Lorenzo Tieghi

Short Resume

Lorenzo Tieghi studied Mechanical Engineering at Sapienza University of Rome, specializing in Industrial Design. In 2019, he earned a Doctorate in Energy and Environment from Sapienza University, focusing on the application of machine learning to fluid mechanics. He then spent two years there as a postdoctoral researcher.

During this period, he spent several months as a visiting researcher at Friedrich-Alexander-Universität Erlangen-Nürnberg and later at Lancaster University. He subsequently served as an assistant professor at Sapienza University for two years, and he is currently a Tenure Track Researcher (RTT) in the Department of Civil, Environmental, and Mechanical Engineering at the University of Trento.

His primary research activities focus on the design and optimization of fluid machinery for renewable energy applications and high-efficiency turbomachinery, as well as the development of data-driven and machine learning models for fluid mechanics. He has extensive experience teaching fluid machinery and turbomachinery design, a role he continues at the University of Trento.

He has been actively involved as a contributor and organizer of several international conferences. Throughout his research career, he has participated in numerous regional, national, and European projects and collaborated with leading companies in the fluid machinery and energy sectors, including Ebara, ENI, and Baker Hughes. He is an expert in numerical simulations, turbomachinery design, and data-driven methods for the modeling of engineering systems.

Lorenzo Tieghi

Curriculum Vitae per la destinazione degli obblighi di pubblicazione di cui al d.lgs. 33/2013

Last update: 24/06/2025

PERSONAL INFORMATION

Gender: Male
Citizenship: Italian
Language proficiency: Italian (native), English (excellent)

1. EDUCATION

Type	Year	Institution	Grade
Doctorate of Philosophy in Energy and Environment	2020	Sapienza University of Rome	Excellent
Master degree in Mechanical Engineering	2016	Sapienza University of Rome	111/110
Bachelor degree in Mechanical Engineering	2014	Sapienza University of Rome	105/110

2. APPOINTMENTS

2.1 Academic Appointments

Start	End	Duration	Institution	Position
September 2024	Ongoing	6 Years (expected)	University of Trento	Tenure Track Researcher (RTT)
March 2023	August 2024	1.5 Years	Sapienza University of Rome	Research fellow - RTDA[1]
July 2022	March 2023	1 Year	Sapienza University of Rome	Postdoctoral researcher[2]
July 2021	July 2022	1 Year	Sapienza University of Rome	Postdoctoral researcher[2]
July 2020	July 2021	1 Year	Sapienza University of Rome	Postdoctoral researcher[2]

[1] Spoke 6 "Multiscale Modelling and Engineering Application" in CN1-HPC "National Center on HPC, Big Data and Quantum Computing".
[2] AI powered modelling of multi-scale effects in turbomachinery and energy conversion systems - SSD ING-IND/09 research programme

2.2 Other Appointments

Start	End	Duration	Institution	Position
February 2022	April 2022	3 Months	Lancaster University	Visiting researcher
November 2020	April 2021	6 Months	Friedrich-Alexander Universität Erlangen Nürnberg	Visiting researcher
November 2019	July 2020	9 Months	Sapienza University of Rome	Research fellowship

3. TEACHING EXPERIENCE

3.1 Regular Academic Appointments

The following list refers to lectures for Master of Science course in Mechanical Engineering.

Master of Science Courses

Year	Institution	Course Name	Lang.	CFU
2025-2026	University of Trento	Macchine ed elementi delle macchine	ITA	6 CFU
2024-2025	University of Trento	Fluid Machines Engineering	ENG	3 CFU
2023-2024	Sapienza	Computational Thermo Fluids Analsysis in Fluid Machinery	ITA	3 CFU
2023-2024	Sapienza	Fluid Machinery	ENG	3 CFU
2022–2023	Sapienza	Macchine	ITA	6 CFU
2022–2023	Sapienza	Computational Thermo Fluids Analsysis in Fluid Machinery	ITA	3 CFU
2021-2022	Sapienza	Macchine	ITA	6 CFU
2021-2022	Sapienza	Computational Thermo Fluids Analsysis in Fluid Machinery	ITA	3 CFU
2020-2021	Sapienza	Computational Thermo Fluids Analsysis in Fluid Machinery	ITA	3 CFU
2019-2020	Sapienza	Computational Thermo Fluids Analsysis in Fluid Machinery	ITA	3 CFU
2019-2020	Sapienza	Fluid Machinery	ENG	Tutor

The following list refers to special courses for PhD candidates and researchers.

