

Marco Caliarì's Curriculum Vitae

Personal information

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Born on October 6, 1976, Villafranca di Verona, Verona,
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Research identifiers

ORCID	0000-0002-1277-069X
Scopus	6701600045
ResearcherID	B-6835-2013
MathSciNet	713004

Research interests

Exponential integrators for linear and nonlinear semidiscretized PDEs (finite differences, finite elements, spectral methods, “meshfree”), with particular emphasis on matrix exponential approximation and related functions (cf. [1, 5, 4, 3, 2, 9, 10] and [11, 12, 14, 18, 20, 23, 24, 28, 30, 31, 33, 37, 38, 39, 40, 41, 43, 44]).

Numerical integrators for nonlinear Schrödinger equations (finite differences, spectral methods, exponential splitting methods) (cf. [6, 7, 8] and [13, 16, 17, 21, 26, 27, 30, 36, 42]) and computation of ground states and self-preserving structures (cf. [7] and [22, 29, 32, 34, 35]).

Current position

since 01/04/2024	Full Professor in MATH-05/A (ex MAT/08) - Numerical analysis, Department of Computer Science, University of Verona.
04/2024	Member of the Doctoral School Committee of Mathematics, Universities of Trento, 40th cycle.

Previous positions

since 01/10/2015	Associate Professor in MAT/08 - Numerical analysis, Department of Computer Science, University of Verona.
10/2019–09/2021	Co-Adviser of the Adviser of the Rector in Teaching and Education, University of Verona.
10/2018–09/2021	Chairperson of the Mathematics Teaching Committee for the Bachelor's Degree in Applied Mathematics and Master's Degree in Mathematics, University of Verona.
2013–2023	Member of the Doctoral School Committee of Mathematics, University of Trento and Verona, 29th–39th cycles.
2009–2012	Member of the Doctoral School Committee of Computer Science, University of Verona, 25th–28th cycles.
dal 01/10/2007	Assistant Professor in MAT/08 Numerical Analysis, Department of Computer Science, University of Verona.
05/2006–08/2007	Visiting position at the Institut für Mathematik, University of Innsbruck, Austria, supervisor Prof. Alexander Ostermann, partially supported by “Fondazione Ing. Aldo Gini” fellowship.
09/2005–08/2007	Post-doc position at the Department of Pure and Applied Mathematics of the University of Padua.
03/2004–08/2005	Research fellowship <i>Approssimazione numerica con elementi finiti di PDEs e polinomiale di operatori integrali</i> at the Department of Computer Science of the University of Verona.
03/2003–02/2004	Fellowship <i>Studio numerico di un modello stocastico per fluidi quantistici</i> at the Department of Computer Science of the University of Verona.

Education

17/03/2003	Ph.D. in Computational Mathematics, 15-th cycle, University of Padua. Dissertation title <i>Efficient implementation of exponential integrators for 2D and 3D advection-diffusion equations</i> . Supervisors: Prof. Marco Vianello and Dr. Luca Bergamaschi.
29/11/1999	M.Sc. Degree in Mathematics, University of Padua. Dissertation title <i>Calcolo dell'operatore esponenziale per ma-</i>

trici sparse, non simmetriche, di grande dimensione. Supervisors: Prof. Marco Vianello and Dr. Luca Bergamaschi.

