

UNIVERSITÀ DEGLI STUDI DI MILANO
selezione pubblica per n.1 posto/i di Ricercatore a tempo determinato in tenure track (RTT)
per il settore concorsuale 01/A5 - Analisi Numerica
settore scientifico-disciplinare MAT/08 - Analisi Numerica
presso il Dipartimento di MATEMATICA "FEDERIGO ENRIQUES"
(avviso bando pubblicato sulla G.U. n. 93 del 05/12/2023) Codice concorso 5439

NICOLA FERRO

CURRICULUM VITAE

INFORMAZIONI PERSONALI

COGNOME	FERRO
NOME	NICOLA
DATA DI NASCITA	30/11/1991

TITOLI

TITOLO DI STUDIO

- 2013 Oct. - 2015 Sep.

MSc in Mathematical Engineering - Computational Science and Engineering

Politecnico di Milano, Italy

Grade: 110/110 cum laude.

*Thesis title: "Propagation of Fractures in Brittle Materials Induced by a Thermal Shock"
supervised by prof. Simona Perotto and prof. Stefano Micheletti.*

- 2010 Sept. - 2013 July

BSc in Mathematical Engineering

Politecnico di Milano, Italy

Grade: 110/110 cum laude

*Thesis title: "Reconstruction of soil profile for unidimensional semi-infinite domains" supervised
by prof. Stefano Micheletti.*

TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO

- 2015 Nov. - 2019 Feb.

Ph.D. in Mathematical Models and Methods in Engineering

Politecnico di Milano

Final exam: February 12, 2019 - Department of Mathematics, Politecnico di Milano.

*Thesis title: "Topology Optimization: Advanced Techniques for New Challenges" supervised by
prof. Simona Perotto and prof. Stefano Micheletti.*

CONTRATTI DI RICERCA, ASSEGNI DI RICERCA O EQUIVALENTI

- 2023 Dec. - now

Post-doc fellow researcher

Department of Mathematics, Politecnico di Milano, Italy

Title: "Multi-physics topology optimization for the design of lower-limb stents. Advanced mathematical techniques for innovative biomedical solutions" supervised by professor S. Perotto.

- 2022 Oct. - 2023 Sept. (12 months)

Post-doc fellow researcher

Department of Mathematics, Politecnico di Milano, Italy

Title: "Advanced polyhedral discretization and optimization methods on polyhedral grids for PDEs" supervised by professors P. F. Antonietti, S. Micheletti, N. Parolini, S. Perotto, M. Verani.

- 2022 Apr. - 2022 Jul. (3.55 months)

Post-doc fellow researcher

Department of Mechanics, Politecnico di Milano, Italy

Title: "Resistenza a fatica di manufatti realizzati in L-PBF. Prove di fatica e propagazione frattura su materiali additive per elaborare modelli di vita a fatica" supervised by prof. Stefano Beretta.

- 2021 Apr. - 2022 Mar. (12 months)

Post-doc fellow researcher

Department of Mathematics, Politecnico di Milano, Italy

*Title: "Modellistica e discretizzazione numerica di problemi di design strutturale alla micro- e alla macro-scala" supervised by prof. Simona Perotto
Funded by Istituto Nazionale di Alta Matematica (INdAM).*

- 2020 Apr. - 2021 Mar. (12 months)

Post-doc fellow researcher

Department of Mathematics, Politecnico di Milano, Italy

*Title: "Metodi innovativi per ottimizzazione strutturale e segmentazione di immagini tramite adattamento anisotropa di mesh" supervised by prof. Simona Perotto
Scholarship by Fondazione Fratelli Confalonieri.*

- 2019 Apr. - 2020 Mar. (12 months)

Post-doc fellow researcher

Department of Mathematics, Politecnico di Milano, Italy

Title: "Tutela e valorizzazione della proprietà intellettuale nell'ambito del piano Industria 4.0" supervised by prof. Simona Perotto.

