Stanford



Eylul Bilgin

Associate Director, Stanford Sustainable Mobility Center, Precourt Institute for Energy

Bio

EDUCATION AND CERTIFICATIONS

- Doctor of Philosophy, Stanford University , Aeronautics and Astronautics (2023)
- Master of Science, Stanford University , Aeronautics and Astronautics (2020)
- Bachelor of Science, University of California, San Diego , Aerospace Engineering (2018)
- Certified Fire Investigator, National Association of Fire Investigators (2024)
- Certified Explosion Investigator, National Association of Fire Investigators (2024)

Professional

WORK EXPERIENCE

- Visiting Faculty - UC San Diego (6/27/2022 - 9/3/2022)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Technical Discipline Chair, Fluid Dynamics, American Institute for Aeronautics and Astronautics (AIAA) (2025 - present)
- Deputy Chair, Fluid Dynamics Technical Committee, AIAA (2025 - present)
- Career Fellow, American Physical Society (APS) (2025 - present)
- Official Nominator, VinFuture Prize (2025 - present)
- Session Chair for Stability and Transition: Boundary Layers and Vortices, AVIATION 2024 Conference (2024 - 2024)
- Judge, AIAA Aviation 2024 CFD Student Paper Competition (2024 - 2024)
- Judge, AIAA Flow Visualization Showcase (2024 - 2024)
- Member, American Physical Society, APS (2024 - present)
- Associate Organizer, SciTech 2025, AIAA (2024 - present)
- Fluid Dynamics Technical Committee Member, American Institute of Aeronautics and Astronautics (AIAA) (2024 - present)
- Mentor, Association for Women in Science (AWIS) (2023 - present)
- Journal Reviewer, Physics of Fluids (2022 - present)

Publications

PUBLICATIONS

- **Advances in AI-integrated CFD and multiphase flow modeling**
  Bilgin, E.

Aerospace America.
2026

- **Measuring, simulating, predicting and controlling fluid motion**
  Bilgin, E., Parades, P.
  American Institute of Aeronautics and Astronautics.
  2024 ; Aerospace America (December 2024):

- **Application of the Universal Velocity Profile to rough-wall pipe flow** *PHYSICS OF FLUIDS*
  Bilgin, E., Cantwell, B. J. J.
  2023; 35 (5)

- **Laser Ignition of Hybrid Rocket Motors: Ignition Characterization and Ignition Mechanism Analysis** *AIAA SCITECH 2023 FORUM*
  Korneyeva, V., Dyrda, D., Wall, J., Bilgin, E., Cantwell, B. J.
  2023

- **Laser Ignition of Hybrid Rocket Motors: Ignition Characterization and Ignition Mechanism Analysis**
  Korneyeva, V., Dyrda, D. M., Wall, J., Bilgin, E., Cantwell, B. J., AIAA
  AMER INST AERONAUTICS & ASTRONAUTICS.2023

- **Application of the Universal Velocity Profile to rough-wall pipe flow** *Physics of Fluids*
  Bilgin, E., Cantwell, B. J.
  2023

- **A new boundary layer integral method based on the Universal Velocity Profile** *Physics of Fluids*
  Cantwell, B. J., Bilgin, E., Needels, J. T.
  2022

- **Quantification of Scale Separation of Turbulent Wall Flows Using the Spectrum of Universal Velocity Profile**
  Bilgin, E., Cantwell, B. J., AIAA
  AMER INST AERONAUTICS & ASTRONAUTICS.2022

- **Quantification of Scale Separation of Turbulent Wall Flows Using the Spectrum of Universal Velocity Profile** *AIAA SciTech Forum*
  Bilgin, E., Cantwell, B. J.
  2021

- **Combustion of Liquefying Hybrid Propellants: Long-Wave Instabilities of Sheared Liquid Films Subject to Blowing** *Propulsion and Energy Forum*
  Bilgin, E., Cantwell, B. J.
  2020

- **Combustion of Liquefying Hybrid Propellants: Long Wave Instabilities of Sheared Liquid Films Subject to Blowing**
  Bilgin, E., Cantwell, B. J., AIAA
  AMER INST AERONAUTICS & ASTRONAUTICS.2020