Talks, seminars, conferences

- 07/2024 *Directional split exponential integrators with applications to Turing patterns*, Department of Mathematics, University of Innsbruck, July 2, Innsbruck, Austria.
- 12/2023 Member of the Organizing Committee of *Geometric Evolution of Multi Agent Systems — Final Workshop*, December 20, Verona.
- 09/2023 *The $\varphi(A)$ bulous matrix functions in exponential integrators for problems with Kronecker structure*, **Invited speaker** at “The $f(A)$ bulous workshop on matrix functions and exponential integrators”, September 25–27, MPI, Magdeburg, Germany.
- 09/2023 *Exponential integrators for problems with d -dimensional Kronecker structure*, **Invited speaker** at mini-symposium “Adapted time-integrators for differential and integral problems with applications” at IMACS2023, September 11–15, Rome.
- 07/2023 Member of the Organizing Committee of *One day — Young researchers seminars, Math Applications & Models*, Verona.
- 07/2023 *A μ -mode BLAS approach to tensor-structured problems, with applications to evolutionary equations*, **Invited speaker** at the special session “Recent trends on ODEs methods, low-rank approximations, and image-processing techniques” at the International congress “Mathematical modeling in engineering & human behaviour 2023”, July 11–14, Valencia, Spain.
- 06/2023 *A μ -mode BLAS approach for tensor-structured problems, with an application to ODEs*, **Invited speaker** at the special session “Recent advances in the approximation of matrix functions” at trends on ODEs methods, low-rank approximations, and image-processing techniques” at the 4th International Conference “Numerical Computations: Theory and Algorithms”, June 14–20, Pizzo Calabro.
- 02/2023 *Efficient exponential direction splitting schemes for problems with d -dimensional Kronecker structure*, **Invited**

speaker at the Workshop on “Software for Approximation”, SA2023, February 8–10, Torino.

Research groups

since $\sim$ 2003	GNCS-INdAM http://www.altamatematica.it/gncs/
since 2015	CAA: Padova–Verona research group on “ <i>Constructive Approximation and Applications</i> ” https://sites.google.com/view/caa-padova-verona/home
since 2017	Rete ITaliana di Approssimazione https://sites.google.com/view/ritanetworkapp/

Research projects

2024	GNCS Project “Risoluzione numerica di problemi differenziali non-locali e/o frazionari” (coord. Prof. Roberto Garrappa, University of Bari)
2023	GNCS Project “Metodi avanzati per la risoluzione di PDEs su griglie strutturate, e non.” (coord. Dott. Maurizio Tavelli, University of Bolzano).
2022	GNCS Project “Tecniche avanzate per problemi evolutivi: discretizzazione, algebra lineare numerica, ottimizzazione” (coord. Dott. Davide Palitta, University of Bologna).
2020–2022	University of Verona “Progetto ricerca di base 2019” (peer reviewed), “Geometric Evolution of Multi Agent Systems”, project manager Prof. Marco Caliri, budget $\sim$ 60.000 euro.
2019	GNCS Project “Approssimazione multivariata ed equazioni funzionali per la modellistica numerica” (coord. Prof.ssa Elisa Francomano, Università di Palermo).
2018	GNCS Project “Metodi, algoritmi e applicazioni dell’approssimazione multivariata” (coord. Dott.ssa Alessandra De Rossi, University of Turin).
2017	PRIN “Innovative Numerical Methods for Evolutionary Partial Differential Equations and Applications”, Principal Investigator Prof. Giovanni Russo, UO Verona.
2017	GNCS Project “Multivariate approximation: theory and applications” (coord. Prof. Marco Vianello, University of Padua).

2012	GNCS Project “Approssimazione multivariata con basi polinomiali e radiali” (coord. Prof. Marco Vianello).
2011	TWF-Projekt Nr. UNI-0404/880 (Tiroler Wissenschaftsfonds) “Meshfree exponential integrators” (coord. Dr. Stefan Rainer).
2010	GNCS Project “Near Optimal Points for Multivariate Interpolation” (coord. Prof. Leonard Peter Bos).
2009–2010	University of Padua Project “Progetto Interpolazione ed Estrapolazione: nuovi algoritmi ed applicazioni” (coord. Prof. Michela Redivo Zaglia).
2009	GNCS Young Researchers “Metodi numerici per equazioni di Schrödinger non lineari”.
2007–2008	University of Verona, Department of Computer Science Project “Soluzione groundstate per l’equazione di Gross–Pitaevskii”.
2004–2005	PRIN 2004 “Campi aleatori, evoluzioni stocastiche ed applicazioni a modelli di sistemi interagenti” (coord. Prof. Albert Gandolfi), Verona unity “Modelli stocastici in dimensione finita e infinita e limiti di scala” (coord. Prof. Laura Maria Morato).
2003–2004	PRIN 2003 “Sistemi dinamici su manifolds di matrici: metodi numerici ed applicazioni” (coord.. Prof. Luciano Lopez), Padova unity “Approssimazione di funzioni di matrici per la soluzione numerica di equazioni differenziali” (coord. Prof. Marco Vianello).
2003	PRIN 2003 “Processi stocastici a struttura spaziale e loro applicazioni” (coord. Prof. Alberto Gandolfi), Verona unity “Problemi limite per processi con struttura spaziale e algoritmi stocastici” (coord. Prof. Laura Maria Morato).
2002	University of Padua Project “Metodi efficienti per l’approssimazione di trasformate discrete non locali” (coord. Prof. Marco Vianello).