ATTIVITÀ DIDATTICA A LIVELLO UNIVERSITARIO IN ITALIA O ALL'ESTERO

Teaching assistant - BSc and MSc level, Politecnico di Milano, Italy

- Metodi analitici e numerici per l'ingegneria (prof. S. Perotto, A.Y. 2023/2024);

Period: 01/09/23 - 31/01/24;

Duration: 36 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. S. Perotto, A.Y. 2022/2023);

Period: 01/09/22 - 31/01/23;

Duration: 36 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. G. Verzini, A.Y. 2022/2023);

Period: 01/09/22 - 31/01/23;

Duration: 36 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. S. Perotto, A.Y. 2021/2022);

Period: 01/09/21 - 31/01/22;

Duration: 36 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. G. Verzini, A.Y. 2021/2022);

Period: 01/09/21 - 31/01/22;

Duration: 24 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. S. Perotto, A.Y. 2020/2021);

Period: 01/09/20 - 31/01/21;

Duration: 36 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. G. Verzini, A.Y. 2020/2021);

Period: 01/09/20 - 31/01/21;

Duration: 24 hrs;

Course: Ing. Meccanica

- Metodi analitici e numerici per l'ingegneria (prof. S. Perotto, A.Y. 2019/2020);

Period: 01/09/23 - 31/01/24;

Duration: 36 hrs;

Course: Ing. Meccanica

- Numerical analysis (prof. S. Perotto, A.Y. 2019/2020);

Period: 01/09/19 - 31/01/20;

Duration: 24 hrs;

Course: Ing. Informatica;

- Metodi analitici e numerici per l'ingegneria (Analisi numerica) (prof. S. Perotto, A.Y. 2018/2019);

Period: 01/03/19 - 30/06/19;

Duration: 24 hrs;

Course: Ing. Energetica

- Numerical analysis (prof. S. Perotto, A.Y. 2018/2019);

Period: 01/09/18 - 31/01/19;

Duration: 22 hrs;

Course: Ing. Informatica

- Metodi analitici e numerici per l'ingegneria (Analisi numerica) (prof. A. Manzoni, A.Y. 2017/2018);

Period: 01/09/17 - 31/01/18;

Duration: 24 hrs;

Course: Ing. Meccanica

- Numerical analysis for partial differential equations (prof. S. Perotto, A.Y. 2016/2017);

Period: 01/03/17 - 30/06/17;

Duration: 36 hrs;

Course: Ing. Matematica

- Numerical analysis (prof. S. Perotto, A.Y. 2016/2017);

Period: 01/09/16 - 31/01/17;

Duration: 24 hrs;

Course: Ing. Informatica

- Matematica numerica (prof. S. Micheletti, A.Y. 2015/2016);

Period: 01/03/16 - 30/06/16;

Duration: 36 hrs;

Course: Ing. Matematica

- Numerical analysis (prof. S. Perotto, A.Y. 2015/2016);

Period: 01/09/15 - 31/01/16;

Duration: 24 hrs;

Course: Ing. Informatica

Teaching assistant - Master level

- 2023 Jan. Università degli Studi di Torino, Italy - Master in Mathematical and Physical Methods for Aviation Sciences (prof. S. Perotto)

Period: 01/01/23 - 31/01/23;

Duration: 3 hrs;

Course: Numerical Methods for Engineering Modeling

- 2022 Jan. Università degli Studi di Torino, Italy - Master in Mathematical and Physical Methods for Aviation Sciences (prof. S. Perotto)

Period: 01/01/22 - 31/01/22;
Duration: 3 hrs;
Course: Numerical Methods for Engineering Modeling

Teaching assistant - PhD level

- 2019 May Lecturer - PhD level, Politecnico di Milano, Italy

Period: 01/05/19 - 31/05/19;
Duration: 3 hrs;
Course: PhD lesson on Intellectual Property

Teaching assistant - Foreign universities

- 2018 Apr. Laboratory assistant, Emory University, US

Period: 01/04/18 - 30/04/18;
Duration: 3 hrs;
Topic: Individual exercise class on interpolation techniques for engineering applications

Tutoring

- 2016 Mar. - 2016 Jun. Tutor, Politecnico di Milano, Italy - Introduction to Matlab.