Post-graduate Courses

Year	Institution	Course Name	Lang.	CFU
2024-2025	Sapienza	Hands on machine-learning for fluid machinery	ENG	2 CFU
2024-2025	Sapienza	Floating off-shore wind turbines, design and modelling challenges	ENG	2 CFU
2023	Istitute of Marine Engineering (INM)	Lecture series on "OpenFOAM CFD solver: from fundamentals to postprocessing of turbomachinery simulations"	ENG	1 CFU

3.2 Invited seminars and other relevant experiences

Year	Location	Lecture/Course
Tutorials		
2023	ASME Turboexpo 2023	Tutorial "Normalization and Preprocessing of CFD Data for Machine Learning Algorithms"
2022	ASME Turboexpo 2022	Tutorial "Unsupervised learning methods for design space exploration"
2020	ASME Turboexpo 2020 virtual conference	Tutorial "Introduction to Machine Learning for Turbomachinery and Energy Systems"
2019	Computational Thermo Fluids Analsysis in Fluid Machinery course	Lecture series on computational methods for turbomachinery design and validation, MSc Course in Mechanical Engineering at Sapienza University
Workshops		
2022	Lancaster University online webseries	Workshop on "Machine learning in engineering applications: data-driven methods for fluid dynamics"
2020	Friedrich-Alexander Universität Erlangen-Nürnberg	Workshop on "Machine learning methods for fluid flows"
2018	CMFF18 conference	Invited speaker at "Big data & Turbomachinery" workshop
Academic orientation programs		
2022	Sapienza University of Rome	Lecturer of the lecture series on sustainable energy for the Italian national program "Paths for transversal skills and for orientation" (PCTO)
2022	CIRPS online course	Lecturer of Eureka Course, titled "Pre-bachelor sustainability online course"

4. AWARDS AND HONORS

Year	Award
2025	Invited keynote lecturer at Fan 2025 conference: "Artificial intelligence & Fans"
2023	Best paper award at Turboexpo 2023 for GT2023-101383: "Characterization of High-Pressure Hydrogen Leakages."
2020	Winner of the Alfano and Caputo prize for the Italian Thermodynamic Association (ATI)
2020	Best paper award at Turboexpo 2020 for GT2020-15353: "A machine-learnt wall function for rotating passages."
2019	2nd place in the T-TeC, Telespazio Technology Contest

5. SOCIETY MEMBERSHIPS

Year(s)	Association Name
2022 - Today	OWEMES
2019 - Today	Associazione Termotecnica Italiana
2019 - Today	AIMSEA

6. PEER-REVIEWED ACADEMIC PROJECTS

As principal investigator (PI)

Year	Name	Destination	Grant Value
2022	CINECA ISCRA-C, agreement nr. HP10CU62XI	National	200.000 CPU hours
2022	EuroHPC, agreement nr. DD-22-61	International	7.000 node hours
2022	Europa-HPC3 programme, agreement nr. 730897	International	250.000 CPU hours
2021	Bavarian Research Foundation, agreement nr. PDOK-96-20	International	17.110 €
2021	Research start-up funds of Sapienza University	National	2.000 €

As investigator (I)

Year	Name	Destination	Programme	Status
2024	Extensive climate hazards and vulnerabilities assessment of the tree crop sub-sector in Ghana	International	Stichting The Global Center on Adaptation Research programme	Ongoing
2023	Sviluppo di malte e sistemi di applicazione per il restauro di siti archeologici sommersi	National	Posizionamento competitivo RSI	Ongoing
2023	Pythagoras	International	Erasmus+ Project	Ongoing
2023	CN1-Spoke 6: High performance computing	National	PNRR research programme	Ongoing
2021	Urban productive parks for the development of NBS-related technologies and service	International	EU Urban Innovative Actions	Completed
2019	MinWaterCSP	International	Horizon2020	Completed

