

December 18, 2025

## Graduated students of Renato Spigler

1. **Giovanni Artico**, Italian “Laurea” in Physics, University of Padua, (November 1973) Academic Year 1972-73 (co-advisor; advisor: Enrico Zilli). Thesis title: “Propagazione di onde elettromagnetiche in un plasma alla frequenza ibrida inferiore” [*Electromgnetic wave propagation in a plasma at the lower hybrid frequency*].
2. **Marco Vianello**, Italian “Laurea” in Mathematics, University of Padua, Academic Year 1986-87 (co-advisor; advisor: Renato Zanovello). Thesis title: “Analisi numerica per gli zeri delle soluzioni di equazioni differenziali lineari del secondo ordine” [*Numerical analysis for the zeros of solutions to second-order linear differential equations*].
3. **Marco Vianello**, PhD in Computational Mathematics and Mathematical Informatics, IV Ciclo, University of Padua [in consortium with the Universities of Bologna, Trieste, and Venice], 1991 (advisor). Thesis title: “Estensioni ed applicazioni numeriche dell’approssimazione di Liouville–Green” [*Extensions and numerical applications of the Liouville–Green approximation*].
4. **Massimo Toniolo**, Italian “Laurea” in Physics, University of Padua, Academic Year 1990-91 (co-advisor; advisor: Modesto Pusterla), Thesis title: “Non-linearità ed effetti stocastici nei sistemi dinamici. Applicazioni agli acceleratori” [*Nonlinearity and stochastic effects in dynamical systems. Applications to [particle] accelerators* ].
5. **Massimo Vergine**, Italian “Laurea” in Mathematics, University of Lecce, Academic Year 1995-96 (advisor). Thesis title: “Approssimazione numerica di soluzioni di equazioni differenziali ordinarie a coefficienti polinomiali o esponenziali col metodo della ‘funzione di fase’ ” [*Numerical approximation of solutions of ordinary differential equations with polynomial or exponential coefficients by the method of the ‘phase function’*].
6. **Giambattista Di Donna**, Italian “Laurea” in Mathematics, University of Lecce, Academic Year 1995-96 (advisor). Thesis title: “Calcolo

numerico di potenza media riflessa, trasmessa e dissipata, legata alla propagazione ondosa in mezzi aleatori non lineari” [*Numerical computation of mean reflected, transmitted, and dissipated power, related to wave propagation in nonlinear random media*].

7. **Domenico De Blasi**, Italian “Laurea” in Mathematics, University of Lecce, Academic Year 1995-96. Thesis title: “Il ‘Fast Multipole Method’ e sue applicazioni” [*The ‘fast Multipole Method’ and its applications*].
8. **Maria Antonietta Cimaschi**, PhD in Computational Mathematics and Mathematical Informatics, IX Ciclo, University of Padua [in consortium with the Universities of Bologna and Trieste], 1997 (advisor). Thesis title: “Simulazioni numeriche per il problema di Toda stocastico” [*Numerical simulations for the stochastic Toda problem*].
9. **Maria Carolina Dacome**, PhD in Computational Mathematics and Mathematical Informatics, IX Ciclo, University of Padua [in consortium with the Universities of Bologna and Trieste], 1997 (advisor). Thesis title: “Modelli matematici e simulazione numerica di processi di biodegradazione di idrocarburi in suoli inquinati” [*Mathematical models and numerical simulation of hydrocarbons biodegradation processes in polluted soils*].
10. **Roberta Zerbetto**, Italian “Laurea” in Mathematics, University of Padua, Academic Year 1996-97 (advisor). Thesis title: “Versioni stocastiche dell’equazione di Mathieu e applicazioni” [*Stochastic versions of the Mathieu equation and applications*].
11. **Juan Antonio Acebrón**, PhD in Physics, Universidad “Carlos III” de Madrid, Spain (co-advisor; advisor: Luis F. López Bonilla), June 2000. Thesis title: “Comportamiento colectivo de osciladores no lineales acoplados” [*Collective behavior of nonlinear coupled oscillators*].
12. **Enrico Mazzetto**, Italian “Laurea” in Electronic Engineering [Telecommunications Engineering], University of Padua, Academic Year 2001-02 (co-advisor; advisor: Carlo G. Someda). Thesis title: “Applicazione della trasformata di Fourier frazionaria ad analisi e sintesi di filtri a reticolii di Bragg” [*Applying the fractional Fourier transform to analysis and synthesis of [fiber] Bragg grating filters*].

