



Alessandro Bianchini

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ABOUT ME

Associate Professor, PhD
Department of Industrial Engineering (DIEF), Università degli Studi di Firenze

WORK EXPERIENCE

Associate Professor

Università degli Studi di Firenze [01/04/2024 – Current]

City: Firenze | Country: Italy

Sector: 09/C1 (Machinery and Systems for Energy and Environment) - Scientific Sub-Sector: ING-IND/09 (Systems for Energy and Environment)

Vice President

European Academy of Wind Energy (EAWE) [06/09/2023 – Current]

City: Oldenburg | Country: Germany

Assistant Professor - Tenure Track Researcher (RTD-B)

Department of Industrial Engineering, Università degli Studi di Firenze [01/04/2021 – 31/03/2024]

City: Firenze | Country: Italy

Sector: 09/C1 (Machinery and Systems for Energy and Environment) - Scientific Sub-Sector: ING-IND/09 (Systems for Energy and Environment)

Assistant Professor (RTD-A)

Department of Industrial Engineering, Università degli Studi di Firenze [30/04/2016 – 30/03/2021]

Address: via di Santa Marta, 50139 Firenze (Italy)

Sector: 09/C1 (Machinery and Systems for Energy and Environment) - Scientific Sub-Sector: ING-IND/08 (Machinery)

Visiting Professor (temporary Associate Professor)

"Peter the Great" St. Petersburg Polytechnical University [23/03/2019 – 29/03/2019]

City: St. Petersburg | Country: Russia

Holder of the course "Wind energy" (16 academic hours)

Visiting Professor (temporary Associate Professor)

"Peter the Great" St. Petersburg Polytechnical University [04/11/2017 – 10/11/2017]

City: St. Petersburg | Country: Russia

Holder of the course "Wind energy" (16 academic hours)

Visiting Professor (temporary Associate Professor)

"Peter the Great" St. Petersburg Polytechnical University [12/05/2017 – 19/05/2017]

City: St. Petersburg | Country: Russia

Holder of the course "Wind energy" (20 academic hours)

Research Fellow

Department of Industrial Engineering, Università degli Studi di Firenze [31/12/2012 – 29/04/2016]

Address: Via di Santa Marta 3, 50139 Firenze (Italy) | Website: <http://www.dief.unifi.it>

- Development of innovative aerodynamic solutions for small wind turbines
- Numerical analysis of wind turbines
- Experimental and numerical analysis of centrifugal impellers
- Rotating stall in centrifugal compressors

Research Fellow

"Sergio Stecco" Department of Energy Engineering, Università degli Studi di Firenze [31/01/2011 – 30/12/2012]

Address: Via di Santa Marta 3, 50139 Firenze (Italy) | Business or sector: Professional, scientific and technical activities

- Development of innovative aerodynamic solutions for small wind turbines
- Numerical analysis of wind turbines
- Experimental and numerical analysis of centrifugal impellers
- Rotating stall in centrifugal compressors

Researcher

Laboratorio LINEA (Laboratorio d'Innovazione per l'Energia e l'Ambiente) - PIN [31/12/2009 – 29/04/2016]

Address: Via Filicaia 24, 59100 Prato (Italy)

- Design and optimization of Darrieus vertical axis wind turbines
- Experimental aerodynamic studies
- Numerical analysis applied to turbomachinery

Higher education teaching professional

Securgreen Course (high-education project supported by the Tuscany Region) [31/10/2011 – 27/02/2012]

City: Prato | Country: Italy

SUBJECT: Wind Engineering and Turbomachinery

Researcher

ICAD (Internation Consortium for Advanced Design) [31/08/2007 – 30/12/2009]

Address: Via di Santa Marta 3, 50139 Firenze (Italy)

- Design and optimization of Darrieus vertical axis wind turbines
- Wind tunnel testing
- Rotating stall in centrifugal impellers
- Experimental analysis with dynamic pressure sensors

College / university teaching professional

IMP.E.RI Course (high-education project supported by the Tuscany Region) [31/05/2010 – 29/09/2010]

City: Prato | Country: Italy | Business or sector: Education

SUBJECT: Wind Engineering

EDUCATION AND TRAINING

Doctor of Philosophy in “Energy Engineering and Innovative Industrial Technologies”