Period: 01/03/16 - 30/06/16;
Duration: 12 hrs;
Course: Ing. Civile

DOCUMENTATA ATTIVITÀ DI FORMAZIONE O DI RICERCA PRESSO QUALIFICATI ISTITUTI ITALIANI O STRANIERI

- 2018 Feb. - 2018 May

Visiting period, Emory University, Atlanta, USA

- 2015 Jul.

Summer School on Topology Optimization, Technical University of Denmark, Copenhagen, Denmark

- 2012 Apr.

Double Degree Program, École Polytechnique, Paris, France Admission exam (passed).

REALIZZAZIONE DI ATTIVITÀ PROGETTUALE

- 2023 Jan. - 2024 Jan.

*GNCS INdAM project 2023, Algoritmi efficienti per la gestione e adattamento di mesh poligonali,
role: Principal Investigator*

- 2019 Dec. - 2022 Sep.

*H2020-MSCA-RISE-2019, Project ARIA (Accurate Roms for Industrial Applications),
PI: prof. A. Iollo, Local coordinator: prof. S. Perotto, role: junior collaborator*

- 2016 Mar. - 2017 Feb.

GNCS INdAM project 2016, Tecniche di riduzione della complessità computazionale per le scienze applicate,

PI: prof. Gianluigi Rozza, role: junior collaborator

- 2016 Sep. - 2016 Dec.

R&D project with Thales Alenia Space Italia, Studio, Design, Ottimizzazione Topologica ALM di Applicazione Spaziale con Metodi Matematici Innovativi Basati su Adattamento Anisotropa di Mesh

ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI, O PARTECIPAZIONE AGLI STESSI

- 2023 Oct. - now

PRIN research grant n. P2022JLNPJ, RESET: REthinking femoral artery Stents for the trEatment of lower-limb peripheral arTery disease,

PI: prof. C. Chiastra, local PI: prof. S. Perotto, role: post-doc researcher

- 2023 Jan. - 2024 Jan.

*GNCS INdAM project 2023, Algoritmi efficienti per la gestione e adattamento di mesh poligonali,
role: Principal Investigator*

- 2022 Oct. - 2023 Sep.

PRIN research grant n. 20204LN5N5, Advanced Polyhedral Discretisations of Heterogeneous PDEs for Multiphysics Problems,

PI: prof. P. F. Antonietti, role: post-doc researcher

- 2015 Oct. - now

Member of MOX-Department of Mathematics, Politecnico di Milano

ATTIVITÀ DI RELATORE A CONGRESSI E CONVEGNI NAZIONALI E INTERNAZIONALI

Semi-plenary talks

- 2021 Jan. *Topology Optimization: advanced techniques for new challenges*, WCCM-ECCOMAS 2020, Online conference

Keynote talks

- 2023 May *Topology Optimization-Assisted Innovative Design of Femoral Artery Stents*, M2P 2023, Taormina

- 2022 May *Anisotropic mesh adaptation for topology optimization: from theory to practice*, Adaptive moving and anisotropic meshes for the numerical approximation of PDEs workshop, Edinburgh

- 2021 Feb. *Anisotropic mesh adaptation for 3D printing-oriented structural design*, INdAM Workshop - Mathematical Methods for Objects Reconstruction: from 3D Vision to 3D Printing, Online workshop

Invited talks

- 2023 Jul. *Body-Fitted Polygonal Meshes for Topology Optimization*, Sim-AM 2023, Munich

- 2023 Apr. *An Efficient Numerical Workflow for the Optimal Design of Stents*, CFC 2023, Cannes

- 2022 Jul. *Multiscale topology optimization for the design of patient-specific orthotic devices*, WCCM-APCOM 2022, Yokohama, Online conference

- 2022 Jun. *Variational image segmentation on anisotropic adapted meshes for medical applications*, ECCOMAS 2022, Oslo

- 2021 Sep. *Design of patient-specific orthopedic insoles: a multiscale topology optimization approach*, SIMAI 2021, Parma, Online conference

