GEORGIOS FOURTAKAS, Ph.D.

PERSONAL DETAILS

EMPLOYMENT

September 2019 – present
Assistant Professor in Complex Flow Modelling and Simulation, University of Manchester, UK
Teaching and Research

September 2018 – September 2019
Assistant Professor in Smoothed Particle Hydrodynamics, University of Manchester, UK
Teaching and Research

July 2018 – September 2018
Research Fellow, University of Manchester, UK
Nuclear thermal hydraulics

June 2017 – July 2018
Research Associate, University of Manchester, UK
Nuclear thermal hydraulics

June 2014 –June 2017
Research Associate, University of Manchester, UK
Incompressible smoothed particle hydrodynamics (ISPH) for Wave-Structure Interaction

September 2012 – September 2014
Teaching assistant, University of Manchester, UK

September 2006 – September 2009
Engineering Manager, Vioryp S.A., Athens, Greece

QUALIFICATIONS

October 2010 – October 2014
Ph.D. Mechanical Engineering - University of Manchester, UK

October 2009 – September 2010
M.Sc. Thermal Power and Fluid Mechanics - University of Manchester, UK

October 2002 – September 2003
M.Sc. Aerospace Dynamics specializing in Aerodynamics - Cranfield University, UK

September 2000 – June 2002
B.Eng. in Aeronautical Engineering - University of Salford, UK

RESEARCH CONTRIBUTIONS

Peer reviewed:
23 Journal publications

Non peer reviewed:
More than 30 conference publications

Editor:
Proceedings of the 17th International SPHERIC Workshop (2023)

Research achievements:

- Article presented at "*In Abstract* | *University of Manchester* | *2016/2017*" world-leading research

- *17th most downloaded article* since published (June 2016) – Advances in Water Resources
- 10 most downloaded article since published (2020) – Computers and Fluids

***Research Grants**:*

Current

- (Co-I) *EP/W026775/1*– Particles At eXascale on High Performance Computers
- (Co-I) *EP/V039946/1* – Mooring analysis and design for offshore WEC survivability and fatigue
- (Co-I) *EP/W00755X/1* – Integrated Simulation at the Exascale: coupling, synthesis and performance

Past

- (Co-I) *EP/V001523/1*– Massively Parallel Particle Hydrodynamics for Engineering and Astrophysics
- *(Named researcher) EP/M029786/1* – EPSRC Newton fund
- *(Recipient) NVIDIA Hardware grant, Tesla K40 GPU card*

Academic Supervision:

Ph.D. supervision
Main supervisor 2 Co-supervisor 4 Graduated 3

M.Sc. supervisor
TPFE dissertation supervisor with an intake of 2-3 students per year (**two best dissertation winners**)

Internal PhD examiner - 3 candidates

External PhD examiner - 2 candidates

PhD thesis reviewer
External thesis reviewer (European institutions) to 2 candidates

RESEARCH AND ACADEMIC/PROFESSIONAL STANDING

Conferences organiser:

Chair and organiser of the 17th International SPHERIC Workshop
Rhodes, Greece June 2023

Guest Editor:

- *Computational Particle Mechanics (CPM) – Special issue Latest developments and application of SPH using DualSPHysics*
- *International Journal of Ocean and Coastal Engineering – Special Issue on Particle Methods and Their Applications in Ocean and Coastal Engineering*

Session Chair on conferences

- *Session chair to 7 international conferences*

Recent keynotes and lectures:

- *3 keynotes*
- *5 Seminars*
- *3 invited lectures*

Scientific committees:

- *SPHERIC International Workshop (ERCOFTAC) Co-Opted member of the steering committee 2023-2025*
- *SPHERIC International Workshop (ERCOFTAC), 2022 and 2023*
- *DualSPHysics International Workshop, 2016 - 2022*

Reviewer:

- *Reviewer to more than 15 journals including JCP, C&F, AWR, JHR.*
- *UK research council (EPSRC) peer reviewer to more than 10 grants*

Collaborations:

Current

- *Kings College London*
- *INRAE, France*
- *University of Parma, Italy*
- *University of Vigo, Spain*
- *University of Thessaly, Greece*
- *National Nuclear Laboratory, UK*

Past

- *City University of London, UK*
- *University of Brasilia, Brazil*
- *Penn State University, USA*
- *Centre for Marine Environmental Sciences, Universität Bremen, Germany*

TEACHING AND LEARNING

School of MACE, University of Manchester, UK

Current contributions

Postgraduate Teaching:

Module coordinator and Lecturer on AERO40122&61070 *Advanced Computational Fluid Dynamics* (M.Eng./M.Sc.) (15 credit unit – ECTS 7.5).

Undergraduate Teaching:

Lecturer on 50% of CIVL20041 Hydraulics 2 (BEng) (10 credit unit – ECTS 5).

Past contributions

Undergraduate Teaching:

MACE11602&11622 *Mechanics* (10 credit unit – ECTS 5)
MACE10421 *Fluid mechanics* (10 credit unit – ECTS 5)

External teaching contributions

Smoothed Particle Hydrodynamics numerical methods – Lecturer (2022)
University of Parma, Italy, (online)

SERVICE AND LEADERSHIP

School of MACE, University of Manchester, UK

Leadership

Programme Director – M.Sc. Thermal Power and Fluids Engineering (TPFE)
Overseeing 8 units and dissertation topics

Management (external)

Management of collaborative project *DualSPHysics* (SPH CFD solver)

Service

Member of the *Athena Swan* self-assessment team for the School of MACE, UoM.
MECD *design partner* for the School of MACE, UoM.

KNOWLEDGE, TECHNOLOGY TRANSFER AND OUTREACH

- *DualSPHysics project (http://dual.sphysics.org/), OpenMP/CUDA*
- *OpenISPH project, Developer*
- *SPHYSICS-woof, OpenMP/MPI, Developer*
- *National Nuclear Laboratory (NNL), UK*
- *17th International SPHERIC Workshop, Greece – (Chair)*

ADDITIONAL INFORMATION

Membership of professional/scientific bodies

Fellow of the Higher Education Academy (UK teaching accreditation)
Member of UK Fluids network –SPH, wave-structure interaction, nuclear thermal hydraulics

REFERENCES

Prof. Benedict Rogers
Professor of Computational Hydrodynamics
University of Manchester, UK

Prof. Peter Stansby
Osborne Reynolds Chair/ Professor of Hydrodynamics
University of Manchester, UK

Metrics:

Scopus Author ID: 55755561600
ORCID ID: https://orcid.org/0000-0001-8584-3020
Google Scholar

Scopus Profile