“Sergio Stecco” Department of Energy Engineering, Università degli Studi di Firenze [01/11/2007 – 30/12/2010]

Address: di Santa Marta 3, 50139 Firenze (Italy) | Field(s) of study: Engineering and engineering trades | NQF Level: 6

- Design and optimization of Darrieus vertical axis wind turbines
- Numerical analysis applied to turbomachinery
- Rotating stall in centrifugal impellers

TRAINING - Course for teaching in English

Università degli Studi di Firenze [30/09/2013 – 29/11/2013]

City: Firenze

TRAINING - Energy Manager Qualification

E-Quem (E-Qualification Energy Manager) Project by ENEA Italy [29/02/2008 – 29/04/2008]

Field(s) of study: Engineering and engineering trades | NQF Level: 6

Energy management

Italian State PE examination

Università degli Studi di Firenze [31/08/2007 – 09/01/2008]

City: Firenze

Master Degree in Energy and Nuclear Engineering (110/110 with honors)

Università degli Studi di Firenze [01/11/2004 – 17/07/2007]

Address: Piazza S. Marco, 50121 Firenze (Italy) | NQF Level: 6

Bachelor Degree in Mechanical Engineering (109/110)

Università degli Studi di Firenze [01/11/2001 – 18/04/2005]

Address: Piazza S. Marco 4, 50121 Firenze (Italy) | NQF Level: 5

School leaving certificate of Classical High-school (100/100)

Liceo Classico Statale Michelangiolo [09/09/1996 – 20/07/2001]

Address: della Colonna 9, 50121 Firenze (Italy) | NQF Level: 5

TEACHING ACTIVITY WITHIN THE UNIVERSITY

Teaching

Academic Year 2024/25 - present

Holder of the course *Project work on sustainable energy, mobility, and production* - MSc in Mechanical Engineering for Sustainability

Academic Year 2023/24 - present

Holder of the course *"Advanced Renewable Energy Conversion"*- MSc in Mechanical Engineering for Sustainability

Academic Year 2021/2022 - present

Holder of the course *"Energia Eolica e Marina" ("Wind and Marine Energy")* - MSc in Energy/Mechanical Engineering

Academic Year 2022/23

Holder of the course "*Sistemi Energetici*" ("*Energy Systems*") - BSc in Management Engineering

Academic Year 2021/22

Holder of the course "*Laboratorio di Energetica II*" ("*Laboratory for Energy*") - BSc in Mechanical Engineering

Academic Year 2017-2021

Holder of the course "*Sistemi Avanzati per le energie rinnovabili*" ("*Advanced Systems for Renewable Energy*") - MSc in Energy Engineering

Academic Year 2019/2020 - present

Didactic support to the course "*Meccanica delle strutture eoliche offshore*" ("*Mechanics of offshore wind structures*") - MSc in Civil and Environmental Engineering) - responsible for the module on wind turbine aerodynamics

05/2017

Seminar at the PhD course in Industrial Engineering (Department of Industrial Engineering, Università degli Studi di Firenze) entitled: "*Aerodinamiche delle turbine eoliche Darrieus*" ("*Aerodynamics of Darrieus wind turbines*")

Academic Year 2016/2017

Holder of the courses of "*Engines' laboratory*" and "*Operating Machines*" - MSc in Mechanical Engineering

Academic Years 2008/2009 - 2016/2017

Didactic support to the teaching courses of "*Industrial Energy Management*", "*Power Plants and Cogeneration*", "*Advanced Systems for Renewable Energy*"

01/2008 - now

Supervisor of more than 80 MSc theses, and tutor/co-tutor of 14 PhDs

Orientation for students

2021 - present

Teacher for the **high-school meets university exchange program**, Università degli Studi di Firenze

02/2020

Speaker at "Open Day Ingegneria 2020" to present the Master Degree program in Energy Engineering

2019 - present

Seminars for "Sarò Matricola" (orientation program for students) titled: "*Le Energie Rinnovabili: falsi miti, problematiche...opportunità!*" (2019-2020), "*Il vento del cambiamento*" (2021-2022), "*Le macchine rotanti più grandi della Terra - uno sguardo sul futuro dell'energia eolica*" (2024)

PUBLIC ENGAGEMENT

Teaching activity (external)

Academic year 2019/2020 - present

Teacher for *Università dell'Età Libera - Firenze* (cooperation between Comune di Firenze and Università degli Studi di Firenze) with two cycles of lessons titled: "*Energie Rinnovabili: tecnologie, problematiche..opportunità!*" (2019/2020), "*Transizione Energetica: sfide, strumenti e problematiche*" (2021/2022), "Transizione Energetica: una guida alle problematiche, gli strumenti e gli antidoti contro le fake news" (2023/2024).