7. INDUSTRIAL PROJECTS

The following list refer to the participation to industrial contracts as investigator

Year(s)	Company	Activity
2023 - 2021	ERG Spa	Development of machine-learning tools for predictive maintenance of the Aosta city heating facility
2023 - 2021	ENGIE Spa	Development of machine-learning tools for prediction of multi-MW wind turbine operations
2023 - 2019	e-Geos	Development of machine-learnt tools for flood prevention and effect mitigation
2023 - 2018	Baker Hughes	Development of machine-learning tools for safety assessment of gas turbine enclosures
2023	Tecnoedile Toscana	Design of pumps for underwater applications
2023 - 2017	Fieni Giovanni Srl	Fan design and CFD simulation
2023 - 2017	EBARA Pump Europe Spa	Pump design, optimization and validation
2018 - 2018	Systemair	Fan design and CFD simulation

8. CONFERENCES AND WORKSHOPS

8.1 Conferences as speaker

Legend
C = Session Chair
O = Track organizer
P = Presenter
SC = Session Co-chair
T = Tutorial Presenter
* National conference

Year	Role	Conference / Workshop	Location
2025	O	ASME Turboexpo 2025 conference	Memphis, USA
2025	O / P	Fan 2025 conference	Antibes, France
2024	O	GPPS 2024 conference	Chania, Creta, Greece
2024	P	PNRR-CN1 annual workshop	Rome, Italy
2024	O / P	ASME Turboexpo 2024 conference	London, UK
2023	P	OMC Med energy 2023	Ravenna, Italy
2023	P	European Turbomachinery Conference 2023	Budapest, Hungary
2023	C / O / P / T	ASME Turboexpo 2023 conference	Boston, USA
2022	P / SC	CMFF22 conference	Budapest, Hungary
2022	C	OWEMES 2022*	Rome, Italy
2022	C / O / P / T	ASME Turboexpo 2022 conference	Rotterdam, Netherland
2020	C / P / T	ASME Turboexpo 2020 virtual conference	Virtual
2019	C / P / T	AMSE Turboexpo 2019 conference	Phoenix, USA
2018	P / SC / T	AMSE Turboexpo 2018 conference	Oslo, Norway
2018	P	AMSE Turboexpo 2017 conference	Charlotte, USA
2018	P	ERCOFTAC Italian Pilot Center*	Lecce, Italy
2018	P / T	CMFF18 conference	Budapest, Hungary
2017	P	PhD summer school	Pisa, Italy

8.2 Conferences as attendee

Year	Role	Conference / Workshop	Location
2023	Exhibitor	Eolica Mediterranean 2023	Rome, Italy
2023	Attendee	Forum acusticum 2023	Turin, Italy
2022	Exhibitor	Eolica Mediterranean 2022	Rome, Italy
2022	Attendee	WWEC22	Rimini, Italy

9. ACTIVITIES AS ORGANIZER

Year(s)	Activity
2024	Scientific technical committee - FAN conference
2024	Session organizer and chair at GPPS conference 2024, Chania, Creta, Greece
2024	Session organizer and chair at ASME Turboexpo 2024, London, UK
2022-Today	Vanguard chair in Fans and Blowers committee - ASME Turboexpo conference
2022-Today	Associate editor for Journal of Basic & Applied Science
2023	Session chair at CMFF 2022 Conference, Boston, USA
2022	Session co-chair at CMFF 2022 Conference, Budapest, Hungary
2022	Session chair at OWEMES 2022 Conference, Rome, Italy
2022	Session chair at ASME Turboexpo 2022 Conference, Rotterdam, Netherland
2020	Session chair at ASME Turboexpo 2020 Conference, Virtual
2019	Session chair at ASME Turboexpo 2019 Conference, Phoenix, USA
2018	Session co-chair at ASME Turboexpo 2019 Conference, Oslo, Norway

