

Incoronata Notarangelo

Curriculum Vitæ et Studiorum

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Education

February 24, 2010 **Doctor of Philosophy in Mathematics** “International Doctoral Seminar entitled János Bolyai”, University of Basilicata, MIUR grant, Thesis: *Polynomial approximation with exponential weights*, Supervisor: Prof. Giuseppe Mastroianni

March 26, 2006 **Master of Science in Mathematics**, University of Basilicata, grade: *summa cum laude*, Thesis: *Numerical treatment in uniform norm of a class of Cauchy integral equations on the real line*, Supervisor: Professor Giuseppe Mastroianni

Summer schools

October 4–8, 2010 *Summer School on Applied Analysis*, Technische Universität Chemnitz, Chemnitz, Germany

September 22–26, 2008 *Summer School on Applied Analysis*, Technische Universität Chemnitz, Chemnitz, Germany

June 29–July 6, 2008 *Seventh International Summer School in Potential Theory*, Renyi Institute of Mathematics, Baja, Hungary

September 17–21, 2007 *Summer School on Applied Analysis*, Technische Universität Chemnitz, Chemnitz, Germany

July 31–September 3, 2005 *Summer Course in Mathematics*, attended courses: Functional Analysis and Numerical Analysis, Scuola Matematica Interuniversitaria (CNR), University of Perugia, Perugia, Italy

Teaching Activity

AY 2013/2014 Lecturer: **Numerical Treatment of Functional Equations – Module A**, postgraduate studies in Mathematics, University of Basilicata, Potenza, Italy

Lecturer: **Mathematical Methods for Economics**, undergraduate studies in Economics, University of Basilicata, Potenza, Italy

AY 2012/2013 Lecturer: **Mathematical Methods for Economics**, undergraduate studies in Economics, University of Basilicata, Potenza, Italy

Lecturer: **Numerical Treatment of Functional Equations**, postgraduate studies in Mathematics, University of Basilicata, Potenza, Italy

Lecturer: **Pre-calculus**, undergraduate studies in Civil and Mechanical Engineering, University of Basilicata, Potenza, Italy

AY 2011/2012 Lecturer: **Mathematical Methods for Economics**, undergraduate studies in Economics, University of Basilicata, Potenza, Italy

Teching Assistant: **Approximation Theory and Numerical Treatment of Integral Equations**, postgraduate studies in Mathematics, University of Basilicata, Potenza, Italy

Lecturer: **Pre-calculus**, undergraduate studies in Civil and Mechanical Engineering, University of Basilicata, Potenza, Italy

AY 2010/2011 Teching Assistant: **Approximation Theory and Numerical Treatment of Integral Equations**, postgraduate studies in Mathematics, University of Basilicata, Potenza, Italy

Research Interests

Function spaces and Weighted Polynomial Approximation
Weighted Polynomial Inequalities
Lagrange Interpolation
Fourier series in orthonormal systems
Numerical integration and Quadrature rules
Numerical treatment of Integral Equations

Scientific Activity

- since 2007 Member of the INDAM group GNCS (*Gruppo Nazionale per il Calcolo Scientifico*)
- August 29, 2012 – August 28, 2013 **Research Fellow in Numerical Analysis**
- Research Project *Polynomial Approximation with exponential weights on the real semiaxis*
supervisor Prof. Donatella Occorsio
University of Basilicata, Potenza, Italy
- January 14, 2010 – January 13, 2011 **Research Fellow in Numerical Analysis**
- Research Project *Polynomial approximation with exponential weights: Fourier sums, Lagrange interpolation, quadrature rules and numerical treatment of integral equations*
supervisor Prof. Giuseppe Mastroianni
University of Basilicata, Potenza, Italy
- November 1, 2006 – October 31, 2009 **MIUR grant for PhD students**
- PhD program “International Doctoral Seminar entitled János Bolyai”
supervisor Prof. Giuseppe Mastroianni
University of Basilicata, Potenza, Italy
- September 21, 2006 – October 31, 2006 **Research Fellow in Numerical Analysis**
- Research Project *Integral equations with strongly oscillating kernels on bounded and unbounded intervals*
supervisor Prof. Giuseppe Mastroianni
University of Basilicata, Potenza, Italy

Recent grants

- September, 2013 – September, 2014 Progetto Giovani Ricercatori GNCS 2013
- Research Project *Weighted polynomial approximation and its application to the numerical treatment of integral equations*
leader Dr. Incoronata Notarangelo

