CURRICULUM VITAE

Filippo Cianetti is a Full Professor of Machine Design (Italian Academic Discipline – SSD IIND-03/A) at the Department of Engineering of the University of Perugia.
Since 2021, he has been the coordinator of the bachelor's and master's Degree Programs in Mechanical Engineering at the University of Perugia.
Since January 2026, he has also been a Member of the Board of Directors of the University of Perugia.

ACADEMIC CAREER

Prof. Filippo Cianetti was appointed Researcher on October 28, 1992, and took service at the Institute of Energetics of the University of Perugia.
In January 2002, he qualified in the comparative evaluation procedure for the position of Associate Professor in the Scientific Disciplinary Sector I08A – Mechanical Design and Machine Construction at the Faculty of Engineering of the University of Perugia. He was subsequently appointed Associate Professor and took service on March 1, 2002.
In November 2021, he was selected in the competitive procedure for a Full Professorship in the Scientific Disciplinary Sector ING-IND/14 – Mechanical Design and Machine Construction at the Department of Engineering of the University of Perugia. He officially took service as Full Professor on January 12, 2022, within the Scientific Disciplinary Group 09/IIND-03.

NATIONAL AND INTERNATIONAL POSITIONS

From September 2007 to September 2013, he served as a member of the Scientific Council of the Italian Association for Stress Analysis (AIAS), elected by the General Assembly in both 2007 and 2010.
In October 2013, he was elected as a member of the National Board of the Scientific Disciplinary Sector (SSD) in Mechanical Design and Machine Construction.
At the end of his three-year term (September 2016), he was elected as a member of the Executive Board of the newly established Italian Scientific Society of Mechanical Design and Machine Construction (SSD ING-IND/14), accredited by the National Agency for the Evaluation of Universities and Research (ANVUR).
In September 2018, he was again elected as a member of the Executive Board (former SSD Board) for the 2018–2020 term, serving for two mandates. He was subsequently elected to the Scientific Council of the Association for the 2021–2023 term.
Since September 2023, he has been serving as a member of the Executive Board of the Scientific Disciplinary Group (re-elected in September 2025 for the 2025–2027 term).
During these mandates, he has been responsible for monitoring teaching activities within the SSD/GSD, developing and supervising three national surveys aimed at analyzing the status of teaching across Italian universities.
He was a member of the Group of Evaluation Experts (GEV) within the Italian Research Quality Assessment (VQR 2015–2019) for Area 09.
Since 2002 (with continuous activity from 2005 to present), he has been registered in the REPRISE register of expert peer reviewers of the Italian Ministry of Education, University and Research (MIUR), evaluating national research projects. In this role, he has reviewed five PRIN projects and one FISR project.
He was also registered as an expert in the Committee for the Evaluation of Research (CIVR) during the first national research evaluation exercise (VTR).
In July 2020, following nomination by CRUI, he was included by the Italian Ministry of Defense in the pool of academic experts supporting scientific and technological research activities relevant to national defense.
In March 2017, he was appointed by the Polish Government as an OPUS reviewer for the National Science Centre Poland (NCN), reviewing national research proposals.

UNIVERSITY ROLES

In January 2026, he was elected by the Academic Senate as a Member of the Board of Directors of the University of Perugia.
In 2021, he was elected President of the Degree Programs Board (Bachelor's and Master's) in Mechanical Engineering. He was re-elected in 2024 and currently still holds this position.
Since 2018, he has been a member of the Orientation Team of the Department of Engineering and coordinates orientation activities for the Mechanical Engineering area.
He was responsible for a framework agreement between the University of Perugia and HPE-COXA, a leading company in the design and manufacturing of high-performance engines and components. The agreement also involved the Universities of Modena and Reggio Emilia, Bologna, Pisa, and Florence.
He is responsible for two Erasmus+ agreements with the University of Ljubljana (Slovenia) and the University of Opole (Poland), fostering collaborations through joint theses and scientific publications.