10. HIGH PERFORMANCE COMPUTING EXPERIENCE

Year(s)	Name	Facility	Agreement nr.
2022	CINECA ISCRA-C	Galileo 100	HP10CU62XI
2022	EuroHPC development call	Karolina IT4I innovation center	DD-22-61
2021	HPC-Europa3 Programme	ARCHER2 UK National Supercomputing Service	730897
2020-2021	Regular access	Erlangen Regional Computing Center (RRZE)	PDOK-96-20

11. RESEARCH ACTIVITIES

11.1 Relevant research skills

- Advanced knowledge of numerical methods for Computational Fluid Dynamics
- Advanced expertise of CFD solvers: OpenFOAM, StarCCM+, ANSYS Fluent
- Expertise in popular CAD and grid generation software
- Expert user of software and data-driven methods for CFD data post-processing
- Expert user of high performance computing systems

- Expert programmer of Python, Matlab, C^{++}, Fortran77
- Advanced knowledge of APIs for programming language interface: *Cython, C_{API}, forpy*
- Advanced knowledge of machine-learning methods and libraries to this extent (Tensorflow, Scikit-learn, Keras, Pytorch)

The following lists refer to the most recent relevant academic and industrial research activities, grouped by topic.

11.2 Academic research activities

Year(s)	Keywords	Brief description
2023 - 2021	• Fan aeroacoustics • Passive flow control • HPC projects	The ongoing collaboration with Friedrich-Alexander-Universität Erlangen-Nürnberg is aimed at investigating the aerodynamic and aeroacoustic performance of rotors using a combination of numerical simulations and experiments. Various cutting-edge research areas have been addressed, starting with one of the earliest applications of unsupervised machine-learning methods for noise source detection. The most recent activities focus on investigating passive flow and noise control techniques, as well as their combination in axial fans.
2023 - 2022	• Wind turbine aerodynamics • Wind farm and wind control • HPC projects	Over the past two years, a significant portion of the research activities has been dedicated to the analysis of horizontal-axis wind turbine (HAWTs) aerodynamics. A multi-scale and multi-physics approach has been applied to conduct numerical investigations, often under HPC agreements, into a wide range of issues related to floating wind turbines and wind farms. These issues encompass the generation of spatial- and temporal-coherent inflow conditions, blade elasticity, wake interaction, and complex platform motion. In particular, most of the efforts are spent for the development and validation of an actuator line-based open-source numerical library for floating HAWTs. The activities have also led to stable cooperation with the INM-CNR institute and Lancaster University.
2023 - 2019	• Turbomachinery design • Flow control in air cooled condensers • HPC project	The collaboration with Stellenbosch University in South Africa has been ongoing since the MinWaterCSP Horizon program. The primary objective is to characterize air-cooled condensers and their performance within the condenser units. These studies have been conducted using various tools, ranging from quasi-3D codes to numerical simulations and experiments on the full 7.3m diameter fan. Multiple aspects have been analyzed, including noise emissions, heat exchange performance, and off-design operations. The most recent activities are focused on characterizing the effects of leading-edge tubercles in the presence of distorted inflow conditions.
2023 - 2022	• Data driven tools for medicine • Interdepartmental cooperation	The ongoing collaboration with the Dermatology Doctorate School of Sapienza University of Rome is focused on the development of data-driven methods to support medical diagnosis and treatments. In this project, a substantial dataset of medical records was initially analyzed and subsequently utilized to construct a support vector machine regressor for determining the probability of severe dermatological diseases.
2023 - 2022	• Small energy communities • ML tools for energy systems	This ongoing project aims to the analysis and forecast of electricity and heat consumption of Italian energy communities, based on data-driven and machine learning methods. In particular, the research is focused on the compression in latent spaces of large dataset of power demand curves. This program is founded by the Italian Regional Founds.
2023 - 2021	• EU-UIA • Urban wind flows • Nature-based solutions • Global heating effect mitigation	This research was conducted within the framework of the Upper project, an EU urban innovation initiative. The initial stages of the research involved the analysis and statistical characterization of historical wind and temperature data in the city of Latina, Italy. The results of this analysis were used to establish the initial conditions for numerically simulating airflow within the city. The computational grid was generated from three-dimensional scans of the city, and the urban flow simulations were performed using OpenFOAM. These simulations were conducted for scenarios that could pose potential risks to the population, with a focus on identifying areas in the city where nature-based solutions for temperature mitigation may be adopted.
2022 - 2021	• Von-Karman Institute • Large datasets compression • Tip contouring in gas turbines	The activities, conducted in collaboration with the Von Karman Institute, were centered on the development of a data-driven method for compressing experimental measurements and numerical simulations of gas turbine rotors with complex geometries. Specifically, this involved considering the pressure distribution and heat transfer coefficient in blades that had been modified with tip contouring. A methodology for correlating the tip shape with the thermo-aerodynamic performance of the blade was developed and tested.