Referee's Activity

Acta Mathematica Hungarica
Acta Mathematica Scientia
Applied Mathematics and Computation
IMA Journal of Numerical Analysis
Jaen Journal on Approximation
Journal of Approximation Theory

Mathematics and Computers in Simulation

Turkish Journal of Mathematics

Reviewer: Zentralblatt MATH

Reviewer: Mathematical Reviews

Organizing Activity

September 22–24, 2011 **Member of the Organizing Committee of the international conference** “Recent Developments in Functional Analysis and Approximation Theory”, Lecce, Italy, <http://mathconf2011.unisalento.it/>

September 12–13, 2013 **Member of the Organizing Committee of the international conference** “International Workshop on Approximation Theory and Applications”, Rifreddo, Pignola, Potenza, Italy, <http://www2.unibas.it/iwata/>

Visiting study and research periods

September 17, 2007 – Faculty of Mathematics, Technische Universität Chemnitz, Germany. Prof. Peter Junghanns (research seminars)
February 6, 2008

short periods (1–2 weeks):

- August 2013 Serbian Academy of Sciences and Arts, Belgrade, Serbia. Prof. Gradimir Milovanović
- June 2012 Faculty of Mathematics, Technische Universität Chemnitz, Germany. Prof. Peter Junghanns
- August 2011 A. Rényi Mathematical Institute Hungarian Academy of Sciences, Budapest, Hungary. Prof. Jozsef Szabados
- May 2011 Faculty of Mathematics, Technische Universität Chemnitz, Germany. Prof. Peter Junghanns
- September 2010 Megatrend University, Belgrade, Serbia. Prof. Gradimir Milovanović
- August 2010 A. Rényi Mathematical Institute Hungarian Academy of Sciences, Budapest, Hungary. Prof. Jozsef Szabados
- May 2010 Faculty of Mathematics, Technische Universität Chemnitz, Germany. Prof. Peter Junghanns
- May 2009 Bolyai Institute of Mathematics, University of Szeged, Hungary. Prof. Vilmos Totik
- February 2009 Georgia Institute of Technology, Atlanta, Georgia (USA). Prof. Doron Lubinsky
Benemérita Universidad Autónoma de Puebla, Puebla, Mexico. Prof. Miguel A. Jimenez-Pozo (invited research seminar)
- July 2008 Bolyai Institute of Mathematics, University of Szeged, Hungary
- June – July 2007 Bolyai Institute of Mathematics, University of Szeged, Hungary
- June – July 2007 A. Rényi Mathematical Institute Hungarian Academy of Sciences, Budapest, Hungary

Research Seminars

- February, 2009 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico
- December, 2007 – Technische Universität Chemnitz, Chemnitz, Germany
January, 2008
- November, 2006 – University of Basilicata, Potenza, Italy
October, 2009