- 2021 Jul. *A POD framework for topology optimization on anisotropic adapted meshes*, ECCOMAS Young Investigators Conference - YIC2021, Online conference

- 2021 Jun. *A multiscale topology optimization method for customized orthopedic insoles*, COUPLED 2021, Online conference

- 2021 Jan. *3D image segmentation assisted by anisotropic mesh adaptation*, WCCM-ECCOMAS 2020, Online conference

- 2019 Sep. *A POD-based technique for topology optimization*, Sim-AM 2019, Pavia

- 2019 May *Structural optimization through anisotropic mesh adaptation*, ADMOS 2019, Alicante
 - 2019 Feb. *Anisotropic mesh adaptation: from crack propagation to topology optimization*, GAMM 2019, Vienna
 - 2018 Jul. *Out-of-the-box and ready-to-print optimized structures in additive manufacturing processes*, WCCM XIII, New York
 - 2018 Jul. *Topology optimization: towards CFD modeling*, ICOSAHOM 2018, London
 - 2018 Mar. *Topology Optimization: from macro to micro*, Emory University - Scientific Computing seminar, Atlanta, US
 - 2017 Jun. *Topology optimization assisted by mesh adaptation: motivation and numerical validation*, ADMOS 2017, Verbania
 - 2017 Apr. *Topology optimization driven by mesh adaptation*, FEF 2017, Roma
 - 2017 Feb. *Topology optimization and mesh adaptation*, CSE 2017, Atlanta, US
 - 2016 Sep. *Anisotropic mesh adaptation to model crack propagation in brittle materials*, SIMAI 2016, Politecnico di Milano
 - 2016 Jul. *Crack propagation modeling: the impact of anisotropic mesh adaptation*, WCCM XII, Seoul
 - 2016 Apr. *Anisotropic mesh adaptation for crack propagation induced by a thermal shock*, Workshop, SISSA, Trieste
- Contributed talks and posters**
- 2023 Sep. *Topology Optimization for the Design of Novel Femoral Artery Stents*, ESB-Ita 2023, Torino, Poster presentation
 - 2017 May *Free-form design in 10 minutes*, EFEF 2017, Milano, Oral presentation
 - 2016 Jul. *Optimization of structural components via TO and lattice structures*, First National Workshop on Additive Manufacturing, A.S.I., Rome, Poster presentation
 - 2015 Jul. *Crack propagation in brittle materials*, Copenhagen, Denmark, Poster presentation

CONSEGUIMENTO DI PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA

- 2021 Apr.

Research scholarship, Bando di concorso a n. 4 assegni di collaborazione ad attività di ricerca a.a. 2020-2021

Istituto Nazionale di Alta Matematica (INdAM)

- 2021 Jan.

PhD Olympiad winner, 10th edition

14th World Congress in Computational Mechanics and ECCOMAS Congress

- 2020 Mar.

National selected candidate, Italian entry for ECCOMAS PhD Awards

SIMAI

- 2020 Mar.

Research scholarship, Concorso a otto borse per ricerca post-dottorale da svolgersi presso università milanesi 2019-2020

Fondazione F.lli Confalonieri

- 2019 Oct.

Finanziamento Giovani Ricercatori

GNCS, INdAM

- 2016 Feb.

Premio Cercignani for best Master thesis in Computational Science and Engineering,

Department of Mathematics, Politecnico di Milano, Milan

PRODUZIONE SCIENTIFICA

PUBBLICAZIONI SCIENTIFICHE

ACCEPTED

(✉ indicates if NF is the corresponding author)

- D. Carbonaro, F. Mezzadri, N. Ferro ✉, G. De Nisco, A. L. Audenino, D. Gallo, C. Chiastra, U. Morbiducci, S. Perotto, *Design of innovative self-expandable femoral stents using inverse homogenization topology optimization*, Comput. Methods Appl. Mech. Engrg., 416, 116288, 2023, <https://doi.org/10.1016/j.cma.2023.116288>