TEACHING

Prof. Cianetti teaches:

- *Machine Design* (12 ECTS) for the bachelor's degree in mechanical engineering
- *Dynamics in Machine Design* (9 ECTS) for the master's degree in mechanical engineering
- *Robust Design* (4 ECTS) for the master's degree in mechanical engineering
- *Multibody Modelling and Design* (5 ECTS) for the master's degree in mechanical engineering

In 2015, he was Distinguished Lecturer at the 1st IEEE Italy Section Summer School, teaching *Modeling and Simulation of Mechatronic Systems*.
In 2006, he taught *Structural Reliability and Quality in Machine Design* at the Universidad Nacional de Mar del Plata (Argentina), within a CUIA cooperation program.

Prof. Cianetti has supervised and co-supervised a total of 15 PhD students at the University of Perugia.

In particular, he has co-supervised 2 PhD students within the PhD Program in Industrial Engineering (main supervisor: Prof. Claudio Braccesi). He has served as primary supervisor for 3 PhD students in Industrial Engineering and for 5 PhD students in the PhD Program in Industrial and Information Engineering. He has also co-supervised 1 PhD student in Physics (main supervisor: Prof. Roberto Battiston, former President of the Italian Space Agency).

He is currently supervising 4 PhD students within the PhD Program in Industrial and Information Engineering. Among these, one project has been jointly carried out in collaboration with the Italian Air Force, while another was externally funded by INFN (National Institute for Nuclear Physics) and focused on aerospace design applications. Among the ongoing PhD projects, one is funded by the Italian Space Agency (ASI), and two are Industrial PhD positions supported by a regional company.

Prof. Cianetti has supervised or co-supervised more than 130 MSc theses.

Within the Erasmus collaborations he coordinates, he has supervised several theses partially carried out abroad, including:

University of Ljubljana, Slovenia (5 theses, laboratories of Prof. Janko Slavic)
NTNU, Norway (1 thesis, laboratories of Prof. Filippo Berto)
University of Opole, Poland (1 thesis, laboratories of Prof. Niesłony)
Technical University of Munich, Germany (2 theses, laboratories of Prof. Wolfsteiner)

A significant number of theses have also been developed in collaboration with national and international companies within applied research projects.

RESEARCH

Prof. Cianetti's research activity is centered on mechanical design, system dynamics, and structural reliability, with a specific focus on the fatigue behavior of mechanical systems under random and dynamic loading conditions.
Since the early stages of his career, he has contributed to the development of an integrated approach to mechanical design, combining analytical and numerical modeling, multibody and reduced-order modelling and simulations, experimental validation under realistic operating conditions.

Over the last two decades, Prof. Cianetti has established a coherent and recognized research line in the field of fatigue under stochastic loading, addressing one of the most critical challenges in modern mechanical engineering.
His work has contributed to: advancing spectral methods for fatigue assessment, improving the understanding of fatigue damage under random processes, integrating time-domain and frequency-domain approaches, developing methodologies applicable to multi-axial stress state.
A distinctive aspect of his research is the ability to bridge theoretical developments and engineering applications, ensuring that proposed models are both physically grounded and experimentally validated.

His research is characterized by a multi-method and interdisciplinary approach, integrating: Numerical modeling (finite element analysis, multibody dynamics, state-space models, reduced-order techniques), Fatigue analysis methodologies (spectral methods, time-domain approaches, probabilistic models), Experimental activities (dynamic characterization of systems, fatigue testing under stochastic loading, validation of numerical predictions)
This integrated approach enables the development of predictive tools for real operating conditions, overcoming limitations of traditional deterministic design methods.

The methodologies developed by Prof. Cianetti have been applied to several engineering domains, including wind energy systems (wind turbines), aerospace and high-performance mechanical components (aerospace, roller coasters), and advanced structural systems subjected to variable and random loads (Automotives, Trains).

His scientific production includes more than 200 publications:

- about 100 journal papers
- about 20 book chapters
- about 40 international conference papers
- about 90 national conference papers

He currently has an h-index of 28 (Google Scholar, 2575 citations) and 25 (Scopus, 1941 citations).

He serves on the Editorial Board of several international journals indexed in Scopus and Web of Science, including:

- *Materials*
- *Vehicles*
- *Strojniški Vestnik – Journal of Mechanical Engineering*

He has also acted as Guest Editor of the Special Issue *"System Dynamics and Fatigue of Materials"*.
In addition, he is an active reviewer for numerous high-impact international journals and conferences, contributing to the advancement and quality control of research in the field.

