical Slot", Proc. Second Int. Conf. Neural, Parallel and Scientific Computations, Morehouse College, Atlanta, U.S.A., 2:285-288, 2002.
18. C. I. Christov and N. Papanicolaou: "Galerkin Spectral Methods for Higher-Order Boundary Value Problems arising in Fluid Mechanics", Proc. 30th Spring Conference of the Union of Bulgarian Mathematicians, Borovets, April 8-11, pp.438-443, 2000.

### **Conference Presentations**

(Presented by N. C. Papanicolaou unless specified otherwise)

1. "A Numerical Study of Biofilm Growth in a Microgravity Environment". A. C. Aristotelous and N. C. Papanicolaou. Society of Industrial and Applied Mathematics (SIAM) Conference on the Mathematics of the Planet Earth (MPE), Philadelphia, PA, USA, 30 September - 2 October 2016. Co-presented by both authors in accordance with SIAM directives on poster presentations.
2. "A Discontinuous Galerkin Finite Element Method for High-Prandtl Number Non-Fourier Convection". N. C. Papanicolaou and A. C. Aristotelous. 8-th Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria, June 22-27, 2016. Presented by N. C. Papanicolaou.
3. "Photothermal wave analysis of thin polymer layers deposited on optically transparent substrates". M. Nestoros and N. C. Papanicolaou. 13<sup>th</sup> International Conference on Nanosciences & Nanotechnologies (NN16), 5-8 July 2016, Thessaloniki, Greece. Presented by M. Nestoros.
4. "Electromagnetic Modeling of Printed Antennas on Nematic Liquid Crystal Cells". N. C. Papanicolaou, M. A. Christou, and A. C. Polycarpou. 10th European Conference on Antennas and Propagation (EuCAP 2016), Davos, Switzerland: 10-15 April 2016. Presented by A. C. Polycarpou.
5. "High-Order Discontinuous Galerkin Methods for Coupled Thermoconvective Flows under Gravity Modulation". N. C. Papanicolaou and A. C. Aristotelous. Seventh Conference of the Euro-American Consortium for Promoting the



Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria, 28 June - 3 July, 2015.

6. "Numerical Analysis of Nematic Liquid Crystals as Applied to Tunable Antennas". N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou. Sixth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria, 26 June - 1 July, 2014.
7. "A Nematic Liquid Crystal Tunable Patch Antenna". M. A. Christou, N. C. Papanicolaou, and A. C. Polycarpou. 8th European Conference on Antennas and Propagation (EuCAP 2014), The Hague, Netherlands: 6-11 April 2014. Presented by M. A. Christou.
8. "Numerical Characterization of Nematic Liquid Crystal Microstructures under Applied DC Electric Fields". N. C. Papanicolaou, M. A. Christou and A. C. Polycarpou. Fifth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, Albena, Bulgaria, June 24-29, 2013
9. "A 2D Finite Difference / Finite Element Analysis of Reconfigurable mm-Wave Circuits in the Presence of Nematic Liquid Crystals". 7th European Conference on Antennas and Propagation (EuCAP 2013), Gothenburg, Sweden: 8-12 April 2013. Presented by A. C. Polycarpou.
10. "Numerical analysis of nonlinear electromagnetic waves in nematic liquid crystal cells." Papanicolaou, N. C.; Christou, M. A.; Polycarpou A. C.: Fourth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, St.St. Constantine and Helena, Varna, Bulgaria, June 11-16, 2012
11. "Numerical Modeling of Wave Propagation in Liquid Crystals using a Mode-matching Approach", Polycarpou A. C., Christou, M. A., Papanicolaou, N. C. Fourth Conference of the Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences, St.St. Constantine and Helena, Varna, Bulgaria, June 11-16, 2012. Presented by N.C. Papanicolaou on behalf of A. C. Polycarpou.
12. "Modal Analysis and Solution of Electromagnetic Wave Propagation in Cholesteric Liquid Crystal Cells". M. A. Christou, A. C. Polycarpou and N. C. Papanicolaou.: IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting, July 8-14, 2012, in Chicago, IL, USA. Presented by M. A. Christou.
13. "Numerical Solution of a Non-Linear Maxwell Problem for the Characterization of Nematic Liquid Crystals". 6th European Conference on Antennas and Propagation (EuCAP 2012), 26-30 March 2012, Prague, Czech Republic. Presented by A. C. Polycarpou.