07/2023

Teacher for ARPAT (Agenzia Regionale per la Protezione Ambientale Toscana" with a short course titled "*Il vento del cambiamento - Il ruolo dell'energia eolica nella transizione energetica*"

05/10/2022

Training Seminar for the *Engineers Association of Florence (Italy)* titled "*Prospects of wind energy in Italy: from mountain crest to deep water*"

01/2021 - present

Professor for *Big Academy* (alliance between Università degli Studi di Firenze and five international companies - Baker Hughes, El.En. Group, KME, Leonardo, Thales) for high formation of industrial managers. Responsible for the module in "Energy Transition and Innovation" in all editions (2021/2022/2023/2024)

2016 - present

Teacher for *Progetto Pianeta Galileo* project promoted by the Tuscany Region to provide university-level lectures in high-schools. Participation to almost all editions since A.Y. 2015/2016 on different energy-related topics like microeolic turbines and urban wind (2016), prospects of renewable energy sources (2017 and 2019), the role of wind energy in Europe (2021), energy transition (2022), grand challenges in wind energy (2023).

2017 - present

Speaker at all the editions of the **Summer School on *Advanced Research in Turbomachinery (ART)***, Firenze (Italy) with different talks titled: "*Instabilities in Centrifugal Compressors - the case of vaneless diffuser rotating stall*" (2019-2020), "*Recent developments in wind turbine technology and research*" (2018, 2021-2022), "*Advanced Aerodynamics of Darrieus wind turbines*" (2017)

18/09/2014

Training Seminar for the *Engineers Association of Florence (Italy)* titled "*Microeolic wind turbines and the built environment: prospects, problems and technologies*"

09/11/2009

Training Day for *Eli Lilly company (Sesto Fiorentino, Italy)* on renewable energy sources

Scientific divulgation

04/2023 - present

Teacher for the "STEAM" program promoted by Baker Hughes for high schools on the topic of Energy Transition (editions 2023-2024)

04/2023

Interview on the future challenges for wind turbine, published online by DU Wind (TU Delft, The Netherlands)

06/2021

Scientific support and panelist for the art-meets-science program "Superblast" (Manifattura Tabacchi - Firenze, Italy)

11/2020

Seminar for "Bright Night" (EU night of researchers) titled "*Wind of change: the future of wind energy in Europe*"

09/2020

Seminar for "SCIENZESTATE 2020" (organized by Università degli Studi di Firenze) titled "*Il vento del cambiamento - Le sfide per l'energia eolica nella transizione energetica dell'Europa*"

03/02/2020

Seminar for "Liceo Castelnuovo" (scientific high-school in Firenze) titled: "*Le Energie Rinnovabili: falsi miti, problematiche...opportunità!*"

27/09/2019

Finalist of the event "3 minuti della ricerca" within the "EU night of researchers"

14/10/2017

Seminar for "Scoprire l'Ingegneria" (event organized in Pistoia by the Tuscan Professional Organizations of Engineers) titled: "*Il microeolico e l'integrazione con l'ambiente urbano*"

SCIENTIFIC RESPONSIBILITIES

Scientific responsibilities within the university

Academic Year 2022/2023 - present

Professor in charge of counseling for the MSc course in "**Mechanical Engineering for Sustainability (MES)**", Università degli Studi di Firenze, School of Engineering

Academic Year 2021/2022 - present

Member of the Council of the Phd Program in Industrial Engineering, Università degli Studi di Firenze, School of Engineering. Cycles XXXVIII, XXXIX | President of a PhD exam commission (2023)

Academic Year 2021/2022 - present

Scientific responsible/tutor of: 15 PhDs | 1 Assistant Professor | 3 Research Fellows | 20+ research contracts