CONFERENCE ORGANIZATION

Prof. Cianetti has played a leading role in the organization of major national and international conferences in the field of mechanical design and fatigue of materials, contributing both to scientific coordination and to the dissemination of advanced methodologies in the community.
In 2015, he co-organized the international symposium *"Fatigue life assessment with random loadings: spectral methods, dynamic simulations, testing"* within the 3rd International Conference VAL (Prague), contributing to the advancement of methodologies for fatigue under stochastic loading at an international level.
In 2025, he co-organized the international symposium *"Vibration Fatigue and Related Topics"* at CISM (Udine), held in celebration of the 40th anniversary of Dirlik's work. He also served on the Scientific Committee, contributing to shaping the scientific direction of the event.
He was co-organizer of the AIAS National Congress (Perugia, 1998), one of the main Italian conferences in stress analysis and mechanical design.
In 2019, he served as the main organizer of the AIAS National Congress (Assisi), coordinating both the scientific program and the overall conference structure.
In 2020, he contributed to the organization of the 49th AIAS Conference (held online), also acting as co-editor of the conference proceedings published in *IOP Conference Series: Materials Science and Engineering*.
Through these activities, he has contributed to consolidating the research community on fatigue and structural dynamics, promoting interaction between academia and industry.

RESEARCH GRANTS (PRINCIPAL INVESTIGATOR)

Prof. Cianetti has led and coordinated several competitive research projects at both national and institutional level, focusing on fatigue, structural reliability, and dynamic behavior of mechanical systems.
Early in his career, he was Principal Investigator of a Young Researchers Project (2000), devoted to the development of methodologies for fatigue damage evaluation in the time domain under variable loading conditions.
He has been Unit Leader for the University of Perugia in multiple PRIN projects funded by the Italian Ministry of Education, University and Research (MIUR), including:

- PRIN 2004, focused on structural durability under random loading
- PRIN 2015, *"Smart Optimized Fault Tolerant Wind Turbines"*, where his research unit developed predictive models for the dynamic behavior and fatigue damage of wind turbine systems using multibody and probabilistic approaches

He was also Principal Investigator of a research project funded by the Fondazione Cassa di Risparmio di Perugia (2009–2011), aimed at the development and experimental validation of advanced models and methodologies for fatigue analysis under stochastic loading.
More recently, he has coordinated a series of research projects ("Basic Research") funded by the University of Perugia (2017–2021), focusing on vibration fatigue and random loading, consolidating a long-term research line in this area.

He also secured funding within the University “Common-Laboratories (C-Labs)” initiative for the acquisition of an advanced electrodynamic testing system for fatigue and material characterization, strengthening the experimental capabilities of his research group.
Overall, his funding activity demonstrates sustained leadership in developing integrated approaches combining theory, simulation, and experimental validation.

AWARDS

Prof. Cianetti has received several prestigious awards recognizing the originality and impact of his research in fatigue and mechanical design.
In 2005, he was awarded the AIAS Best Paper Award for the most outstanding scientific contribution presented at the 2004 AIAS Conference (Bari), for his work on alternative methodologies for fatigue assessment under random loading conditions.
In 2018, he received the *Software Simulation Award* at the AIAS Conference for the best contribution in simulation, highlighting the relevance of his work in advanced numerical modeling applied to biomechanical systems.
In 2019, he was awarded again the AIAS Best Paper Award for his contribution on experimental multiaxial fatigue.
More recently, he received:

- the AIAS Best Paper Award (2022) for advances in spectral methods applied to random processes
- the AIAS Best Paper Award (2024) for the optimization and validation of finite element methodologies for thermo-structural analysis of Roller Coaster wheels

These awards reflect continuous recognition by the scientific community of his contributions to both theoretical developments and applied research in fatigue and structural mechanics.

PRINCIPAL SCIENTIFIC PUBLICATIONS OF ASSOCIATED INVESTIGATORS

IRIS Database
Orcid Database
Scopus Database
ResearchGate Database
Google Scholar Database