

# Biographic Notes

## 1. Degrees

- National Technical University of Athens:  
*Diploma in Mechanical Engineering*
- Massachusetts Institute of Technology (MIT):  
*PhD in Aeronautics and Astronautics*

## 2. Academic Positions

- University of Patras: *Professor*
- University of Texas: *Professor*
- Swiss Federal Institute of Technology Zurich: *Visiting Professor*
- Massachusetts Institute of Technology (MIT): *Visiting Professor*

## 3. Research Fields

- Development and application of numerical methods in fluid mechanics, focusing on aerodynamics.
- Analysis, estimation, and control of errors for flow field simulations.
- Methods for generation of hybrid grids for complex flow fields and geometries.
- Fluid - structure interaction with emphasis on oscillations due to dynamic fluid loads.
- Development and application of Artificial Intelligence methods for the (i) simulation of flow fields and (ii) preliminary design of air vehicles.

## 4. Contributions to the field of Computational Fluid Dynamics (CFD)

- Pioneered use of *adaptive* numerical schemes and *grid adaptation* methods for viscous flow simulations.
- Pioneer in grid generation employing semi-structured *prismatic* elements for the boundary layer field of complex geometries.

- Pioneered use of *hybrid* grids for flow field simulations of complex geometries.
- Among the first to use CFD methods for fluid-structure interaction applications of vortex induced vibrations on offshore structures.
- Large scale computations for design / optimization of complex Mechanical and Aeronautical systems.

## 5. Contributions to Applications of Mechanical Engineering and Aeronautics

- Aerodynamic design of air vehicles
- Aerodynamics of turbomachinery blades
- Flow dynamic analysis of offshore structures subjected to ocean currents and waves

## 6. Academic Honors and Awards

- *Lawrence Sperry Award* from the American Institute of Aeronautics and Astronautics  
*"For work that has led to orders of magnitude improvements in efficiency of computational fluid dynamics and help in tremendously improving our ability to carry out large-scale simulations"*
- Journal of the American Institute of Aeronautics and Astronautics:  
*Associate Editor (6 years)*
- Two *early promotions* up to the rank of *Professor* at the University of Texas
- American Institute of Aeronautics and Astronautics: *Associate Fellow*

## 7. Teaching Experience (undergraduate and postgraduate courses)

- Aerodynamics
- Fluid Dynamics
- Preliminary Design of Air Vehicles
- Propulsion in Aeronautics
- Computational Fluid Dynamics – Aerodynamics
- Computational Methods for Differential Equations.