

# Dr. Amged Osman Abdelatif

## Details

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## Education

- Jan. 2010 – Dec. 2013 **PhD in Civil Engineering:** University of Nottingham, UK  
**Thesis title:** *Assessment of Bonded Post-tensioned Concrete Bridges with Tendon Rupture*  
**Synopsis:** *The research focused on the structural assessment of post-tensioned concrete structures with ruptured tendons considering the re-anchorage phenomenon of the ruptured tendons. Theoretical and finite element models were used to model tendon re-anchorage. The models were validated experimentally and then used to conduct a comprehensive parametric study on the re-anchorage phenomenon. Finite element simulations were also carried out to model the structural behaviour of the post-tensioned concrete beams with tendon rupture.*
- May 2005 – Jan. 2008 **MSc in Structural Engineering:** University of Khartoum, Sudan  
**Thesis title:** *Flexural Strengthening of One-Way Slabs Using Concrete Overlay*  
**Synopsis:** *Both theoretical and analytical investigations to study the behaviour of one-way concrete slabs strengthened with concrete overlay. The research investigated the different types of anchorage of old slabs and new concrete overlay.*
- Aug. 1998 – Nov. 2003 **BSc in Civil Engineering:** University of Khartoum, Sudan  
**Thesis title:** *Design of Flyover Bridge*  
**Synopsis:** *The project aimed to solve the traffic jam problem in the junction of Meck Nimr and Altabia Streets. It was decided to use a pre-tensioned concrete single-span flyover bridge at the junction after a detailed analysis of the traffic at the junction. This was followed by structural analysis and design to the bridge sub-structures and super-structures.*

## Scholarships

- April 2005 MSc Scholarship of the Ministry of High Education, Sudan  
July 2009 PhD Scholarship of the Ministry of High Education (Sudan), PECK (Sudan) and the University of Nottingham (UK)

## Research Interests

- Transfer of pre-stress in prestressed concrete structures.
- Theoretical and finite element modelling of engineering structures.
- Structural assessment and strengthening of civil engineering structures and bridges.
- Structural health monitoring.
- Structural response due to tunnelling and ground movement

## Professional Membership

- Institute of Civil Engineering (ICE), Faculty Advisor of ICE University of Khartoum student Chapter
- Sudanese Engineering Society (SES)
- American Concrete Institute (ACI)
- American Society of Civil Engineers (ASCE)

## Training Courses

Feb. 2014	Data Acquisition for Engineers
Nov. 2013	Introduction to LabVIEW for Engineers
March 2012	NI LabVIEW Campus Hands-on Seminar, University of Nottingham
Dec. 2011	Marking and Assessment for Scientists, University of Nottingham, UK
Nov. 2011	Risk Assessment Training, University of Nottingham, UK
Nov. 2011	Engage, Excite, Enhance: Top tips for Teaching and Learning, University of Nottingham, UK
Nov. 2011	Emotional Intelligence in Teaching, University of Nottingham, UK
Oct. 2011	A Practical Look at Core Teaching Skills, University of Nottingham, UK
Oct. 2011	Presentation Skills: Practicing and Reviewing, University of Nottingham, UK
Oct. 2011	Practical Project Management, University of Nottingham, UK
Feb. – Mar. 2010	Academic writing, University of Nottingham, UK
Feb. – Mar. 2010	Academic discussion skills, University of Nottingham, UK
Jan. 2010	Advanced library skills and information resources for researchers in engineering, University of Nottingham, UK
April – May 2008	Educational Preparation Certificate, University of Khartoum, Sudan

## Work Experience

- Jan. 2014 - present **Assistant Professor:** University of Khartoum, Sudan (full-time), Department of Civil Engineering (Material and Structures)  
*Responsibilities:*
- Teaching and supervision of both undergraduate and post-graduate students
  - Administrative roles relating to research and teaching
  - Participate in continuous improvement of teaching, research, and laboratories environment in the department
- July 2015 - present **Head, Department of Basics and Engineering Sciences:** University of Khartoum, Sudan (full-time)  
*Responsibilities:*
- Coordination of courses, Exams, Assessment of the courses in the department
  - Participate in continuous improvement of teaching, and laboratories environment in the department
  - Assessment of the first year students results.