Editorial boards

Journal of Approximation Software, peer-reviewed, open access.

Dolomites Research Notes on Approximation (Scopus CiteScore 2022: 1.7, SJR 2019 0.399, Mathscinet Journal MCQ

2022: 0.45), peer-reviewed, open access.

Teaching and supervision

since 2007	Supervisor or co-supervisor of 34 Bachelor's Thesis, 13 Master's Thesis, 3 Ph.D. Thesis, 3 post-doc students.
since 2007	Teacher of Laboratorio di Calcolo Numerico1, Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali, Numerical Methods for PDEs, Scientific Computing, among others.
2023–2024	Lecturer in Laboratorio di Calcolo Numerico 1, Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali at Bachelor's Degree in Applied Mathematics and Numerical Methods for Partial Differential Equations at Master's Degree in Mathematics, University of Verona.
10/2023	Supervisor of Michel Tirapelle Bachelor's Thesis <i>Equazione di Gross–Pitaevskii, trasformata di Hermite e Fourier a confronto</i> , University of Verona.
10/2023	Supervisor of Mattia Fiandaca's Bachelor Thesis <i>Soluzione numerica di un modello 3D di un acquario</i> , University of Verona.
10/2023	Supervisor of Luca Battestini's Bachelor Thesis <i>Risoluzione dell'equazione di Poisson su domini bucati</i> , University of Verona.
10/2023	Supervisor of Tiberio Aganetti's Bachelor Thesis <i>Studio di integratori esponenziali applicati ad un problema ADR</i> , University of Verona.
2022–2023	Lecturer in Laboratorio di Calcolo Numerico 1, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali at Bachelor's Degree in Applied Mathematics and Numerical Methods for Partial Differential Equations at Master's Degree in Mathematics, University of Verona.
03/2023–11/2024	Supervisor of dr. Fabio Cassini, post-doc position at the University of Verona, <i>Innovative numerical methods of exponential-type for differential equations with special properties</i> .
2021–2022	Lecturer in Laboratorio di Calcolo Numerico 1, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le

	Equazioni Differenziali at Bachelor's Degree in Applied Mathematics and Numerical Methods for Partial Differential Equations at Master's Degree in Mathematics, University of Verona.
10/2022	Supervisor of Gianmaria Lucca Bachelor's Thesis <i>Raffinamento uniforme locale per la dinamica di strutture quantistiche</i> , University of Verona.
07/2022	Supervisor of Pham Truong Hoang Nhan Master's Thesis <i>Finite Element Solution of Direct and Inverse p-Laplace Problems</i> , University of Verona.
07/2022	Supervisor of Stefano Muzzolon Bachelor's Thesis <i>Implementazione di un integratore esponenziale a bassa regolarità per l'equazione di Schrödinger quadratica</i> , University of Verona.
11/2021	Supervisor of dr. Elisa Calzola, post-doc position at the University of Verona, <i>Efficient numerical methods for multiscale evolutionary equations with non-local interaction and applications</i> .
10/2021	Supervisor of Michele Casarotto Bachelor's Thesis <i>Condizioni al bordo di Dirichlet per il modulo al quadrato (MSD) e applicazione all'equazione di Schrödinger</i> , University of Verona.
10/2021	Supervisor of Helena Biscevic Master's Thesis <i>Numerical methods for Bose–Einstein condensates with disorder potentials</i> , University of Verona.
2020–2021	Lecturer of Laboratorio di Calcolo Numerico 1, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Numerical Methods for Partial Differential Equations in Master's Degree in Mathematics at University of Verona.
03/2021	Supervisor of Sara Baltieri Master's Thesis <i>Numerical approximation of fractional derivatives and applications</i> , University of Verona.
10/2020	Supervisor of Marco Feder Master's Thesis <i>Iterative methods for rational approximations to the action of the matrix exponential</i> , University of Verona.
03/2020	Supervisor of Alexander Moriggl Master's Thesis <i>A more accurate and reliable Rational EXponential Integrator</i> ,