- D. Calabrò, M. Lupo Pasini, N. Ferro, S. Perotto, *A deep learning approach for detection and localization of leaf anomalies*, In Reduction, Approximation, Machine learning, Surrogates, Emulators and Simulators. Series: Lect. Notes Comput. Sci. Eng., Springer Cham, M. D'Elia, M. Gunzburger, G. Rozza, G. Stabile Eds., to appear

- D. Cortellessa, N. Ferro ✉, S. Perotto, S. Micheletti, *Enhancing level set-based topology optimization with anisotropic graded meshes*, Appl. Math. Comput., 447, 127903, 2023, <https://doi.org/10.1016/j.amc.2023.127903>

- N. Ferro ✉, S. Perotto, M. Gavazzoni, *A new fluid-based strategy for the connection of non-matching lattice materials*, Struct. Multidiscip. Optim., 65(10), 287, 2022, <https://doi.org/10.1007/s00158-022-03354-2>
- M. Gavazzoni, N. Ferro, S. Perotto, S. Foletti, *Multi-physics inverse homogenization for the design of innovative cellular materials: application to thermo-mechanical problems*, Math. Comput. Appl, 27(1), 15, 2022, <https://doi.org/10.3390/mca27010015>
- N. Ferro ✉, S. Perotto, D. Bianchi, R. Ferrante, M. Mannisi, *Design of cellular materials for multiscale topology optimization: application to patient-specific orthopedic devices*, Struct. Multidiscip. Optim., 65(3), 1-26, 2022, <https://doi.org/10.1007/s00158021-03163-z>
- N. Ferro ✉, S. Perotto, A. Cangiani, *An Anisotropic Recovery-Based Error Estimator for Adaptive Discontinuous Galerkin Methods*, J. Sci. Comput., 90:45, 2022, <https://doi.org/10.1007/s10915-021-01724-4>
- F. Clerici, N. Ferro, S. Marconi, S. Micheletti, E. Negrello, S. Perotto, *Anisotropic Adapted Meshes for Image Segmentation: Application to 3D Medical Data*, SIAM J. Imaging Sci., 13(4), 2189-2212, 2020, <https://doi.org/10.1137/20M1348303>
- N. Ferro, S. Micheletti, S. Perotto, *An optimization algorithm for automatic structural design*, Comput. Methods Appl. Mech. Engrg., 372, 113335, 2020, <https://doi.org/10.1016/j.cma.2020.113335>
- N. Ferro ✉, S. Micheletti, S. Perotto, *Compliance-stress constrained mass minimization for topology optimization on anisotropic meshes*, SN Appl. Sci., 2 (7), 1-11, 2020, <https://doi.org/10.1007/s42452-020-2947-1>
- N. Ferro, S. Micheletti, S. Perotto, *POD-assisted strategies for structural topology optimizations*, Comput. Math. Appl. 77(10):2804-2820, 2019, <https://doi.org/10.1016/j.camwa.2019.01.010>
- N. Ferro ✉, S. Micheletti, S. Perotto, *Density-based inverse homogenization with anisotropically adapted elements*, In Numerical Methods for Flows. FEF 2017 Selected Contributions. Series: Lect. Notes Comput. Sci. Eng., Vol. 132, Springer Cham, A. Corsini, S. Perotto, G. Rozza, H. van Brummelen Eds., 2020, 211-221, https://doi.org/10.1007/978-3-030-30705-9_19
- N. Ferro, S. Micheletti, S. Perotto, *Anisotropic mesh adaptation for crack propagation induced by a thermal shock in 2D*, Comput. Methods Appl. Mech. Engrg. 331 138-158, 2018, <https://doi.org/10.1016/j.cma.2017.11.024>

SUBMITTED

- N. Ferro ✉, S. Micheletti, N. Parolini, S. Perotto, M. Verani, P. F. Antonietti, *Level set-fitted polytopal meshes with application to structural topology optimization*, submitted to Computers and Mathematics with Applications, <https://doi.org/10.48550/arXiv.2309.11389>

