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# Petros Ampatzidis (he/him)

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A Research Fellow at the University of Bologna with a research focus on the numerical modelling of the atmospheric load of extreme events induced by climate change on tall buildings. Petros has completed his doctorate at the Centre for Doctoral Training in the Decarbonisation of the Built Environment (dCarb) at the University of Bath. His research was focused on the numerical modelling of blue spaces as a climate change mitigation strategy. He holds an MSc in Civil Engineering and Energy Building Design, with experience in building energy simulations and a growing interest in computational fluid dynamics in the urban environment, focusing on RANS modelling and buoyancy-driven flows. He has worked in institutions in Greece, Spain, Denmark, Italy and the UK and part of his current and previous work has been published in scientific journals and presented at international conferences.

## EDUCATION

- 2018-2023 PhD  
Centre for Doctoral Training in Decarbonisation of the Built Environment (dCarb),  
University of Bath, UK
- December 2017 MSc degree in Energy Building Design (Distinction)  
International Hellenic University, Greece
- November 2015 Integrated Bachelor and MSc degree in Civil Engineering  
Department of Civil Engineering, AUTH, Greece

## RESEARCH EXPERIENCE

- April 2023 – present **Research Fellow | University of Bologna**  
*Project: RISKADAPT: Asset Level Modelling of Risks In the Face of Climate Induced Extreme Events and Adaptation*
- February - July 2022 **Casual Research assistant | University of Bath, UK**  
*Project: Net-zero Buildings via EPC Upgrading: Deriving Innovation to Ensure Local Impact*
  - \* Led the preparation and writing of a paper that is to be submitted in the Building Services Engineering Research & Technology journal (90% complete).
  - \* Worked in collaboration with members of the B&NES council.
  - \* The findings of this work strengthen the argument for supporting the implementation of simple, cost-effective retrofitting via strategic action by identifying targeted interventions that can maximise progress towards B&NES' carbon neutrality ambitions by 2030.
- March – May 2021 **Casual Research assistant | University of Bath, UK**  
*Project: Socio-Technological Routes to Building Stock Decarbonisation across B&NES*
  - \* Engagement and collaboration with members of B&NES council.
  - \* Communicated the results as a poster in Climate Exp0 – The COP26 Universities Network Virtual Conference.
- October 2018 – present **PhD researcher | University of Bath, UK**  
*Project: Modelling Blue Space Effects in the Urban Microclimate*
  - \* Produced new insights into the thermal behaviour of blue spaces within the urban environment.
  - \* Initiated a fruitful collaboration with Prof Silvana Di Sabatino, Dr Carlo Cintolesi of the University of Bologna, and Dr Andrea Petronio from IEFLUIDS s.r.l., a spin-off company of the University of Trieste. The collaboration involved the adaptation and further development of an in-house solver.
  - \* Tutored Maths and Programming (Python) for 4 years in undergraduate courses, developing my teaching and communication skills.
  - \* Organised and delivered hands-on workshops for researchers within the GW4 network.
- April-July 2018 **Research Assistant | Technical University of Denmark (DTU), Denmark**  
*Project: Development of a new ventilated façade model in IDA-ICE software using Neutral Model Format*
  - \* Followed a short-term and tight research plan (3 months) for meeting the required deadlines.
  - \* Worked independently and conducted a thorough literature review identifying the existing approaches and proposed the project's objectives.

- November 2016 -March 2019 **Team Leader and Project Engineer of the International Hellenic University (IHU) Solar Decathlon team**  
*Project: The SPITI project: A Solar-Powered. Innovative Technologically Inhabitancy.*
  - \* Initiated and successfully led a team of 40 engineers being the first Greek University team to ever be qualified for the final stage of the International Competition Solar Decathlon Europe 2019.
  - \* Led the conceptualisation and design process. Managed and hosted interdisciplinary design panels and led the writing of the proposal.
  - \* Established links with the industry and secured sponsorship.
  - \* Led the preparation of a conference paper, which was eventually published in IOP Conference series.
- June – November 2017 **MSc thesis | International Hellenic University, Greece**  
*Project: From building unit to building block – Measures to improve energy efficiency in a typical urban residential built environment.*
  - \* Sought support from researchers in the Aristotle University of Thessaloniki to improve understanding of microclimate modelling.
  - \* Showed an excellent ability to work independently.
  - \* Presented the outcomes of my thesis in an open-to-public seminar.
  - \* Awarded best thesis.

## PUBLICATIONS / CONFERENCE PRESENTATIONS

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### Journal papers

- May 2023 (80% complete) *Atmospheric stability effects on blue space thermal interaction with an urban environment.*  
(**Petros Ampatzidis**, Carlo Cintolesi, Silvana Di Sabatino, Tristan Kershaw)  
To be submitted to Sustainable Cities and Society journal.
- May 2023 (90% complete) *Decarbonising domestic heating at scale: Extracting strategic thinking from EPC data*  
(**Petros Ampatzidis**, Emily Bowyer, Victoria Stephenson)  
To be submitted to Building Services Engineering Research & Technology journal.
- January 2023 (published) *Impact of blue space geometry on urban heat island mitigation*  
(**Petros Ampatzidis**, Carlo Cintolesi, Tristan Kershaw)  
Climate 2023, 11(2), 28. [Link](#)
- June 2022 (published) *Evaporating waterbody effects in a simplified urban neighbourhood: a RANS analysis*  
(**Petros Ampatzidis**, Carlo Cintolesi, Andrea Petronio, Silvana Di Sabatino, Tristan Kershaw)  
Journal of Wind Engineering and Industrial Aerodynamics, volume 227, 105078. [Link](#)
- August 2020 (published) *A review of the impact of blue space on the urban microclimate*  
(**Petros Ampatzidis**, Tristan Kershaw)  
Science of The Total Environment, volume 730, 139068. [Link](#)