University of Verona.

- 02/2019 **Supervisor of dr. Simona Schiavi, post-doc position** at the University of Verona, *Progettazione ed implementazione di strumenti avanzati e tutorials di supporto ai laboratori didattici di modellizzazione e simulazione numerica presso il CdLM in Mathematics*.
- 2019–2020 Lecturer of Laboratorio di Calcolo Numerico 1, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Numerical Methods for Partial Differential Equations in Master's Degree in Mathematics at University of Verona.
- 08/2019 **Supervisor of PhD student Fabio Cassini**, University of Trento, XXXV cycle, winner of the **Best PhD Thesis Award** in Mathematics in May 2024.
- 07/2019 Supervisor of Fabio Cassini Master's Thesis *A general matrix function toolbox for exponential integrators*, University of Verona.
- 11/2018 Supervisor of Matteo Milani Bachelor's Thesis *Analysis and implementation of ParaExp method for High-Frequency Electromagnetic Simulations*, University of Verona.
- 2018–2019 Lecturer of Laboratorio di Calcolo Numerico 1, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Advanced Numerical Analysis II and Scientific Computing in Master's Degree in Mathematics at University of Verona.
- 11/2018 Supervisor of Marco Feder Bachelor's Thesis *Analysis and open implementation of ODE23t*, University of Verona.
- 07/2018 Supervisor of Paolo Bighignoli Bachelor's Thesis *Spiegazione e implementazione dettagliata del metodo Krylov-Schur per il calcolo di autovalori*, University of Verona.
- 04–05/2017 Co-lecturer of Splitting Methods for PDEs (together with Prof. Alexander Ostermann, University of Innsbruck) in **PhD school in Mathematics of the University of Trento**.
- 2017–2018 Lecturer of Laboratorio di Sistemi Stocastici, Laboratorio di Calcolo Numerico 2, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied

	Mathematics and Advanced Numerical Analysis II and Scientific Computing in Master's Degree in Mathematics at University of Verona.
11/2017	Supervisor of Michela Ceraico Bachelor's Thesis <i>Metodi di splitting per l'equazione Korteweg-de Vries</i> , University of Verona.
11/2017	Supervisor of Giacomo Tabarelli Bachelor's Thesis <i>Simulazione in FreeFem++ della Dinamica di Vortici Quantistici</i> , University of Verona.
10/2017	Supervisor of Michele Ginesi Master's Thesis <i>Numerical evaluation of some special functions in GNU Octave</i> , University of Verona.
10/2017	Supervisor of Alessandro Festa Bachelor's Thesis <i>Approssimazione degli autovettori per il problema del PageRank</i> , University of Verona.
07/2017	Supervisor of Fabio Cassini Bachelor's Thesis <i>Analysis and implementaion of TR-BDF2 in GNU Octave</i> , University of Verona.
07/2017	Supervisor of Alberto Carretta Bachelor's Thesis <i>Numerical solution of a model of optimal debt management and bankruptcy</i> , University of Verona.
07/2017	Supervisor of Jacopo Li Vigni Bachelor's Thesis <i>Metodi simplettici per il problema degli n-corpi</i> , University of Verona.
06-07/2017	Tutor of high school students Maddalena Tedeschi and Emanuele Farinazzo (ASL).
04/2017	Mentor of Google Summer of Code 2017 for Michele Ginesi, project <i>Special functions in GNU Octave</i> .
03/2017	Supervisor of Chiara Segala Master's Thesis <i>Implementation of exponential integrators in GNU Octave</i> , University of Verona.
11/2016	Supervisor of PhD student Franco Zivcovich, University of Trento, XXXII cycle. Thesis title <i>Backward error accurate methods for computing the matrix exponential and its action</i> (discussed on January 24, 2020).
2016-2017	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Advanced Numerical Analy-