IN PREPARATION

- E. Temellini, N. Ferro, G. Stabile, S. Perotto, *Non-standard meshing techniques for turbulence modeling*, in preparation
- L. Liverotti, N. Ferro, M. Matteucci, S. Perotto, *A novel format for multispectral optical satellite images*, in preparation
- N. Ferro, S. Perotto, S. Lorenzi, *Anisotropic mesh adaptation for neutronics modeling*, in preparation

CONFERENCE PAPERS

- D. di Cristofaro, C. Galimberti, D. Bianchi, R. Ferrante, N. Ferro, M. Mannisi, S. Perotto, *Adaptive Topology Optimization for Innovative 3D Printed Metamaterials*, in: Proceedings of WCCM - ECCOMAS 2020 Conference, Volume 1200 - Modeling and Analysis of Real World and Industry Applications, 10.23967/wccm-eccomas.2020.049

ALTRO

PHD THESES CO-SUPERVISION

- ongoing *Turbulence modeling*, Erika Temellini, Mathematical Models and Methods in Engineering, Politecnico di Milano
- ongoing *Adaptive image processing and compressing*, Luca Liverotti, Mathematical Models and Methods in Engineering, Politecnico di Milano
- ongoing *Topology optimization for emerging applications*, Giacomo Speroni, Mathematical Models and Methods in Engineering, Politecnico di Milano
- ongoing *Mathematical methods for optimal processes in vertical farming*, Susanna Mirabella, Mathematical Models and Methods in Engineering, Politecnico di Milano

MASTER'S THESES CO-SUPERVISION

- ongoing *Machine learning algorithms for topology optimization*, L. Nebolosi, Computer Science and Engineering Degree, Politecnico di Milano
- A.Y. 2021-2022 *Raffinement de maillage adaptatif en optimisation topologique*, A. Sekourane, Stage report - Master Mathématiques et applications, Sorbonne Université
- A.Y. 2021-2022 *Coupling intra-cellular and multi-cellular dynamics in spatially-extended models of root-hair initiation*, T. Babini, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2021-2022 *Application of Proper Orthogonal Decomposition to a sampling-based kinodynamic planning algorithm*, M.K. Napitupulu, Automation and Control Engineering Degree, Politecnico di Milano
- A.Y. 2021-2022 *Analysis and optimization of satellites for precision agriculture by means of genetic algorithms and machine learning techniques*, F. Morreale, Computer Science and Engineering Degree, Politecnico di Milano
- A.Y. 2021-2022 *A deep learning approach for detection and localization of leaf diseases*, D. Calabrò, Computer Science and Engineering Degree, Politecnico di Milano
- A.Y. 2020-2021 *Vehicle routing and orienteering algorithms applied to precision irrigation*, J.R.F. Lengelé, Computer Science and Engineering Degree, Politecnico di Milano
- A.Y. 2020-2021 *Development of an extensible and template-driven GUI framework for programmable software tools*, O. Azerov, Automation and Control Engineering Degree, Politecnico di Milano

- A.Y. 2020-2021 *Design of new metamaterials with topology optimization techniques*, G. Campaniello, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2019-2020 *Topology optimization for flow problems using level set and density methods*, E. Mostatira, Energy Engineering Degree, Double degree: Politecnico di Milano, KU Leuven
- A.Y. 2019-2020 *Topology optimization with geometry constraints for ALM processes*, G. Gavinelli, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2018-2019 *Development of a GUI-APP for topology optimization driven by mesh adaptation*, W.M.A.T Wanis, Automation and Control Engineering Degree, Politecnico di Milano
- A.Y. 2018-2019 *Adaptive algorithms for image segmentation and reconstruction with application to 3D biomedical datasets*, F. Clerici, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2018-2019 *A recovery-based error estimator for advection-diffusion-reaction problems solved with discontinuous finite elements*, M. Allora, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2015-2016 *Problemi di diffusione e trasporto: schemi di discretizzazione continui e discontinui con adattamento di griglia*, C. D. Schenardi, Mathematical Engineering Degree, Politecnico di Milano