11.3 Industrial research activities

Year(s)	Keywords	Brief description
2023 - 2019	• ENGIE spa, ERG spa • Predictive maintenance • Machine-learning tools	The industrial research activities developed in cooperation with ENGIE spa and ERG spa have tackled open challenges in maintenance and asset management. The projects have aimed to the development of data-driven methods for the unsupervised detection of early faults, anomalies and system derating. To this scopes, advanced machine learning algorithms like graph convolutional networks have been exploited.
2023 - 2019	• e-Geos, Telespazio, Leonardo • Hydraulic surrogate modelling • Flood prevention	In collaboration with Prof. Cioffi from the DICEA department at Sapienza University of Rome, as well as e-Geos, Leonardo Spa, and Telespazio Spa, we have been working on the development of machine-learning methods for natural hazard protection. This ongoing collaboration led to the application of our methods in 2019 for forecasting flash floods on St. Lucia Island and later adapting them for the protection of the Sibari archaeological site in Italy. The framework utilizes state-of-the-art machine-learning techniques for image processing and sequence forecasting.
2023 - 2019	• systemAir, Fieni, NY Blowers • Faggiolati Pumps, Ebara • Turbomachinery design • Flow control	Various research activities and industrial contracts have addressed open challenges in turbomachinery design. These include design optimization, performance verification, and methods for flow control to delay stall and control noise. These analyses have been conducted using open-source tools with varying levels of accuracy, ranging from quasi-3D methods to fully resolved numerical simulations.
2023 - 2019	• e-Geos, Telespazio, Leonardo • Hydraulic surrogate modelling • Flood prevention	In collaboration with Prof. Cioffi from the DICEA department at Sapienza University of Rome, as well as e-Geos, Leonardo Spa, and Telespazio Spa, we have been working on the development of machine-learning methods for natural hazard protection. This ongoing collaboration led to the application of our methods in 2019 for forecasting flash floods on St. Lucia Island and later adapting them for the protection of the Sibari archaeological site in Italy. The framework utilizes state-of-the-art machine-learning techniques for image processing and sequence forecasting.
2022 - 2019	• Baker Hughes • Gas turbines safety • Fuel blends	The ongoing collaboration with Baker Hughes revolves around the development of numerical tools aimed at enhancing safety in the event of gas turbine enclosure leaks. Initial activities were dedicated to the machine-learned detection of poorly ventilated zones within the enclosures, resulting in the creation of preliminary design tools. Current research activities are focused on the data-driven modeling of under-expanded jets under various ventilation conditions, with consideration given to their potential impact on solid surfaces.

2023	• Tecnoedile Toscana • Pump design • Non-Newtonian fluids	The collaboration with Tecnoedile Toscana is oriented towards the development of innovative solutions for pumping mortars used in underwater restoration. Various challenging characteristics of the working fluid are considered, including high stickiness, low mass flow rates, high viscosity, and rapid hardening. This partnership has been consolidated through an application for regional funds to support the development of a patent.

12. SUMMARY OF SCIENTIFIC ACHIEVEMENTS

The records here reported are downloaded from Scopus online repository. Last update: 06/06/2025.