	sis II and Research and Scientific Computing in Master's Degree in Mathematics at University of Verona.
07/2016	Supervisor of Franco Zivcovich Master's Thesis <i>Hermite interpolation for the matrix exponential</i> , University of Verona.
06–07/2016	Tutor of high school students Davide Perini Toro and Paolo Venturini (internship).
2015–2016	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Advanced Numerical Analysis II and Research and Modelling Seminar in Master's Degree in Mathematics at University of Verona.
05/2016	Mentor of ESA Summer of Code 2016 for Cristiano Dorigo, project <i>Iterative methods for sparse linear systems in GNU Octave</i> .
04/2016	Mentor of Google Summer of Code 2016 for Chiara Segala, project <i>Exponential integrators in GNU Octave</i> .
11/2015	Supervisor of Giada Basso Bachelor's Thesis <i>Simulazione Numerica della Dinamica di Vortici Quantistici</i> , University of Verona.
2014–2015	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Advanced Numerical Analysis II and Scientific Computing in Master's Degree in Mathematics at University of Verona.
03/2015	Supervisor of Gregorio Pellegrini Master's Thesis <i>Polynomial Chaos Expansion with applications to PDES</i> , University of Verona.
03/2015	Supervisor of Cristiano Dorigo Bachelor's Thesis <i>Is Householder orthogonalization better than Gram-Schmidt in GMRES?</i> , University of Verona.
03/2015	Supervisor of Franco Zivcovich Bachelor's Thesis <i>Interpolazione di Hermite–Newton–Leja per l'esponenziale di matrice</i> , University of Verona.
10/2014	Second advisor of Stefan Rainer Ph.D. Thesis <i>Mesh-free exponential integrators</i> , supervisor Prof. Alexander Ostermann, University of Innsbruck.
10/2014	Supervisor of Elena Gaburro Master's Thesis <i>Domain de-</i>

	<i>composition methods and high order edge finite elements in applied computational electromagnetism</i> , University of Verona.
2013–2014	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Laboratory of Advanced Numerical Analysis in Master's Degree in Mathematics at University of Verona.
07/2013	Supervisor of Giulia Simeoni Master's Thesis <i>Numerical investigation of soliton dynamics for nonlinear Schrödinger equations</i> , University of Verona.
07/2013	Supervisor of Roberta Barbi Bachelor's Thesis <i>Computing the first eigenpar of the p-Laplacian</i> , University of Verona.
03/2013	Supervisor of Sara Novarini Bachelor's Thesis <i>Un metodo numerico per la valutazione dei bond a scadenza sul modello di Schaefer e Schwartz</i> , University of Verona.
03/2013	Supervisor of Mattia Tenuti Bachelor's Thesis <i>Inclusione di codice compilato in un ambiente per il calcolo numerico</i> , University of Verona.
03/2013	Co-supervisor of Marcello Bellomi Master's Thesis <i>Eigenvalue problems in anisotropic spaces</i> , supervisor Prof. Marco Squassina, University of Verona.
12/2012	Supervisor of Diego Rigo Bachelor's Thesis <i>Analisi di un metodo del terzo ordine per le equazioni iperboliche</i> , University of Verona.
12/2012	Supervisor of Chiara Piazzola Bachelor's Thesis <i>Analisi di un metodo del terzo ordine per il trasporto di funzioni discontinue</i> , University of Verona.
2012–2013	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Scientific Computing and Laboratory of Advanced Numerical Analysis in Master's Degree in Mathematics at University of Verona.
10/2012	Supervisor of Mauro Bonafini Bachelor's Thesis <i>Efficient numerical methods for soliton dynamics of nonlinear Schrödinger equations</i> , University of Verona.
12/2011	Supervisor of Alessandro Stella Bachelor's Thesis <i>Confronto tra integratori esponenziali per il pricing di</i>