### Conference papers/presentations

- 28 August — 1 Sept 2023 *Blue space evaporation effects in a simplified urban neighbourhood: impact of size and shape under neutral stratification*  
(**Petros Ampatzidis**, Carlo Cintolesi, Andrea Petronio, Silvana Di Sabatino, Tristan Kershaw)  
11<sup>th</sup> International Conference on Urban Climate, Sydney, Australia
- 30 August – 1 Sept. 2022 *Blue space effects in a simplified urban neighbourhood under neutral stratification*  
(**Petros Ampatzidis**, Carlo Cintolesi, Anrea Petronio, Silvana Di Sabatino, Tristan Kershaw)  
2022 International Association for Urban Climate Virtual Poster Conference
- 30 June 2022 *Urban blue space as a climate change mitigation strategy*  
(**Petros Ampatzidis**)  
2022 Engineering and Design Doctoral Symposium.
- 17 – 21 May 2021 *Decarbonising domestic heating at scale: Extracting strategic thinking from EPC data (poster)*  
(Emily Bowyer, **Petros Ampatzidis**)  
Climate Exp0 Conference – COP26 Universities Network (online)

- 5 March 2021 *Urban Heat Island: the role of blue space*  
(**Petros Ampatzidis**)  
Invited talk for the undergraduate course in Sustainable Architecture (Year 2), University of Monterrey, Mexico (online).
- 23 - 25 October 2019 *High energy efficiency renovation options for a typical apartment. The case study of the SPITI project*  
(**Petros Ampatzidis**, Anna Serasidou, Aikaterini Tsiaousi, Georgios Martinopoulos)  
SBE19 Thessaloniki "Sustainability in the built environment for climate change mitigation", Thessaloniki, Greece.  
Published in IOP Conference Series: Earth and Environmental Science, volume 410. [Link](#)

## SEMINARS/FURTHER TRAINING

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- February – March 2023 *Leadership in Action Feb/Mar 2023*  
An intensive experiential leadership programme for early career researchers from six UK universities. I am selected as one of Bath's cohort of delegates (10 in total).
- May 2022 *Artificial Intelligence Foundations: Machine Learning (online)*  
Delivered by Doug Rose on LinkedIn Learning. Accessed through the University of Bath's subscription.
- April 2022 *Code Initiative Workshop (online) – training in bash, git, GitLab runners and pipelines*  
Dr Heather Andrews Mancilla and Dr Bianca Giovanardi, Delft Institute for Computational Science and Engineering, Faculty of Aerospace Engineering, University of Delft, The Netherlands
- March 2019 *One-week intense course on CFD using OpenFOAM*  
Professor Gavin Tabor, University of Exeter, UK
- June 2016 *Summer School in Energy Building Design*  
International Hellenic University, Greece
- February – May 2016 *Professional Energy Skills in Nearly Zero Energy Buildings (NZEB) – Design and Conversion (10 ECTS)*  
Aristotle University of Thessaloniki, Meeting of Energy Professional Skills (MEnS) – Horizon2020

## FUNDING / AWARDS

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- November 2022 *Greening and Blueing of Post-war cities in maritime climates to mitigate heat island effects.*  
A small research grant (6 months) of **£35,282** submitted to the EPSRC-funded RECLAIM network (unsuccessful).  
I was entirely responsible for writing the proposal and took part in the conceptualisation.
- June 2022 *BLUE: Nature-Based Solutions for the Economically Deprived*  
EPSRC National Fellowships in Fluid Dynamics. A three-year fellowship proposal of **£350,081** total cost (unsuccessful).  
A proposal of my own instigation involving notable partners (University College London, University of Surrey and University of Bologna) that reached the final stage and received positive feedback (5, 5, 4).
- 2020 *Workshop on: Complex Network Analysis for Researchers (Lead) £1000*  
University of Bath, Doctoral College Research Activities Fund (workshop cancelled due to the Covid-19 pandemic)
- 2019 *Workshop on: Time Series Analysis for Researchers (Co-Lead) £2000*  
GW4 Doctoral Student Training Scheme
- 2018 *Certificate of Excellence in recognition of outstanding performance in MSc in Energy Building Design & Best MSc dissertation award*  
Awarded by the Dean of the School of Science and Technology, Professor Georgios Evangelidis, International Hellenic University, Greece
- 2016 *Scholarship for the MSc in Energy Building Design*  
International Hellenic University, Greece
- 2009 *Recognition Award for distinction in the Pan-Hellenic Exams (1000€)*  
*Municipality of Themi, Thessaloniki, Greece*