2023 - present

Scientific responsible of the "Laboratory for experimental aerodynamics", Department of Industrial Engineering, Università degli Studi di Firenze

11/2021 - present

Member of the Scientific Board for Technical Libraries at Università degli Studi di Firenze

2019

Scientific responsible of a technical Framework Agreement between the Dept. of Industrial Engineering and EUNICE Energy

09/2017 - present

Member of the Organizing Committee of the Summer School on *Advanced Research in Turbomachinery (ART)*, Firenze (Italy)

05/2016 - present

Promoter of several International Agreements between Università degli Studi di Firenze and other important foreign universities like TU Berlin (Berlin, Germany), "Peter the Great" Polytech (St. Petersburg, Russia), Kazan University (Kazan, Russia)

Officer for the Italian PE examination, Università degli Studi di Firenze, sector 09/C1 for two Academic Years (2015/2016 and 2021/2022)

Scientific responsibilities in technology transfer

2023 - present

Scientific responsible of the Joint Laboratory "Green Hydrogen Production Technologies (H2tech)" between the Department of Industrial Engineering, Università degli Studi di Firenze, and McPhy Energy.

Scientific responsibilities in academia and associations

2021 - 2023

Group member of the research team that developed the 10 "*Grand Challenges in Wind Energy Science*", promoted by IEA Wind and EAWE. Co-author of the study on "Grand Challenges in the Design, Manufacture, and Operation of Future Wind Turbine Systems" and lead author of the study "Current status and grand challenges for small wind turbine technology"

2022

External PhD Examination Member at Politecnico di Milano (2022, 2023)

2022 - present

PhD thesis reviewer for Italian Universities, including Politecnico di Milano (2022), Università di Padova (2022)

2021/2022

Scientific revisor MIUR VQR 2015-2019

11/2021 - present

Member of the *EAWE (European Academy of Wind Energy) Publications Committee*

12/2019 - present

Member of the *EAWE (European Academy of Wind Energy) Small Wind Turbine Technical Committee* (founder and first Chair 2019-2022)

12/2017 - present

Member of the *EAWE (European Academy of Wind Energy) Strategy Committee*

2017 - present

International Reviewer for funded projects of several foreign countries (France, Switzerland, Kazakhstan, Russia, Ireland)

2018 - 2021

External examiner for the MSc Degree theses in Mechanical Engineering at the British University in Egypt for 3 candidates

2015 - present

International PhD Examination Member for several international universities, including: Durham University (Durham, UK - 2015, 2023) | TU Berlin (Berlin, Germany - 2019, 2022, 2023) | Polytechnic University of Lodz (Lodz, Poland - 2021) | TU Delft (Delft, The Netherlands - 2023)

NETWORKS AND MEMBERSHIPS

Networks 11/2022 - present

Board Member of **FALP (Florence Academic Leadership Program)**

07/2017 - present

Representative of Università degli Studi di Firenze within the **Board of EAWE (European Academy of Wind Energy)**

10/2019 - present

Member of the IGTI Scholar Committee

Memberships Member of **AIMSEA (Associazione Italiana delle Macchine e dei Sistemi per l'Energia e l'Ambiente)**: since 2018

Member (#100134358) of the **American Society of Mechanical Engineers (ASME)**: since 2011

Member (#5819) of the **Professional Association of Engineers in Firenze**: since 2008

CITATIONS

Citations

- **ASN 2023 (Abilitazione Scientifica Nazionale), sector IIND/06 (ex 09/C1)** for Full Professor, valid up to 16/10/2034
- **ASN 2017 (Abilitazione Scientifica Nazionale), sector IIND/06 (ex 09/C1)** for Associate Professor, valid up to 23/11/2028
- Recipient of the **ANVUR founding** for base research support (2017)
- Enrolled to the **European List of Researchers of JRC** (2013)
- **Expert person for SSD ING-IND/08 and ING-IND/09** for the Università degli Studi di Firenze (since 2013)

PUBLICATIONS

Scientific publications Please refer to the list attached at the end of CV

Scientific profiles Scopus ID: 50560948100

ORCID: 0000-0002-8042-5863

Bibliometric indicators [last update 20/06/2024]