Product type	Number	Database	Start	End
Papers [international]	43	Scopus	2017	2024

13. BIBLIOGRAPHY

Last update: 06/06/2025.

References

[1] Lorenzo Battisti, Lorenzo Tieghi, and Soheil Fattahi. "Heat-Loss Based Method for Real-Time Monitoring Method for Hydroelectric Power Plant Efficiency". In: *Energies* 18.10 (2025), p. 2586.

[2] Davide Cerbarano, Lorenzo Tieghi, Giovanni Delibra, Stefano Minotti, and Alessandro Corsini. "Modeling High-Pressure Hydrogen Gas Leakages With Graph Neural Networks". In: *Journal of Energy Resources Technology, Part A: Sustainable and Renewable Energy* 1.3 (2025).

[3] Lorenzo Tieghi, Davide Cerbarano, Filippo De Girolamo, Valerio Francesco Barnabei, and Giovanni Delibra. "A Novel Methodology for the Automatic Decomposition of HAWT Wakes With K-Means Clustering". In: *Wind Energy* 28.7 (2025), e70030.

[4] Davide Cerbarano, Lorenzo Tieghi, Giovanni Delibra, Ermanno Lo Schiavo, Stefano Minotti, and Alessandro Corsini. "Characterization of High-Pressure Hydrogen Leakages". In: *Journal of Engineering for Gas Turbines and Power* 146.5 (2024).

[5] Davide Cerbarano, Lorenzo Tieghi, Giovanni Delibra, Stefano Minotti, and Alessandro Corsini. "Machine Learning Regression of Under-Expanded Hydrogen Jets". In: *Turbo Expo: Power for Land, Sea, and Air*. Vol. 87936. American Society of Mechanical Engineers. 2024, V002T03A032.

[6] Davide Cerbarano, Lorenzo Tieghi, Giovanni Delibra, Ermanno Lo Schiavo, and Stefano Minotti. "Characterization of High-Pressure Hydrogen Leakages". In: *Journal of Engineering for Gas Turbines and Power* 146 (2024), pp. 051019–1.

[7] F Cioffi, L Tieghi, M Giannini, and S Pirozzoli. "Flash flood prediction in St. Lucia island through a surrogate hydraulic model". In: *Journal of Applied Water Engineering and Research* 12.3 (2024), pp. 297–310.

[8] Filippo De Girolamo, Alessio Castorrini, Valerio F Barnabei, Vincenzo Morici, Lorenzo Tieghi, Aldo Bonfiglioli, and Alessandro Corsini. "Detached eddy simulation of large scale wind turbine wake in offshore environment". In: *International Journal of Heat and Fluid Flow* 110 (2024), p. 109637.

[9] Filippo De Girolamo, Alessio Castorrini, Vincenzo Morici, Lorenzo Tieghi, and Franco Rispoli. "Investigation on the Effect of Resolving Waves Motion in the Simulation of Offshore Wind Farms". In: *Turbo Expo: Power for Land, Sea, and Air*. Vol. 88094. American Society of Mechanical Engineers. 2024, V013T37A010.

[10] Cesar C Thiry, Sybrand J van der Spuy, Giovanni Delibra, and Lorenzo Tieghi. "Assessing the Effect of Uneven Inlet Velocity on the 24 ft Diameter MinwaterCSP Fan Using a Unique Pressure Sensing System". In: *Periodica Polytechnica Mechanical Engineering* 68.4 (2024), pp. 279–290.

[11] Lorenzo Tieghi, Felix Czwielong, Valerio F Barnabei, Christof Ocker, Giovanni Delibra, Stefan Becker, and Alessandro Corsini. "Aerodynamics and Aeroacoustics of Leading Edge Serration in Low-Speed Axial Fans With Forward Skewed Blades". In: *Journal of Engineering for Gas Turbines and Power* 146 (2024), pp. 021007–1.