- Feb. 2014 – Feb. 2015 **Research Fellow:** University of Nottingham, UK (Full-time)  
*Responsibilities:*  
 Working as a part of research team to enhance physical modelling capabilities by coupling centrifuge and numerical techniques. The research focuses on tunnelling beneath buildings which are founded on piled foundations. My role was to develop a computationally efficient numerical model to simulate the structural response of the buildings due to tunnelling. Moreover, to design an interface control system to couple between the geotechnical centrifuge and the developed structural model. This work is funded by The Engineering and Physical Science Research Council (EPSRC)
- Jan. 2010 – Dec. 2013 **Teaching Assistant:** University of Nottingham, UK (Part-time)  
*Responsibilities:*
- Tutoring and marking student tutorials and computer classes
  - Design of 200 ton hydraulic press loading pads
- Mar. 2008 – Jan. 2014 **Lecturer:** University of Khartoum, Sudan (full-time), Department of Civil Engineering (Materials and Structures)  
*Responsibilities:*
- Lecturing strength of material classes
  - Teaching and guiding structural design classes
  - Co-supervising BSc students final year projects
  - Performing administrative roles related to the teaching
  - Supervision of academic trips and camps
- Oct. 2004 - Mar. 2008 **Teaching Assistant:** University of Khartoum, Sudan (full-time), Department of Civil Engineering  
*Responsibilities:*
- Tutoring student tutorials and laboratory works
  - Marking course work and reports
  - Performing administrative roles related to the teaching
  - Supervision of academic trips and camps
- Oct. 2003 – May 2005 **Assistant Project Manager:** Fulfilment co. Ltd. (Full-time)  
*Responsibilities:*
- Supervision of subcontractors (Concrete and finishing work)
  - Prepared bill of quantities and payments
  - Prepared weekly report on work progress and payments
- Oct. 2003 – present **Designer And Consultant Engineer:** (Self employed)  
*Responsibilities:*
- Consultant engineer
  - Structural design
  - Preparation of tenders
  - Preparation bill of quantities
  - Assessment and evaluation of the existing buildings
- Marh 2007 – Jan. 2010 **Designer And Consultant Engineer:** University of Khartoum Consultancy Corporation (UKCC), Sudan  
*Responsibilities:*
- Consultant engineer
  - Structural design
  - Preparation of tenders
  - Preparation bill of quantities
  - Assessment, evaluation and strengthening of existing buildings

- March 2015 - Present **Technical Advisor:** Tafaseel Engineering company, Sudan  
*Responsibilities:*
- Supervision, coordination and quality control of shop drawings (Structural, MEnP, and Architectural shop drawings)
- 2013/2014 **Representative at** The Engineering Research Staff Group (ERSG), University of Nottingham, UK  
*Responsibilities:*
- To represent the research staff in both geotechnical and structural researchers at Civil Engineering department
  - Discuss future research strategies and staff needs and reflected to the Faculty Board
- April 2016 - Present **ICE Faculty Advisor (on behalf of Institution of Civil Engineers, UK)** at the University of Khartoum  
*Responsibilities:*  
 Supervise and advise the ICE student Chapter members in the Department of Civil Engineering, University of Khartoum

## Other experiences

- Jan. 2011 – present **Owner, Administrator, and the Editor:** [www.sudacon.net](http://www.sudacon.net)  
*Description:*  
 In January 2012 I launched [www.sudacon.net](http://www.sudacon.net) for the news of the construction industry in Sudan. The website provides relative news, bids, material and labour price, construction jobs, articles, index of Sudanese consultancy bodies, index of contractors in Sudan, new technologies update, and the news of outstanding construction projects around the world. The website receives more than 3,000 visitors per day.
- June 2016 - present **Managing Editor, Journal of Building and Road Research**  
*Description:*  
 Responsible for running the day-to-day operations of the journal and supervises all editorial activities of the journal such as the peer review process, article acceptance or rejection, copyediting papers for publication, typesetting, sending proofs to authors, preparing papers for publication, and producing the journal. Typically the second-in-command and reports to the editor-in-chief.