- **SCOPUS:**

- Publications: 191
- Citations: 3204
- h-index: 28

- **GOOGLE SCHOLAR:**

- Publications: 205
- Citations: 3959
- h-index: 31

CONFERENCES AND SEMINARS

Conferences - organization 2025

Member of the Scientific Committee for the WESC Conference 2025 by EAWE (France)

2024

Chair of the TORQUE 2024 Conference by EAWE (Italy)

2023

Member of the Organizing and Scientific Committee for the OSES Conference 2023 (Malta)

2022 - 2024

Member of the Organizing and Scientific Committee for the Mechanical Engineering Conference, CME 2022-2023-2024 (Algeria)

07/2021 - 06/2022

Chair of the Council of Chairs for the *ASME Turbo Expo conference*

07/2020 - 06/2021

Vice Chair of the Council of Chairs for the *ASME Turbo Expo conference*

07/2019 - 06/2020

Point Contact of the Wind Energy Committee for the *ASME Turbo Expo conference*

05/2020

Member of the Organizing Committee for the High Speed Turbomachines And Electrical Drives Conference (HSTED) 2020

06/2019 - 05/2021

Chair of the Wind Energy Committee, *ASME Turbo Expo conference*
2020

Member of the Scientific Committee for the Mechanical Engineering Conference, CME 2020 (Algeria)

09/2017 - 06/2019

Vanguard Chair of the Wind Energy Committee for the *ASME Turbo Expo conference*

09/2018

Member of the Scientific Committee for International Scientific and Technical Conference Smart Energy Systems 2018 (Kazan, RU, Sept. 2018)

06/2017 - 06/2019

Vice Chair of the Wind Energy Committee, *ASME Turbo Expo conference*

06/2015 - 06/2017

Secretary of the Wind Energy Committee, *ASME Turbo Expo conference*

06/2011 - present

Session Chair or Co-Chair, into several sessions (20+) at the *ASME Turbo Expo conference* and *ASME OMAE Conference*

06/2011 - present

Member of the "Wind Energy" and the "Turbomachinery" Committees, *ASME Turbo Expo conference*

2010 - present

Reviewer for several international conferences (more than 100 papers reviewed)

Seminars 05-2019-12/2020

Invited Seminars at Politecnico di Milano (Milano, Italy) titled: "*Simulating the new generation of wind turbines: challenges and limitations*" for PhD students and MSc students in Energy Engineering. Held three times (31/05/2019, 05/06/2020, 16/12/2020)

10/07/2018

Invited Seminar at TU Berlin (Berlin, Germany) titled: "*CFD as a virtual test bench to understand unsteady airfoil aerodynamics*"

10/12/2015

Invited Seminar at the Durham University (Durham, UK) titled: "*Advanced Aerodynamics of Darrieus wind turbines*"

Conferences - keynotes, tutorials, panels and invited speeches 09/09/2024

Panelist at the *SDEWES 2024 conference (Rome, IT)* on floating wind energy

29/08/2024

Invited Plenary Keynote speaker at the *GPPS Chania 2024 conference*, with a speech titled "*Key challenges in simulation the next generation of floating offshore wind turbines*"

27/06/2024

Tutorialist at the *ASME Turbo Expo 2024 conference (London, UK)* with a tutorial titled "*Challenges in developing the new generation of wind turbines*"

21/12/2023

Panelist at the ANEV event on floating wind (Rome, Italy)

26/04/2023

Panelist at WindEurope annual event in Copenhagen on floating wind energy

11/07/2022

Keynote speaker at the "Back to the future" conference, ICCA-Mediterranean Chapter

16/06/2022

Tutorialist at the *ASME Turbo Expo 2022 conference (Rotterdam, The Netherlands)* with a tutorial titled "*Challenges in developing the new generation of wind turbines*"

05/04/2022

Panelist at WindEurope annual event in Bilbao on floating wind energy

24/03/2022

Keynote speaker at the CME 2022 conference - speech title: "*Grand challenges in wind energy science*"

09/06/2021

Tutorialist at the *ASME Turbo Expo 2021 conference (online)* with a tutorial titled "*Recent developments in wind turbine technology and research*"

20/05/2021

Keynote speaker at the International Scientific Conference on Electrical Engineering (ISCEE – 2021) - speech title: "*Power smoothing of wind turbines*"