Talks at Conferences

* = invited speaker

◊ = contributed talk

- September 2–5, 2013 **Nonlinear Evolution Equations and Linear Algebra**, Cagliari, Italy, Talk: *Fredholm integral equations on the real semiaxis: a numerical method*, by G. Mastroianni* and I. Notarangelo
- July 1–5, 2013 **Erdős Centennial**, Budapest, Hungary, Poster: *Embedding theorems with an exponential weight on the real semiaxis*, by G. Mastroianni and I. Notarangelo◊
- June 23–27, 2013 **IV Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Gaussian quadrature rules with an exponential weight on the real semiaxis*, by G. Mastroianni, G.V. Milovanović and I. Notarangelo*
- June 23–27, 2013 **IV Jaen Conference on Approximation**, Úbeda, Spain, Plenary lecture: *Polynomial approximation on the real semiaxis*, by G. Mastroianni* and I. Notarangelo
- September 9–14, 2012 **3rd Dolomites Workshop on Constructive Approximation and Applications**, Alba di Canazei, Trento, Italy, Talk: *Polynomial Approximation with exponential weights on bounded intervals*, by I. Notarangelo◊
- July 15–20, 2012 **III Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Lagrange interpolation with exponential weights on $(-1, 1)$* , by G. Mastroianni and I. Notarangelo*
- January 4–7, 2012 **New Trends in Approximation Theory**, Ein Gedi, Israel, Talk: *Polynomial approximation with an exponential weight on the real semiaxis*, by G. Mastroianni* and I. Notarangelo
- August 27, 2011 **Péter Vértesi is 70–Workshop**, Budapest, Hungary, Talk: *Polynomial approximation with exponential weights on the semi-axis*, by G. Mastroianni and I. Notarangelo*
- August 27, 2011 **Péter Vértesi is 70–Workshop**, Budapest, Hungary, Talk: *Lagrange interpolation with exponential weights on $[-1, 1]$* , by G. Mastroianni* and I. Notarangelo
- August 22–26, 2011 **Paul Turán Memorial Conference**, Budapest, Hungary, Talk: *Fourier sums with exponential weights on $(-1, 1)$* by G. Mastroianni and I. Notarangelo◊
- August 22–26, 2011 **Paul Turán Memorial Conference**, Budapest, Hungary, Talk: *Lagrange interpolation with exponential weights on the real semiaxis*, by G. Mastroianni*, I. Notarangelo and J. Szabados
- June 26–July 1, 2011 **II Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Polynomial inequalities with exponential weights on $(0, +\infty)$* , by G. Mastroianni, I. Notarangelo* and J. Szabados
- June 26–July 1, 2011 **II Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Polynomial approximation with exponential weights on the real semiaxis*, by G. Mastroianni*, I. Notarangelo and J. Szabados
- March 29–April 1, 2011 **Workshop on Functional Analysis and Operator Theory**, Altenberg, Germany, Talk: *Numerical treatment of a class of Fredholm Integral Equations on $[-1, 1]$ with exponential weights*, by G. Mastroianni and I. Notarangelo*
- March 29–April 1, 2011 **Workshop on Functional Analysis and Operator Theory**, Altenberg, Germany, Talk: *Lagrange Interpolation based on Pollaczek-type zeros*, by G. Mastroianni* and I. Notarangelo
- September 23–26, 2010 **Second International Conference on Numerical Analysis and Approximation Theory**, Cluj-Napoca, Romania, Talk: *Gaussian quadrature rules with exponential weights on $(-1, 1)$* , by M.C. De Bonis, G. Mastroianni and I. Notarangelo*

- July 4–9, 2010 **I Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Polynomial inequalities and embedding theorems with exponential weights on $(-1, 1)$* , by I. Notarangelo*
- July 4–9, 2010 **I Jaen Conference on Approximation**, Úbeda, Spain, Talk: *Polynomial approximation with exponential weights on $(-1, 1)$* , by G. Mastroianni* and I. Notarangelo
- October 29–30, 2009 **Integral Equations: recent numerical developments and new applications**, Parma, Italy, Talk: *Some new function spaces and their theoretical applications to Fredholm integral equations*, by I. Notarangelo[◊]
- October 5–9, 2009 **Workshop on Advances and Trends in Integral Equations**, Chemnitz/Klaffenbach, Germany, Talk: *Fredholm Integral Equations on $(-1, 1)$ with exponential weights*, by I. Notarangelo*
- September 24–30, 2009 **6th International Conference on Functional Analysis and Approximation Theory**, Acquafredda di Maratea, Italy, Talk: *Polynomial approximation with Pollaczek-type weights*, by I. Notarangelo[◊]
- June 27–July 2, 2009 **X International Meeting on Approximation Theory** of the University of Jaén, Úbeda, Spain, Talk: *Some Fourier-type operators for functions having unbounded domains*, by G. Mastroianni and I. Notarangelo*
- June 27–July 2, 2009 **X International Meeting on Approximation Theory** of the University of Jaén, Úbeda, Spain, Talk: *Polynomial approximation with exponential weights on $[-1, 1]$* , by G. Mastroianni* and I. Notarangelo
- May 29–30, 2009 **Sorok, fuggvények, veletlen változók, operatorok**, Szeged, Hungary, Talk: *A Fourier-type operator on unbounded domains*, by I. Notarangelo*
- August 25–29, 2008 **Approximation & Computation 2008**, University of Niš, Niš, Serbia, Talk: *Some numerical methods for integral equations*, by G. Mastroianni and I. Notarangelo[◊]
- July 6–12, 2008 **Conference on Approximation Theory**, Budapest, Hungary, Talk: *Remarks on the one-sided algebraic polynomial approximation*, by G. Mastroianni and I. Notarangelo[◊]
- November 7–11, 2007 **VIII International Meeting on Approximation Theory** of the University of Jaén, Úbeda, Spain, Talk: *A special projector related to generalized Freud weights*, by I. Notarangelo[◊]
- September 27–28, 2007 **Integral Equations: recent numerical developments and new applications**, Parma, Italy, Talk: *Some Fredholm Integral Equations on \mathbb{R} whose kernels contain a Hilbert transform*, by G. Mastroianni and I. Notarangelo[◊]

Other conferences

- April 23, 2009 **Workshop of the “International Doctoral Seminar entitled János Bolyai”**, Potenza, Italy, Talk: *A Lagrange-type projector on the real line*, by I. Notarangelo[◊]

Papers

PhD Thesis

- [1] I. Notarangelo, *Polynomial approximation with exponential weights*, Università della Basilicata, 2010. iv+168 pp.