[12] Lorenzo Tieghi, Giovanni Delibra, Johan Van der Spuy, and Alessandro Corsini. "Design of Sinusoidal Leading Edge for Low-Speed Axial Fans Operating under Inflow Distortion". In: *Energies* 17.5 (2024), p. 1150.

[13] Lorenzo Tieghi, Vincenzo Morici, Alessio Castorrini, Navid Aryan, and Luca Greco. "Aerodynamic Characterization of the IEA 15 MW Reference Wind Turbine by Code-to-Code Comparison". In: *Journal of Physics: Conference Series*. Vol. 2767. 2. IOP Publishing. 2024, p. 022040.

[14] V.F. Barnabei, A. Castorrini, G. Delibra, L. Tieghi, and A. Corsini. "Investigation of passive morphing blades for Wells turbines using computational fluid-structure interaction". In: *15th European inproceedings on Turbomachinery Fluid Dynamics and Thermodynamics 2023, ETC 2023*. cited By 0. European inproceedings on Turbomachinery (ETC), 2023.

[15] Filippo De Girolamo, Lorenzo Tieghi, Giovanni Delibra, Valerio Francesco Barnabei, and Alessandro Corsini. "Surrogate modeling of the aeroacoustics of an NM80 wind turbine". In: *International Journal of Turbomachinery, Propulsion and Power* 8.4 (2023), p. 43.

[16] Marco Di Fraia, Lorenzo Tieghi, Francesca Magri, Gemma Caro, Simone Michelini, Giovanni Pellacani, and Alfredo Rossi. "A Machine Learning Algorithm Applied to Trichoscopy for Androgenic Alopecia Staging and Severity Assessment". In: *Dermatology Practical & Conceptual* 13.3 (2023).

[17] L. Tieghi, G. Delibra, J. van der Spuy, and A. Corsini. "Leading Edge Bumps for Flow Control in Air-Cooled Condensers †". In: *International Journal of Turbomachinery, Propulsion and Power* 8.1 (2023). cited By 0.

[18] F.A. Tucci, G. Delibra, L. Tieghi, A. Corsini, and S. Lavagnoli. "UNSUPERVISED LEARNING FOR HIGH-FIDELITY COMPRESSION OF LARGE EXPERIMENTAL DATASET: AN APPLICATION ON HPT BLADE TIP CONTOURING". In: *15th European inproceedings on Turbomachinery Fluid Dynamics and Thermodynamics 2023, ETC 2023*. cited By 0. European inproceedings on Turbomachinery (ETC), 2023.

[19] A. Castorrini, L. Tieghi, V.F. Barnabei, S. Gentile, A. Bonfiglioli, A. Corsini, and F. Rispoli. In: *Wake interaction in offshore wind farms with mesoscale derived inflow condition and sea waves*. Vol. 1073. 1. cited By 0. Institute of Physics, 2022.

[20] Lorenzo Tieghi, Stefan Becker, Alessandro Corsini, Giovanni Delibra, Stefan Schoder, and Felix Czwielong. "Machine-Learning Clustering Methods Applied to Detection of Noise Sources in Low-Speed Axial Fan". In: *Journal of Engineering for Gas Turbines and Power* 145.3 (Dec. 2022), p. 031020. ISSN: 0742-4795.

[21] A. Corsini, G. Delibra, L. Tieghi, and F.A. Tucci. "CASCADE with SINUSOIDAL LEADING EDGES: IDENTIFICATION and QUANTIFICATION of DEFLECTION with UNSUPERVISED MACHINE LEARNING". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 1. American Society of Mechanical Engineers (ASME), 2021.

[22] L. Tieghi, A. Corsini, G. Delibra, and F.A. Tucci. "A machine-learnt wall function for rotating diffusers". In: *Journal of Turbomachinery* 143.8 (2021). cited By 3.

[23] S.J. Van Der Spuy, D.N.J. Els, L. Tieghi, G. Delibra, A. Corsini, F.G. Louw, A. Zapke, and C.J. Meyer. "PRELIMINARY EVALUATION of the 24 FT. DIAMETER FAN PERFORMANCE in the MINWATERCSP LARGE COOLING SYSTEMS TEST FACILITY". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 1. American Society of Mechanical Engineers (ASME), 2021.

