Francesco Ambrogi - Curriculm Vitae

Education

2019-present **Queen's University** Ph.D. Mechanical Engineering
2016-2019 **University of Bologna** M.S. Energy and Nuclear Engineering
2012-2015 **University of Modena** B.S. Mechanical Engineering

Teaching Experience

2022-present **Queen's University** Teaching Fellow

- MECH 241 (Fluid Mechanics I): primary instructor and course developer

2019-present **Queen's University** Teaching Assistant

- MECH 241 (Fluid Mechanics I): lead teaching assistant (fall and winter term)
- MECH 341 (Fluid Mechanics II): lead teaching assistant and assistant instructor
- MECH 398 (Mechanical Engineering Lab): lead teaching assistant (airflow in pipes module)

2020-present **Queen's University** Lead teaching assistant

- Interdisciplinary engineering for sustainability and innovation. This is a winter term 4 credit course in which I acted as a lead teaching assistant to a cohort composed of 5 fellow teaching assistants, and 25 students.
- How to Change the World booth camp. This is a one-week long workshop organized across the world, in which I acted as lead teaching assistant.

Honors and awards

2022-2023 **Queen's University** Silver Wrench Award
2022-2023 **Rotary International** Rotaract Leadership Award
2021-2022 **Queen's University** Bronze Wrench Award
2021-2022 **Queen's University** Dean's Teaching Assistant (DTA) Award

Supervision

2022-2023 **Queen's University** Claire MacDougall (M.S. student)
2022-2023 **Queen's University** Michael Kelly (B.S. student)

Published Journal Articles

1. Ambrogi F., Piomelli U., and Rival D. E. **"Characterization of unsteady separation in a turbulent boundary layer: mean and phase-averaged flow."** Journal of Fluid Mechanics 945 (2022): A10.

Submitted Journal Articles

1. Ambrogi F., Piomelli U., and Rival D. E. **"Characterization of unsteady separation in a turbulent boundary layer: higher order moments and flow dynamics."** Journal of Fluid Mechanics (2023).

Conferences and other publications

- Ambrogi F., Piomelli U., and Rival D. E. **Influence of time-varying freestream conditions on unsteady separation in a turbulent boundary layer** 76th American Physical Society (APS) Division of Fluid Dynamics, Washington DC - 2023

- Ambrogi F., Piomelli U., and Rival D. E. **Dynamic of turbulent kinetic energy advection in an unsteady separating turbulent boundary layer** The 14th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements, Barcelona (Spain) - 2023

- Ambrogi F., Piomelli U., and Rival D. E. **Frequency dependence of unsteady separation in a turbulent boundary layer** 75th American Physical Society (APS) Division of Fluid Dynamics, Indianapolis (Indiana) - 2022.

- Ambrogi F., Piomelli U., and Rival D. E. **Large-Eddy simulation of a turbulent boundary layer with unsteady pressure gradients** Twelfth International Symposium on Turbulence and Shear Flow Phenomena (TSFP12), Osaka - 2022.

- Ambrogi F., Piomelli U., and Rival D. E. **Dynamics of turbulent kinetic energy advection in a turbulent boundary layer under unsteady pressure gradients** 13th Direct and Large Eddy Simulation, Undine, (Italy) - 2022.

- Ambrogi F., Hantsis Z., Rival D. E., and Piomelli U. **Large-Eddy simulation of a boundary layer with unsteady pressure gradient** 74th American Physical Society (APS) Division of Fluid Dynamics, Phoenix (AZ) - 2021.

Volunteering and Association

1. 2023-2024 **Rotary International** Assistant Governor Rotaract
   This is my first district leadership position. I have been selected by the Governor-Elect (23-24) as the Assistant Governor Rotaract for the district 7040 (Ontario and upstate New York). My goal is to oversee and help all Rotaract Clubs in our Area.

2. 2022-2023 **Rotaract Club of Kingston** Club Treasurer & Past President
   Rotaract International is a non-for-profit organization partner of Rotary International. The main goal is to gather together highly motivated young and early career professionals and help the local community thrive while improving leadership skills.