	<i>opzioni americane</i> , University of Verona.
2010–2011	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Scientific Computing in Master's Degree in Mathematics at University of Verona.
10/2011	Supervisor of Andrea Alban Bachelor's Thesis <i>Metodi numerici per il prezzamento di opzioni asiatiche</i> , University of Verona.
2010–2011	Lecturer of Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics and Scientific Computing in Master's Degree in Mathematics, University of Verona.
20/2010	Supervisor of Lisa Formis Bachelor's Thesis <i>Exponential integrators for option pricing</i> , University of Verona.
10/2010	Supervisor of Simone Parisotto Bachelor's Thesis <i>Nonequispaced Fourier Transform and Applications</i> , University of Verona.
03/2010	Supervisor of Matteo Merci Bachelor's Thesis <i>Metodi di calcolo per probabilità invarianti per catene di Markov</i> , University of Verona.
2009–2010	Lecturer of Laboratorio di Calcolo Numerico, Laboratorio di Sistemi Stocastici, Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics, University of Verona.
11/2009	Co-supervisor of Chiara Carraro Bachelor's Thesis <i>Simulazione di un modello stocastico di ecosistema cellulare</i> , supervisor Prof. Laura Maria Morato, University of Verona.
11/2009	Supervisor of Anna Bassi Bachelor's Thesis <i>The shooting method for a stock value</i> , University of Verona.
09/2009	Supervisor of Sara Mazzi Bachelor's Thesis <i>A numerical approach for computing the ground state of a nonlinear Schrödinger equation</i> , University of Verona.
03/2009	Co-supervisor of Mark Pianegonda Bachelor's Thesis <i>Orbite periodiche della mappa del gatto</i> , supervisor Prof. Gaetano Zampieri, University of Verona.
2008–2009	Lecturer of Laboratorio di Calcolo Numerico, Laboratorio di Sistemi Stocastici, Laboratorio di Metodi Numerici

	per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics, University of Verona.
2008–2009	Lecturer of “Introduzione ad un ambiente per il calcolo scientifico”, in PhD school in Neuroscienze e Scienze Psicologiche e Psichiatriche of the University of Verona .
2007–2008	Lecturer of Matematica di Base, Laboratorio di Calcolo Numerico, Laboratorio di Metodi Numerici per le Equazioni Differenziali in Bachelor's Degree in Applied Mathematics, University of Verona.
07/2007	Co-supervisor of Roberto Montagna Bachelor's Thesis <i>Iperinterpolazione su punti di Xu e interpolazione su punti di Padova: aspetti computazionali</i> , supervisor Prof. Stefano De Marchi, University of Verona.

Public engagement

03/2023	Lecturer at “Pi greco day” at Educandato Statale “Agli Angeli”, Verona, $\pi = 3.141592 \dots$ e poi?, 14 Marzo.
03/2021	Lecturer at “Pi greco day” at Liceo Scientifico Statale “E. Medi”, Villafranca di Verona, $\pi = 3.141592 \dots$ e poi?, March 15.
2017–2018	Lecturer in Piano Lauree Scientifiche entitled “Frattali e caos” at Liceo Scientifico Statale “E. Medi”, Villafranca di Verona.
04/2017	Mentor of Google Summer of Code 2017 for Michele Ginesi, project <i>Special functions in GNU Octave</i> .
2016–2017	Lecturer in Piano Lauree Scientifiche entitled “Frattali e caos” with Liceo Scientifico Statale “E. Medi”, Villafranca di Verona.
05/2016	Mentor of ESA Summer of Code 2016 for Cristiano Dorigo, project <i>Iterative methods for sparse linear systems in GNU Octave</i> .
04/2016	Mentor of Google Summer of Code 2016 for Chiara Segala, project <i>Exponential integrators in GNU Octave</i> .
2015–2016	Lecturer in Piano Lauree Scientifiche entitled “Dinamica delle popolazioni” with Liceo Scientifico Statale “E. Medi”, Villafranca di Verona.