BACHELOR'S THESES CO-SUPERVISION

- A.Y. 2018-2019 *Ottimizzazione di orbite per costellazione di satelliti: Applicazione alla missione Skymed per immagini SAR*, F. Peparello, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2016-2017 *L'ottimizzazione topologica: teoria e applicazioni*, M. Ghioldi, Mathematical Engineering Degree, Politecnico di Milano
- A.Y. 2016-2017 *La tecnica di omogeneizzazione per strutture periodiche*, M. Pirrò, Mathematical Engineering Degree, Politecnico di Milano

MINISYMPOSIA ORGANIZATION

- Jun. 2024 9th European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS 2024, Lisboa, Portugal

MS title: Novel Methods and Algorithms in Topology Optimization: Bridging Design, Materials, Simulations, and Manufacturing;

MS title: Reduced Order Models and Artificial Intelligence for Industrial Applications

- Jun. 2023 IV International Conference on Simulation for Additive Manufacturing, Sim-AM 2023, Munich, Germany

MS title: Advanced Methods and Innovative Technologies for the Optimal Design of Structures and Materials

- Jun. 2023 X International Conference on Computational Methods for Coupled Problems in Science and Engineering, COUPLED 2023, Crete, Greece

MS title: Advanced Mathematical Modeling, Methods and Algorithms for Sustainability

- May 2023 I International Conference on Emerging Technologies in Computational Science for Industry, Sustainability and Innovation, M2P 2023, Taormina, Italy

MS title: Advances and Computational Challenges in the Integration of Additive Manufacturing and Topology Optimization

- Jul. 2022 XV World Congress on Computational Mechanics and VIII Asian Pacific Congress on Computational Mechanics, WCCM-APCOM 2022, Yokohama, Japan

MS title: Efficiency and Reliability in Biomedical Modeling: Computational and Mathematical Advances

- Jun. 2021 IX International Conference on Computational Methods for Coupled Problems in Science and Engineering, COUPLED 2021, Chia Laguna, Italy

MS title: Optimal Design of Structures and Metamaterials: Innovative Techniques for Engineering Applications

- Jul. 2020 XIV World Congress on Computational Mechanics and VIII European Methods in Applied Sciences and Engineering, WCCM-ECCOMAS 2020, Paris, France

MS title: Advanced Methods in Design Optimization

STAFF MEMBER AND ORGANIZATION SUPPORT

- May 2023 I International Conference on Emerging Technologies in Computational Science for Industry, Sustainability and Innovation, M2P 2023, Taormina, Italy
- Jun. 2021 IX International Conference on Computational Methods for Coupled Problems in Science and Engineering, COUPLED 2021, Online conference
- Jun. 2017 International Conference on Adaptive Modeling and Simulation, ADMOS 2017, Verbania, Italy
- Sep. 2016 Bi-annual congress of the Italian Society of Industrial and Applied Mathematics, SIMAI 2016, Milan, Italy

REVIEW ACTIVITY

- 1 paper for Taylor & Francis, Journal of Thermal Stresses
- 1 paper for Springer, Computers & Mathematics with Applications
- 1 paper for Springer, Engineering with Computers
- 3 papers for Springer, Structural and Multidisciplinary Optimization
- 4 papers for Springer, International Meshing Roundtable
- 1 paper for Springer, SN Applied Sciences
- 1 paper for Springer, "Lecture Notes in Computational Science and Engineering" - FEF 2017
- 1 paper for ETNA, Electronic Transactions on Numerical Analysis
- 1 paper for SAGE, Advances in Mechanical Engineering

MEMBERSHIP

- 2016 Jan. - now Member of INdAM, Istituto Nazionale di Alta Matematica "Francesco Severi"
- 2020 Member of SIMAI, Società Italiana di Matematica Applicata e Industriale
- 2013 Feb. - now
Milano Member of AIM, Mathematical Engineering Association, Politecnico di Milano

OTHERS

- 2021 oct. Invited participant to Italy goes green initiative
- 2019 Jun. - 2020 Mar. Research fellow representative, Politecnico di Milano

Data

04/01/2024

Luogo

Milano (MI)