02/05/2020

Keynote speaker at the High Speed Turbomachines And Electrical Drives Conference (HSTED) 2020 - speech title: "*Instabilities in centrifugal compressors: the case of vaneless diffuser rotating stall*"

12/2020

Tutorialist at the *ASME Turbo Expo 2020 conference* with a tutorial titled "*Recent developments in wind turbine technology and research*" (14/12/2020) and "*Instabilities in centrifugal compressors: the case of vaneless diffuser rotating stall*" (11/12/2020)

20/11/2019

Keynote speaker at the International Scientific Conference on Energy, Environmental and Construction Engineering (EECE – 2019), St. Petersburg (Russia) - speech title: "*Trends, Prospects, and R&D Directions for the Next Generation of Wind Turbines*"

18/06/2019

Tutorialist at the *ASME Turbo Expo 2019 conference (Phoenix, AZ, USA)* with a tutorial titled "*Recent developments in wind turbine technology and research*" (selected by ASME to be made available online)

14/06/2018

Chair and speaker at the **Panel Session on Wind Energy Research** at the *ASME Turbo Expo 2018 conference (Oslo, Norway)*

11/06/2018

Tutorialist at the *ASME Turbo Expo 2018 conference (Oslo, Norway)* with a tutorial titled "*Wind turbine blade design*"

13/06/2016

Tutorialist at the *ASME Turbo Expo 2016 conference (Seoul, S. Korea)* with a tutorial titled "*Wind turbine blade design*"

SCIENTIFIC JOURNALS

[31/12/2017 – Current]

Associated Editor

Wind Energy Science Journal (WES) - ISSN 2366-7443

[05/07/2020 – Current]

Associated Editor

Frontiers in Energy Research Journal - Electronic ISSN: 2296-598X

Other editorial responsibilities

10/19 - present

Guest Editor of 5 Special Issues for MDPI "Energies" titled "Distributed Energy Production by Means of Renewable Resources" (2019), "Distributed Energy Production by Means of Renewable Resources - II" (2022), "Numerical simulation of wind turbines" (2020), "Numerical simulation of wind turbines - II" (2021), "State-of-the-Art of Clean Technologies for Wind Energy and Wind Turbines" (2024)

2022

Book chapter for "*Multi-fidelity simulation tools for modern wind turbines*", in "Wind Energy Engineering" ISBN: 9780323993531

2022

Guest Editor of the Special Issue "Rising Stars in Wind Energy" for "*Frontiers in Energy*"

10/2019 - present

Topic Editor for MDPI "Energies" - "Wind, Wave and Tidal Energy Section"

10/2018 - 01/2021

Member of the Editorial Board of the journal "Proceedings of the higher educational institutions. ENERGY SECTOR PROBLEMS" (ISSN 1998-9903)

Reviewer

Reviewer of more than 250+ papers in several (30+) international journals

HONOURS AND AWARDS

Awards 06/2022

Best paper award - Wind Energy Committee of the *ASME Turbo Expo conference* for paper: "*A robust procedure to implement dynamic stall models into actuator line methods for the simulation of vertical-axis wind turbines*"

06/2018

Outstanding Service Award - Wind Energy Committee of the ASME Turbo Expo conference

06/2018

Best paper award - Wind Energy Committee of the ASME Turbo Expo conference for paper: "Comparative analysis of different numerical techniques to analyze the wake of a wind turbine"

06/2017

Best paper award - Wind Energy Committee of the ASME Turbo Expo conference for paper: "Effects of airfoil's polar data in the stall region on the estimation of Darrieus wind turbines performance"

06/2016

Best paper award - Wind Energy Committee of the ASME Turbo Expo conference for papers: "An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbines. Part 1 - Flow Curvature Effects" and "An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbines. Part 2 - Post-Stall Data Extrapolation Methods"

06/2012

Best paper award - Wind Energy Committee of the ASME Turbo Expo conference for paper: "Energy-Yield-Based Optimization of an H-Darrieus Wind Turbine"

