

Layth S. Al-Rukaibawi



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ATTENDED CONFERENCES

- Sustainability summit 2020
- SWST 63rd Virtual Conference 2020
- Biobased Composites in Marine Environment Conference 2021, France
- 4th International Conference on Science & Engineering of Materials 2021, India
- International conference on Materials, Methods & Technologies 2021, Bulgaria
- First European Summer School on Bio based Composites 2021, France
- 12th International Conference on Key Engineering Materials 2022, Italy
- 7th R&D seminar, 2020, Budapest
- 8th R&D seminar, 2021, Budapest
- 7th R&D seminar, 2022, Budapest

Current Position

Doctoral Candidate/Early-Stage Researcher (ESR)
Department of Structural Engineering
Budapest University of Technology and Economics

Education

Newcastle University, Newcastle Upon Tyne

Master of Science, Structural Engineering, September 2015

- Thesis: Theoretical study on the efficiency utilisation of nanoclay-CFRP composites for wind turbine blade

University of Technology, Baghdad

Bachelor of Science, Building and Construction, July 2006

- Thesis: The effect of water-reducing and set retarding admixtures on concrete

Research Experience

Doctoral Candidate/Early-Stage Researcher, Budapest University of Technology and Economics, 09/2019-present

- Developed a new, anatomy-based model for bamboo that gives better comparison with experimentally observed mechanical properties than existing models. This model is based on a faithful representation of the filamentary microstructure of bamboo in collaboration with Dr. Sadik L. Omaiery, Brunel Composite Centre (BCC).
- Investigated the thermal performance of bamboo building envelopes together with Zsuzsa Szalay.
- Carried out extensive numerical simulations on the static behaviour of random elastic filamentary networks that lead to two interesting conclusions.
- Carried out extensive physical study on the tension stress-strain relationship of *Phyllostachys Edulis* bamboo parallel to the grain direction. This is to validate the numerical simulation of bamboo microstructure's stiffness properties.

General Skills

- ABAQUS FEA
- ANSYS FEA
- Autodesk Revit
- GSA structural analysis
- PRINCE2 Foundation

Languages

- English – B2
- Hungarian – A2
- Arabic – Mother tongue

Training and Certification

July 2020

Certificate in Consulting Internship Experience UK

- BRIGHT NETWORK, (United Kingdom)

Sep 2016 – Present

Diploma in English for Business

- SHAW ACADEMY, (Ireland)

Dec 2015 – Present

Certificate in Project management PRINCE2 Foundation

- AXELOS, Newcastle Upon Tyne, (United Kingdom)

Membership

- GMICE - Graduate Membership – since 2015-present

Honours and awards

- Stipendium Hungaricum Scholarship 2020
- Higher Committee of Education Development in Iraq (HCED) 2014

- Investigated the Nonlinear analysis of the hybrid bamboo-steel I-shaped section beam subjected to pure bending.

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Assistant Lecturer, Ministry of Education/Contract Department, 01/2016-08/2019

- Finalized a fruitful cooperation work by monitoring and giving pieces of advice to an MSc. student in Erciyes University-Turkey of which we have investigated thermal superinsulation to concrete Blocks introduced by using Nano SiO₂ – Aerogel.

Professional Experience

July 2020 Consulting internship Experience UK

BRIGHT NETWORK • UK

- Developed sort of core skills including commercial awareness, communication, presentation, and entrepreneurship.

April 2008 – Dec 2013

Structural Engineer • Ministry of Education/Contract Department • Iraq

- Participated in the whole process of the primary and secondary schools to include conceptualization, planning, project scoping and budgeting, construction, and operations

- Reviews tenders for various primary and secondary schools to make certain all details, such as cost and materials, are accurate according to the agreed terms, and take into consideration the quality is met.

Publications and Presentations

- Al-Rukaibawi, Layth and Lukic, M.J., 2018. Theoretical study on the efficiency of utilization of nanoclay-CFRP composite materials in the root area of wind turbine blades. *Metallurgical and Materials Engineering*, 24(4).

- Layth S. Al-Rukaibawi, Sadik L. Omairey, György Károlyi, 2021. Novel numerical anatomy based modelling of bamboo microstructure. *Construction and Building Materials*, 308, 125036.

- Layth S. Al-Rukaibawi, Zsuzsa Szalay, György Károlyi, 2021. Evaluation of the summer overheating effect in bamboo composite structures (Case Study: A residential building in Buda pest, Hungary). *Case Studies in Thermal Engineering*, 28, 101516.

- Sardasht S. Weli, Imad Shakir Abbood, Layth S. Al-Rukaibawi, Fkrat L. Hamid, 2022 Evaluation of masonry walls subjected to blast loading based on material modelling approach. *Materials Today: Proceedings* 49, 3687-3695