14. "A Beam-Fourier Technique for the Numerical Investigation of 2D Nonlinear Convective Flows", 3<sup>rd</sup> AMiTaNS, Albena, Bulgaria, June 20-25, 2011.
15. "2D Regimes of Non-Fourier Convection in a Rectangular Cavity". 2<sup>nd</sup> Int. Conf. on Applications of Mathematics in Technical and Natural Sciences, Sozopol, Bulgaria, June 21-26, 2010.
16. "On Beam-like Functions with Radial Symmetry". 34<sup>th</sup> International Conference on Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 6-12, 2008.
17. "Spectral Expansions for Solving Fourth-Order Boundary Value Problems based on Beam Functions: Advantages and Disadvantages", 33<sup>rd</sup> International Conference on Applications of Mathematics in Engineering and Economics, Sozopol, Bulgaria, June 8-14, 2007.
18. "Modelling Thermoconvective Flow in a Vertical Slot, Second International Conference on Neural, Parallel, and Scientific Computations", Morehouse College, Atlanta, GA, August 7-10, 2002.
19. "A Galerkin Technique for Coupled Thermoconvective Flows Under Gravity", American Physical Society, Division of Fluid Dynamics Meeting, San Diego, CA, November 2001. (Presented by G. M. Homsy)
20. "Galerkin Spectral Methods for Higher-Order Boundary Value Problems arising in Fluid Mechanics", Thirtieth Spring Conference of the Union of Bulgarian Mathematicians, Borovets, April 8-11, 2000. (Presented by C. I. Christov)

#### **Invited Speaker at Special Session**

1. "Two-Gradient Convection in a Vertical Slot with Maxwell-Cattaneo Heat Conduction Law", 1st Conference on Applications of Mathematics in Technical and Natural Sciences, Sozopol, Bulgaria, June 22-27, 2009
2. "Numerical Simulation of Nonlinear PhotoThermal Radiometry on Silicon Wafers using a Chebyshev Galerkin Method", 3rd International Conference on Neural, Parallel and Scientific Computations Atlanta, Georgia, USA, August 9-12, 2006.

## **Other Scholarly Activities**

### **Conference Organization:**

1. Member of the Program Committee and SIAM (Society of Industrial and Applied Mathematics) Representative. 9<sup>th</sup> AMiTANS, Albena, Bulgaria, June 21-26, 2017.  
[https://www.siam.org/meetings/meetings\\_detail/cooperation.php](https://www.siam.org/meetings/meetings_detail/cooperation.php)  
<http://2017.eac4amitans.eu/3.html>
2. Member of the Program Committee of 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> AMiTANS conferences.
3. Member of the Program Committee and SIAM Representative of 4<sup>th</sup> AMiTANS, Varna, Bulgaria, June 11-16, 2012.
4. Member of the Program Committee of 3<sup>rd</sup> AMiTANS, Albena, Bulgaria, June 20-25, 2011. Co-Organizer of Minisymposium "Topics in Continuum Mechanics and Electromagnetism". This was dedicated to Professor Christo I. Christov on the occasion of his 60th birthday and consisted of two special sessions:
  - (a) The Boussinesq paradigm and Solitary Waves/Solitons.
  - (b) Modelling in Continuum Mechanics and Field Theory.

### **Reviewer:**

1. Reviewer for Applied Mathematics and Computation, Elsevier, ISSN: 0096-3003
2. Reviewer for AIP CP Series, American Institute of Physics. (AMiTANS and ICNAAM)

### **Collaborations:**

1. "Discontinuous Galerkin Finite-Element Methods for Problems in Hydrodynamic Stability", Collaborator: Dr. A. C. Aristotelous (Dept. of Mathematics, West Chester University, West Chester, PA, USA).
2. "Numerical Simulation of Electromagnetic Wave Propagation in Nematic and Cholesteric Liquid Crystals", Collaborators: Prof. A. C. Polycarpou (Dept. of Electrical and Computer Engineering, University of Nicosia), Dr. M. A. Christou (Mathematics Faculty, Dept. of Computer Science, University of Nicosia)
3. "Numerical Solution of Boundary Value Problems for Nonlinear Equations admitting Solitary Wave Solutions using Lie Symmetries". Collaborators: Prof. C. Sophocleous (Dept. Of Mathematics, University of Cyprus), Dr. M. A. Christou (Mathematics Faculty, Dept. of Computer Science, University of Nicosia), Dr. O. O. Vaneeva (Institute of Mathematics of NAS of Ukraine)