[24] A. Corsini, G. Delibra, M. Giovannelli, G. Lucherini, S. Minotti, S. Rossin, and L. Tieghi. "Prediction of ventilation effectiveness for lm9000 package with machine learning". In: *Proceedings of the ASME Turbo Expo*. Vol. 9. cited By 2. American Society of Mechanical Engineers (ASME), 2020.

[25] L. Tieghi, A. Corsini, G. Delibra, and G. Angelini. "Assessment of a machine-learnt adaptive wall-function in a compressor cascade with sinusoidal leading edge". In: *Journal of Engineering for Gas Turbines and Power* 142.12 (2020). cited By 1.

[26] L. Tieghi, A. Corsini, G. Delibra, and F.A. Tucci. "A machine-learnt wall function for rotating diffusers". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 0. American Society of Mechanical Engineers (ASME), 2020.

[27] L. Tieghi, G. Delibra, A. Corsini, and J. Van Der Spuy. "Numerical investigation of CSP air cooled condenser fan". In: *E3S Web of inproceedingss*. Vol. 197. cited By 1. EDP Sciences, 2020.

[28] G. Angelini, A. Corsini, G. Delibra, and L. Tieghi. "A multi-dimensional extension of Balje chart for axial flow turbomachinery using artificial intelligence based meta-models". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 0. American Society of Mechanical Engineers (ASME), 2019.

[29] G. Angelini, A. Corsini, G. Delibra, and L. Tieghi. "A multidimensional extension of balje chart for axial flow turbomachinery using artificial intelligence-based meta-models". In: *Journal of Engineering for Gas Turbines and Power* 141.11 (2019). cited By 3.

[30] G. Angelini, A. Corsini, G. Delibra, and L. Tieghi. "Exploration of axial fan design space with data-driven approach". In: *International Journal of Turbomachinery, Propulsion and Power* 4.2 (2019). cited By 4.

[31] A. Corsini, G. Delibra, M. Giovannelli, G. Lucherini, S. Minotti, S. Rossin, and L. Tieghi. "Identification of poorly ventilated zones in gas-turbine enclosures with machine learning". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 2. American Society of Mechanical Engineers (ASME), 2019.

[32] S. Minotti, A. Corsini, G. Delibra, G. Lucherini, S. Rossin, L. Tieghi, and S. Traldi. "Modelling of sonic jets for gas leak applications". In: *Proceedings of the ASME Turbo Expo*. Vol. 9. cited By 1. American Society of Mechanical Engineers (ASME), 2019.

[33] L. Tieghi, A. Corsini, G. Delibra, and G. Angelini. "Assessment of a machine-learnt adaptive wall-function in a compressor cascade with sinusoidal leading edge". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 3. American Society of Mechanical Engineers (ASME), 2019.

[34] G. Angelini, T. Bonanni, A. Corsini, G. Delibra, L. Tieghi, and D. Volponi. "A meta-model for aerodynamic properties of a reversible profile in cascade with variable stagger and solidity". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 5. American Society of Mechanical Engineers (ASME), 2018.

[35] G. Angelini, T. Bonanni, A. Corsini, G. Delibra, L. Tieghi, and D. Volponi. "Effects of fan inflow distortions on heat exchange in air-cooled condensers. Unsteady computations with synthetic blade model". In: *Proceedings of the ASME Turbo Expo*. Vol. 1. cited By 0. American Society of Mechanical Engineers (ASME), 2018.

[36] G. Angelini, T. Bonanni, A. Corsini, G. Delibra, L. Tieghi, and D. Volponi. "On surrogate-based optimization of truly reversible blade profiles for axial fans". In: *Designs* 2.2 (2018). cited By 7, pp. 1–18.

[37] G. Angelini, T. Bonanni, A. Corsini, G. Delibra, L. Tieghi, and D. Volponi. "Optimization of an axial fan for air cooled condensers". In: *Energy Procedia* 126 (2017). cited By 14, pp. 754–761.