Honours 10/2021

Florence Ambassador - Awarded by the City of Firenze for cultural merits

09/1999

Honorary Citizen of Providence (Rhode Island, USA) for cultural merits

COMPETITIVE PROJECTS

International projects

- "Twinning for Excellence in Floating Wind Turbine and Hydrogen Systems] (TETHYS) - Agr-2024-731-23976 - to be started in 10/2024 (**scientific responsible for Unifi**)
- "Developing the next generation of environmentally-friendly floating wind farms with innovative technologies and sustainable solutions" (FLOATFARM) - HORIZON-CL5-2023-D3-01-05 - started 01/2024 (**scientific responsible for Unifi**)
- "Optimization of floating wind turbines using innovative control techniques and fully coupled open source engineering tool" (FLOATECH) - H2020-LC-SC3-2018-2019-2020, 2021-2023 (**scientific responsible for Unifi**)
- "EUniWell", H2020-EU.5. - SCIENCE WITH AND FOR SOCIETY (**member of the research group**)
- "Navier-Stokes CFD analysis of idling floating offshore wind turbine rotors in storm conditions", project within the HPC EUROPE 3 program (**member of the research group**)
- "Energy recovery in new and retrofitted heat pumps using a dedicated expander concept (EXP-HEAT) - FP 7 - SME - 2013, Grant agreement no: 605923 (**member of the research group**)

National and regional projects

- NETTUNO: "Understanding turbine-wake interaction in floating wind farms through experiments and multi-fidelity simulations ", PRIN2022 funded by MIUS (**coordinator**)
- Participation to the National Center CN1 on "Simulazioni, calcolo e analisi dei dati ad alte prestazioni"
- ITTC "Information Technology Total Control" - project co-funded by the Italian Ministry for Economic Development (MISE) and Tuscany Region - (**member of the research group**)

- SUITE: "SvilUpo di un ambiente Innovativo per l'analisi e l'ottimizzazione di turbine eoliche basato su intelligenza arTificiale e tecniche per high pErformance computing" (FESR 2014 – 2020- BANDO N. 2) – **(scientist in charge)**
- WIND-FLEA: "WIND-based Flutter Energy generator Assessment" (competitive funding for researchers funded by Unviersità degli Studi di Firenze) – **(member of the research group)**
- ITCOSMEC: "Sviluppo di un prototipo innovativo di sistema altamente informatizzato di controllo energetico e di produzione di linee industriali complesse" (FESR 2014 – 2020- BANDO N. 2) – **(member of the research group)**
- DIGIYARN: "Sviluppo di un sistema innovativo di prototipazione rapida virtuale-reale da fialto a capo finito" (FESR 2014 – 2020- BANDO N. 2) – **(member of the research group)**
- CORSE "Characterization Of Rotating Stall in centrifugal compressors through advanced Experiments" ENTE CASSA DI RISPARMIO DI FIRENZE) – **(member of the research group)**
- Bio2Energy: "Bioidrogeno e Biometano da codigestione anaerobica di FORSU, produzione di fonti energetiche e fertilizzanti rinnovabili per l'efficientamento di impianti di pubblica utilità" (FAR-FAS 2014) – **(member of the research group)**
- SMART GRIDS NAVICELLI: "Studio e realizzazione di un impianto pilota funzionante in modalità Smart User" (POR FESR 2007-2013 1.1.b) - **(member of the research group)**
- REFARCAL: "Refrigerazione avanzata con recupero calore" (POR FESR 2007–2013) - **(member of the research group)**
- SINTER-CLEAN: "Sviluppo di un processo innovativo a basso consumo energetico per la sinterizzazione di ceramici tecnici in allumina ad alta densità" (POR FESR 2007–2013) - **(member of the research group)**
- MUSS: "Mobilità Urbana Sicura e Sostenibile" (INDUSTRIA 2015) - **(member of the research group)**
- LINEA: "Realizzazione di un Laboratorio di INnovazione tecnologica in campo Energetico e Ambientale" Ministry of Economic Development (D.M. 27/01/05) - **(member of the research group)**

THIRD MISSION

Research contracts with industrial partners

Intense research activity in support to national and international partners:
(PARTNER - topic)