13. **Francesco Gasbarri**, Master in Scientific Computing, University of Roma – “La Sapienza”, Academic Year 2005-06 (advisor, along with Piero Lanucara). Thesis title: “Implementing Domain Decomposition Methods for Partial Differential Equations (of the Elliptic Type) in the Framework of Heterogeneous and Distributed Computing” [*Implementazione di metodi di decomposizione di dominio per equazioni alle derivate parziali (di tipo ellittico) in ambiente di calcolo eterogeneo e distribuito*].
14. **Fabrizio Bosi**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2006-2007 (advisor, with D. Dessi). Thesis title: “Nonlinear control techniques with an application to aeroservoelasticity” [*Tecniche di controllo non lineare con un'applicazione alla aeroservoelasticità*].
15. **Maria Rosaria Calvi**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2006-2007 (advisor). Thesis title: “Numerical treatment of the LS and LSW models for the description of precipitation phenomena from supersaturation solutions” [*Trattamento numerico dei modelli LS e LSW per descrivere fenomeni di precipitazione da soluzioni soprassature*].
16. **Roberta Petrucci**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2006-2007 (advisor). Thesis title: “A mathematical model for gas combustion in catalytic converters” [*Un modello matematico di combustione dei gas di scarico in marmitte catalitiche*].
17. **Silvia Palpacelli**, PhD in Mathematics, XXI Ciclo, University “Roma Tre”, 2009 (advisor; co-advisor: Sauro Succi). Thesis title: “Quantum lattice Boltzmann methods for the linear and nonlinear Schrödinger equation in several dimensions”. [*Metodi ‘quantum lattice Boltzmann’ per l’equazione di Schrödinger lineare e non lineare in più dimensioni*]
18. **Emanuela Cacio**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “Feller’s diffusion equation: applications and numerical treatment”, [*L’equazione di diffusione di Feller: applicazioni e trattamento numerico*].

19. **Flavia Fedi**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “Advection-diffusion models of environmental pollution” [*Modelli di trasporto-diffusione per l'inquinamento ambientale*].
20. **Marta Vencato**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “Reaction-diffusion models for epidemics with information” [*Modelli di reazione-diffusione di epidemie con informazione*].
21. **Valentina Pitzianti**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “Mathematical methods for environmental bioremediation” [*Modelli matematici di biorisanamento ambientale*].
22. **Francesca Nunzi**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “A reaction-diffusion-transport model of nitric oxide in the blood” [*Un modello di reazione-diffusione-trasporto del monossido di azoto nel sangue*]
23. **Barbara Bucci**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2008-2009 (advisor). Thesis title: “Asymptotic-numerical approximation of rapidly oscillatory solutions of second-order differential equations and of their zeros” [*Approssimazione asintotico-numerica di soluzioni rapidamente oscillanti di equazioni differenziali del second'ordine e dei loro zeri*]
24. **Matteo Laurenzi**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2009-2010 (advisor). Thesis title: “Numerical solution of a model for reducing exhaust gas in catalytic converter” [*Soluzione numerica di un modello di riduzione di gas di scarico in marmitte catalitiche*].
25. **Laura D’Andrea**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2009-2010 (advisor). Thesis title: “Comparing the Riccati equation method with that based on the fractional Fourier transform in studying Bragg grating filters in optical fibers” [*Confronto tra il metodo dell'equazione di Riccati e quello della trasformata di Fourier frazionaria nello studio di filtri realizzati mediante reticolati di Bragg in fibre ottiche*],

26. **Giovanna Catavitello**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2011-2012 (co-advisor; advisor: Dr. Yuri Ivanenko). Thesis title: “A statistical approach for investigating the law of intersegmental coordination in animal locomotion”. [*Un approccio statistico per investigare la legge di coordinamento intersegmentale nella locomozione animale*].
27. **Danilo Costarelli**, Ph.D. in Mathematics, XXVI Ciclo, “Roma Tre” University, 2010–2013 (advisor). Thesis title: “Sigmoidal functions approximation and applications”. [*Approssimazione mediante funzioni sigmoidali e applicazioni*].
28. **Moreno Concezzi**, Ph.D. in Mathematics, XXVI Ciclo, Roma Tre University, 2010–2014 (advisor). Thesis title: “Numerical treatment of fractional differential equations”. [*Trattamento numerico di equazioni differenziali frazionarie*].
29. **Cristina Donatucci**, PhD in Mathematics, XXVII Ciclo, University “Roma Tre”, 2012–2016 (internal advisor, with Peter Laurence/Marco Papi). Thesis title: “New methods for degenerate stochastic volatility models”. [*Nuovi metodi per modelli di volatilità stocastica degenere*].
30. **Francesco Di Tullio**, Italian “Laurea Magistrale” in Mathematics, “Roma Tre” University, Academic Year 2015-2016 (co-advisor: Dr. Gianni Pagnini). Thesis title: “Fractional diffusion in random media on the basis of Gaussian stochastic processes”. [*Diffusione frazionaria in mezzi aleatori sulla base di processi stocastici Gaussiani*]
31. **Francesca Ferrillo**, Italian “Laurea Magistrale” in Mathematics, “Roma Tre” University, Academic Year 2015-2016 . Thesis title: “Modeling Heat Conduction Processes”. [*Modelli per la conduzione del calore*].
32. **Matteo Cepale**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, Academic Year 2016-2017 (advisor). Thesis title: “Asymptotic approximations for matrix difference equations”, March 23, 2017. [*Approssimazione asintotica di equazioni alle differenze matriciali*].
33. **Giulio Lauretano**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, *in progress*; Academic Year 2018-2019 (advisor).

Thesis title: “The relation between the LS and the LSW models for crystal precipitation”, July 17, 2019. [*La relazione tra i modelli LS e LSW per la precipitazione di cristalli*].

34. **Enzo Livrieri**, Italian “Laurea Magistrale” in Mathematics, University “Roma Tre”, started in 2016, but never finished.
35. **Mattia Ippoliti**, Italian “Laurea Triennale” [Bachelor Degree] in Computer Engineering. International Telematic University UNINETTUNO, Academic Year 2024-2025 (advisor). Thesis title: “On the differential equations for the electric power in transmission lines,” November 26, 2025. [*Sull’equazione differenziale per la potenza elettrica nelle linee di trasmissione*”].