

NIKOLAOS S. RINGAS BSc, MEng, GMICE

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RESEARCH AREAS structural engineering; steel structures; cold-formed steel structures; composite structures; modular construction; plasticity; damage mechanics; finite element methods;

ACADEMIC *Previous:*

APPOINTMENTS 2020-2021 **Research Assistant, University of Edinburgh**
Institute for Infrastructure & Environment, School of Engineering
Research in Light-gauge Steel Structures, a project funded by Construction Scotland Innovation Centre (CSIC) through the iCon fund.

2019-2021 **Teaching Assistant, University of Edinburgh**
Discipline for Civil & Environmental Engineering, School of Engineering
Teaching Assistant for CIVE10030 Steel Structures 4/5/MSc, CIVE11038 Structural Engineering Design Project 5 and ARCH10023 Culture and Performance in the History of Construction

ACADEMIC 2021- **PhD in Structural Engineering, The University of Edinburgh**
QUALIFICATIONS Institute for Infrastructure & the Environment, School of Engineering
Dissertation: *“Structural Design of Cold-formed steel framed buildings subject to natural disasters”*
Summary: Experimental investigation on the behaviour observed in sheathed cold-formed steel frames under in-plane and out-of-plane loading conditions. Numerical simulation of the behaviour of CFS frames under severe loading conditions and quantification of composite action.

2020 **MEng (Hons), Civil Engineering, The University of Edinburgh**
School of Engineering, *Second Class Honours - First Division*
Dissertation: *“Calibration of a Continuum Damage Mechanics model for Low-Cycle Fatigue of metals”*
Summary: Simulation of crack propagation in high-strength steel using Finite Element Models to simulate low-cycle fatigue experiments. Analyses based on material subroutines based on constitutive models that are not available in commercial software, achieving accuracy as high as 99% compared to the experimental data.

2016 **BSc, Civil Engineering, Piraeus University of Applied Sciences**
School of Engineering, *Overall Grade - 75% (Lian Kalos)*
Dissertation: *“Design of the suburban bus station of Corfu using Eurocode 3”*
Summary: Case study based on the numerical assessment of a high use structure using Eurocode 3 and Eurocode 8. Comparison with other design codes (e.g. Greek Design Codes) to assess the different approaches in structural design in seismic regions.

AWARDS

- Awarded membership to the International Association of Bridge and Structural Engineering - IABSE (2020)
- Best Bridge Design, School of Engineering, University of Edinburgh (2020)
- Edinburgh Award for placements in Civil & Environmental Engineering, University of Edinburgh (2019)
- Award from the Hellenic Mathematical Society - “Thales” competition (2005)

- CAREER DEVELOPMENT CERTIFICATES
- Instron - Basic Introduction to Materials Testing: Static (2020)
 - University of Edinburgh - Data Protection and Information Security Essentials Training (2020)
 - IELTS Academic - Overall Grade 7.5 (2016)
 - Italian Language Certificate - Level B2 (2009)
 - Cambridge Certificate in Advanced English - Level C1 (2007)
 - ECDL European Computer Driving License - 7 modules (2006)

RESEARCH FUNDING	Date	Source	Description	Value
	2020	CSIC	iCon fund for building resilience through innovation (Research Assistant)	£ 25,000.00

- TEACHING EXPERIENE
- *University of Edinburgh*
 - Steel Structures 4/5/MSc (CIVE10030). **Teaching Assistant**, 2019-Now
 - Structural Engineering Design Project 5 (CIVE11038). **Teaching Assistant**, 2021-Now
 - Culture and Performance in the History of Construction (ARCH10023). **Teaching Assistant**, 2021-Now

- PROFESSIONAL EXPERIENCE
- Independent Civil & Structural Engineering Consultant, Corfu, GR. *Structural modelling and structural integrity assessment* (06/2020 - Now).
 - Civil & Structural Engineer. T. Makris Engineering Consultancy, Corfu, GR. *Structural Design and Construction Management Projects* (09/2015 – 09/2016, 11/2017 - 08/2018, 06/2019 - 09/2019).
 - Structural Engineering Intern. T. Makris Engineering Consultancy, Corfu, GR. *Structural Design Projects* (02/2015 – 09/2015).
 - Assistant Surveyor. Spatoulas & Partners, Corfu, GR. *Surveying in construction sites* (06/2013 – 09/2013).

- AFFILIATIONS
- Member. International Association for Bridge & Structural Engineering (IABSE) (2020 - Now)
 - Graduate Member. Institution of Civil Engineers (ICE) (2020-Now),

- RESEARCH SKILLS
- Numerical Modelling and Computational Damage Mechanics
 - Numerical Modelling using Finite Element Software (e.g. *Simulia ABAQUS CAE*).
 - Development of material subroutines for *Simulia ABAQUS CAE* based on constitutive models using *FORTRAN*.
 - Experiments in structural engineering
 - Mechanical properties testing using Instron hydraulic actuators.
 - Low-cycle and high-cycle fatigue coupon testing.
 - Cyclic amplitude experiments to simulate real-life loading excitations occurring from natural phenomena.
 - Programming, scripting and data processing
 - Scientific programming using *FORTRAN*, *Python* and *Matlab*.
 - Familiarity with *High Performance Computing* clusters and parallel processing e.g. *Eddie 3*.
 - Computer Aided Drawing packages such as *Autodesk AutoCAD*, *ArchiCAD*, *SOLIDWORKS* and *qGIS*.

– Post-processing and visualisation software e.g. *Paraview*, *Adobe Photoshop*.

CONFERENCE
PROCEEDINGS

1. **N. Ringas**, Y. Huang and J. Becque. "Fastener behaviour in sheathed light-gauge steel stud walls under cyclic and monotonic actions" . In: Eurosteel 2021 - The 9th European Conference on Steel and Composite Structures. Sheffield, UK: Eurosteel 2021. pp. 1-6