2014–2015	Lecturer in Piano Lauree Scientifiche entitled “Ottimizzazione” with Liceo Scientifico Statale “E. Medi”, Villafranca di Verona.
2013–2014	Lecturer in Piano Lauree Scientifiche entitled “Crittografia” with ITIS “G. Marconi”, Liceo Scientifico “A. Messedaglia” and il Liceo Scientifico “G. Fracastoro” of Verona.
2013–2014	Lecturer in Piano Lauree Scientifiche entitled “Crittografia” with Liceo Scientifico Statale “E. Medi” of Villafranca di Verona.
2012–2013	Lecturer in Piano Lauree Scientifiche entitled “Crittografia” with Liceo Scientifico Statale “E. Medi” of Villafranca di Verona.
2011–2012	Lecturer in Piano Lauree Scientifiche entitled “Probabilità, statistica e false credenze” with Liceo Scientifico Statale “E. Medi” di Villafranca di Verona.
2010–2011	Lecturer in Piano Lauree Scientifiche entitled “Probabilità, statistica e false credenze” with Liceo Scientifico Statale “E. Medi” di Villafranca di Verona.
2009–2010	Lecturer in Progetto Lauree Scientifiche entitled “Dinamica di popolazioni” with Liceo Scientifico Statale “E. Medi” di Villafranca di Verona.
2008–2009	Lecturer in Progetto Lauree Scientifiche entitled “Dinamica di popolazioni” with Liceo Scientifico Statale “E. Medi” di Villafranca di Verona.

Other activities

2023	Member of the committee for the selection of one “Ricercatore a tempo determinato senior” in 01/A5 Numerical Analysis MAT/08 at the Department of Civil, Environmental and Architectural Engineering, University of Padova, G.U. 46, 20/06/2023.
since 2021	Member of the committee for the selection of substitute teachers and of tutor students in mathematics and physics at the Department of Computer Science, University of Verona.
~2014–2018	Chairman of the committee for the selection of tutor students in mathematics and physics at the Department of Computer Science.

2016	Member of the committee for the selection of one “Ricercatore a tempo determinato junior” in 01/A5 Numerical Analysis MAT/08 at the Department of Computer Science, University of Verona, G.U. 59, 26/07/2016.
~2014–2018	Member (chairman since 2016) of the committee for the selection of substitute teachers in mathematics and physics at the Department of Computer Science, University of Verona.
~2014–2018	Chairman of the committee for the selection of tutor students in mathematics and physics at the Department of Computer Science.
since ~2003	Referee activities for several journals in numerical analysis (AIAA J., J. Comp. Phys., Num. Alg., Comp. Math. Appl., Comp. Phys. Commun., Appl. Math. Comp., J. Comput. Appl. Math., SIAM J. Numer. Anal., Int. J. Comp. Math., among others).

Publications

- [1] M. Caliori, F. Cassini, L. Einkemmer, and A. Ostermann. Accelerating Exponential Integrators to Efficiently Solve Semilinear Advection-Diffusion-Reaction Equations. *SIAM J. Sci. Comput.*, 46(2):A906–A928, 2024. doi: <https://doi.org/10.1137/23M1562056>.
- [2] M. Caliori and F. Cassini. A second order directional split exponential integrator for systems of advection–diffusion–reaction equations. *J. Comput. Phys.*, 498:112640, 2024. doi: <https://doi.org/10.1016/j.jcp.2023.112640>.
- [3] M. Caliori, F. Cassini, and F. Zivcovich. A μ -mode BLAS approach for multidimensional tensor-structured problems. *Numer. Algorithms*, 92(4):2483–2508, 2023. doi: <https://doi.org/10.1007/s11075-022-01399-4>.
- [4] M. Caliori, F. Cassini, and F. Zivcovich. BAMPHI: Matrix-free and transpose-free action of linear combinations of φ -functions from exponential integrators. *J. Comput. Appl. Math.*, 423:114973, 2023. doi: <https://doi.org/10.1016/j.cam.2022.114973>.
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