AS SCIENTIFIC RESPONSIBLE

- ANSYS - development of innovative CFD-based simulation tools for wind energy
- RSE (Ricerca sul Sistema Energetico) - Modeling of offshore renewable energy systems
- McPHY ENERGY ITALIA - Computational Fluid Dynamics analysis of alcalyne electrolyzers (including 1 PhD position funded)
- ITALMATIC PRESSE E STAMPI - Computational Fluid Dynamics optimization of internal flows in autoclaves
- HE-POWERGREEN - Computational Fluid Dynamics design of a hydrokinetic rotor (including 1 PhD position funded)
- AGSM VERONA - Siting and production forecast of a new wind park in Tuscany
- EUNICE ENERGY GROUP - development of small wind turbines and dedicated storage systems | modeling of complex energy systems (including 1 PhD position funded)
- CONVERGE SCIENCE - development of an Actuator Line Model for wind turbines based Computational Fluid Dynamics (including 1 PhD position funded)

AS MEMBER OF THE RESEARCH GROUP

- BAKER HUGHES (former GE OIL&GAS, former NUOVO PIGNONE) - experimental and numerical analysis of aerodynamic instabilities in centrifugal compressors
- FERRARI SpA - Computational Fluid Dynamics optimization of turbocharger components
- YANMAR R&D EUROPE - innovative experimental techniques for engine monitoring and control

- YANMAR R&D EUROPE - optimization of turbochargers for power production engines
- HPE (High Performance Engineering) - development of turbochargers for engines with high specific power
- HPE (High Performance Engineering) - experimental characterization of variable displacement vane pumps
- ALTAIR CHIMICA - optimization of industrial energy processes
- VILLA DONATELLO - energy management and optimization
- ENATEK - development of innovative vertical-axis wind turbine for rooftop applications
- PRAMAC SpA - development of innovative vertical-axis wind turbine

PATENTS

Patents

P. Bert, A. Tampucci, C. Bianchini, A. Scaffidi, S. Catanorchi, M. Ragnoli, H. Miller, F. Vizza, **A. Bianchini**, *On-board continuous hydrogen production via ammonia electrolysis, corresponding electrolyzers and a method of operating the same*, International Publication Number WO 2009/024185 A1

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C2 READING C2 WRITING C2
SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Spanish

LISTENING B2 READING B1 WRITING A1
SPOKEN PRODUCTION A1 SPOKEN INTERACTION A2

French

LISTENING A2 READING A1 WRITING A1
SPOKEN PRODUCTION A1 SPOKEN INTERACTION A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Computational Fluid Dynamics (CFD)

ANSYS-CFX / ANSYS FLUENT / ANSYS ICEM CFD / TurboCFD

Programming

Proficient User of MATLAB / C C++ C Languages / Basic knowledge of software development in Python programming language

Research-oriented software and CAD

NREL OpenFast / QBlade / XFOIL / WindPro / SolidWorks / CAESSES / NI LABVIEW

Organization and communication

Microsoft Office / Excellent knowledge of graphic software (Adobe Photoshop Adobe Indesign Adobe Illustrator) / Social Media

JOB-RELATED SKILLS

Job-related skills

- unsteady aerodynamics
- modeling and simulation of wind turbines
- Computational Fluid Dynamics
- design and analysis of centrifugal compressors

- design and analysis of turbochargers
- complex energy systems including renewables
- storage systems
- wind turbine siting
- set up and control of measurement systems, particularly concerning dynamic pressure and temperature measurement
- wind tunnel external aerodynamics and performance tests of turbomachines.

ORGANISATIONAL SKILLS

Organisational skills I have often ruled leading positions in team work projects. Very good attitude in working under pressure and respecting project terms. I strongly believe in nework research open to international partners.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills Great attitude for team work. I am a very open-mind person and I generally establish friendly relationships with both colleagues and partners.

OTHER SKILLS

Other skills

Breath-holding license and diving license.Sailing license (NO LIMITS WITH ENGINE PROPULSION BOATS OR SAIL BOATS)

Sports: scuba fishing, skiing, sailing, tennis, soccer.

Fond of classical ancient cultures (greek and roman). Interested in photography. Fond of 19th-20th century paintings and modern architecture. Professional wine-tasting sommelier (III level).

DRIVING LICENCE

Driving Licence: A

Driving Licence: B

PRIVACY CONSENT

Privacy consent

I authorise the handling of my personal data pursuant to the Italian Personal Data Protection Code – Legislative Decree n. 196/2003