3. "On Material Invariant Formulation of Maxwell-Cattaneo Model of Finite-Speed Heat Conduction" Collaborators: Prof. C. I. Christov, Dept. of Mathematics, University of Louisiana at Lafayette and Dr. P. Jordan, Naval Research Laboratory, Stennis Space Center.
4. "Numerical and Analytical Tools for Localized Solutions of General Wave Equations in Multidimension" Collaborators: Dr. M. D. Todorov (Technical University of Sofia), Prof. C. I. Christov (Dept. of Mathematics, University of Louisiana at Lafayette), Dr. M. A. Christou (UNic)
5. "Experimental Investigation and Numerical Modelling of Electronic Properties of Semiconducting Materials". Collaborators: Dr. M. Nestoros (Dept. of Electrical and Computer Engineering, University of Nicosia) and Prof. C. Christofides (Director of Optoelectronics and Photonics Lab, Dept. of Physics, University of Cyprus)

#### **Administrative Experience** (projects managed, committees served etc)

1. Mathematics Coordinator (September 1<sup>st</sup>, 2010 - present). Because at this moment there is no separate Mathematics Department, the Mathematics Coordinator has additional responsibilities similar to those of Head of Department (calling and chairing Mathematics faculty meetings, Chair of School Faculty Selection Committee for numerous part-time Mathematics faculty members, verifying Mathematics qualifications of transfer students etc). ***Under this capacity I have coordinated a collective effort by the Mathematics Faculty to write a proposal for offering a B.Sc. in Mathematics. The proposal was approved by the Senate in the Spring of 2012 and the Council in the Spring 2013. The program is currently offered (since FALL 2013).***
2. Elected Research Teaching Faculty Representative to the University Council, University of Nicosia. April 2016 - present.
3. Research Teaching Faculty Representative of Computer Science Department in School of Sciences Council, University of Nicosia (April 2008 - January 2012; two terms)
4. Member of Computer Science Department Council, University of Nicosia (April 2008-present)
5. Participated actively in forming a proposal for a minor degree in Mathematics, prior to the creation of the B.Sc. Mathematics Program. ***The proposal was approved by the Senate and the Minor is currently being offered.***
6. Member of School Faculty Selection Committee for Department of Engineering and Maritime Academy (2016).
7. Member of School Research Committee (2016).

**Teaching Experience** (seminars designed, courses taught)

**University of Nicosia (and formerly at Intercollege):**

Courses Taught: MATH-190 Calculus I, MATH-191 Calculus II, MATH-270 Calculus III, MATH-280 Linear Algebra I, MATH-330 Ordinary Differential Equations, MATH-193 Calculus for the Life Sciences II, MATH-399 Special Topics in Mathematics, MATH-110 Mathematics Laboratory, MATH-140 Mathematics with Computers, MATH-341 Numerical Analysis I, MATH-342 Numerical Analysis II.

Wrote the ECTS Syllabi and is Course leader of new B.Sc. Mathematics Program Courses: MATH-110 Mathematics Laboratory, MATH-140 Mathematics with Computers, MATH-281 Linear Algebra II, MATH-432 Mathematical Modelling, MATH-435 Applied Mathematical Analysis.

Co-Designed and is Course leader of new B.Sc. Mathematics Program Courses with Dr. M. A. Christou: MATH-341 Numerical Analysis I, MATH-342 Numerical Analysis II, MATH-441 Numerical Solution of Differential Equations.

Course leader for MATH-270 Calculus III, MATH-330 Differential Equations, MATH-193 Calculus for the Life and Health Sciences II, MATH-192 Calculus for the Life and Health Sciences I.

**University of Louisiana at Lafayette:**

Courses Taught:

Elementary and Intermediate Algebra, College Algebra, Pre-Calculus Algebra and Trigonometry.