Research articles

- [2] G. Mastroianni and I. Notarangelo, *A Lagrange-type projector on the real line*, **Mathematics of Computation** 79 (2010), n. 269, 327–352. doi: 10.1090/S0025-5718-09-02278-9
- [3] G. Mastroianni and I. Notarangelo, *Some Fourier-type operators for functions on unbounded intervals*, **Acta Mathematica Hungarica** 127 (2010), no. 4, 347–375. doi: 10.1007/s10474-010-9137-3

- [4] G. Mastroianni and I. Notarangelo, *L^p - convergence of Fourier sums with exponential weights on $(-1, 1)$* , **Journal of Approximation Theory** 163 (2011), no. 5, 623–639. doi: 10.1016/j.jat.2011.02.003
- [5] G. Mastroianni and I. Notarangelo, *Polynomial approximation with an exponential weight in $[-1, 1]$ (revisiting some of Lubinsky's results)*, **Acta Scientiarum Mathematicarum** (Szeged) 77 (2011), no. 1-2, 167–207.
- [6] I. Notarangelo, *Approximation of the Hilbert transform on the real line using Freud weights*, in: **Approximation and Computation** (W. Gautschi, G. Mastroianni, T.M. Rassias, Eds.), Springer Optimization and Its Applications. vol. 42, Springer, 2011, pp. 233–252. ISBN/ISSN: 978-1-4419-6593-6
- [7] G. Mastroianni and I. Notarangelo, *A Nyström method for Fredholm integral equations on the real line*, **Journal of Integral Equations and Applications** 23 (2011), 253–288. doi: 10.1216/JIE-2011-23-2-1
- [8] G. Mastroianni and I. Notarangelo, *Fourier sums with exponential weights on $(-1, 1)$: L^1 and L^∞ cases*, **Journal of Approximation Theory** 163 (2011), no. 11, 1675–1691. doi: 10.1016/j.jat.2011.06.007
- [9] I. Notarangelo, *Polynomial inequalities and embedding theorems with exponential weights in $(-1, 1)$* , **Acta Mathematica Hungarica** 134 (2012), 286–306. doi: 10.1007/s10474-011-0152-9
- [10] M.C. De Bonis, G. Mastroianni and I. Notarangelo, *Gaussian quadrature rules with exponential weights on $(-1, 1)$* , **Numerische Mathematik** 120 (2012), 433–464. doi: 10.1007/s00211-011-0417-9
- [11] G. Mastroianni, G. V. Milovanović and I. Notarangelo, *On an interpolation process of Lagrange–Hermite type*, **Publication de l'Institut Mathématique**, Nouvelle série, tome 91 (105) (2012), 163–175. doi: 10.2298/PIM1205163M
- [12] G. Mastroianni and I. Notarangelo, *Lagrange interpolation with exponential weights on $(-1, 1)$* , **Journal of Approximation Theory**, 167 (2013), 65–93. doi: 10.1016/j.jat.2012.12.001
- [13] G. Mastroianni, I. Notarangelo and J. Szabados, *Polynomial inequalities with an exponential weight on $(0, +\infty)$* , **Mediterranean Journal of Mathematics** 10 (2013), no. 2, 807–821. doi: 10.1007/s00009-012-0231-3
- [14] G. Mastroianni and I. Notarangelo, *Embedding theorems with an exponential weight on the real semiaxis*, **Electronic Notes in Discrete Mathematics**, 43 (2013), 155–160. doi: 10.1016/j.endm.2013.07.026
- [15] G. Mastroianni and I. Notarangelo, *Polynomial approximation with an exponential weight on the real semiaxis*, **Acta Mathematica Hungarica**, to appear. 32 pp. doi: 10.1007/s10474-013-0348-2
- [16] G. Mastroianni, G. V. Milovanović and I. Notarangelo, *Gaussian quadrature rules with an exponential weight on the real semiaxis*, **IMA Journal of Numerical Analysis**, to appear. 30 pp.