## Other Skills

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|-----------------------|--|
| Programming           | MATLAB, Python, HTML, Fortran, LabView   |
| Modelling             | Theoretical modelling, finite element modelling (ANSYS and ABAQUS)   |
| Planning              | MS project   |
| Graphical             | AutoCAD, MS Visio, Google SketchUp   |
| Experiment            | Material and structural testing, ESPI camera, Prestressed concrete, Geotechnical centrifuge testing, Data Acquisition and experimental control systems.  |
| Structural design     | Staad pro, Proken, Safe, Spread Sheets, Tedds, wide range of structural design packages  |
| Organisational skills | <ul style="list-style-type: none"> <li>- Organised Lecture in 2000 "Uses of Surveying in Civil Engineering Works" with Sudanese Engineering Society</li> <li>- Organised "African concrete code ACC" lecture in July 2009 at The University of Khartoum; presented by professor Ali S. Ngab; Chairman of ACC code</li> <li>- Member of organising committee of "African Concrete Code</li> </ul> |

- 5th Symposium- Sudan"; March 2010
- Member of organising committee of "First Conference on Civil Engineering- Sudan"; Dec 2016
- Social skills - Organise some meetings of students to strengthen bonds between students and lecturers (2004-2010)
- Participate in Nafeer UK to support affected people by the 2013 flood humanitarian crisis in Sudan
- Team work - I have worked in various types of teams such as design teams and research teams
- Languages - Arabic (mother tongue) and English

## List of Publications

Andrea Franza, Alec M. Marshall, Twana Hajia, **Amged O. Abdelatif**, Sandro Carbonari, Michele Morici, 2017. A simplified elastic analysis of tunnel-piled structure interaction. *Tunnelling and Underground Space Technology*, 61, pp.104–121.

FRANZA, ANDREA, IDINYANG, S., HERON, C.M., MARSHALL, A M and **ABDELATIF, A O**, 2016. Development of a coupled centrifuge-numerical model to study soil-structure interaction problems *In: Proceedings of the 3rd European Conference on Physical Modelling in Geotechnics (Eurofuge 2016)*.

**ABDELATIF, AO**, COX, CM and MARSHALL, AM, FRANZA, A, 2016. Structural response due to tunneling: Real-time control of geotechnical centrifuge test *In: Annual Conference -Basic Sciences and Engineering – University of Khartoum, Khartoum, Sudan*.

**ABDELATIF, A. O.**, OWEN, J. S. and HUSSEIN, M. F. M., 2015. Modelling the prestress transfer in pre-tensioned concrete elements: *Finite Elements in Analysis and Design*. 94(0), 47-63

FRANZA, A, **ABDELATIF, AO**, COX, CM and MARSHALL, AM, 2014. Development of coupled centrifuge-numerical modelling: global tunnel-soil-structure interaction analysis *In: 12th Annual BGA Conference, London, UK*.

FRANZA, A, MARSHALL, AM, **ABDELATIF, AO** and COX, CM, 2014. Development of coupled centrifuge-numerical modelling: investigation of global tunnel-building interaction *In: 13th BGA Young Geotechnical Engineers Symposium 2014, Manchester, UK*.

**ABDELATIF, AO**, OWEN, JS & HUSSEIN, M. F. (2013) Re-Anchorage of a Ruptured Tendon in Bonded Post-Tensioned Concrete Beams: Model Validation. *Key Engineering Materials*, 569, 302-309.

**ABDELATIF, AO**, OWEN, JS & HUSSEIN, MF (2012) Modeling the Re-anchoring of a Ruptured Tendon in Bonded Post-tensioned Concrete. *Bond in Concrete 2012: Bond, Anchorage, Detailing*. Brescia, Italy.

**ABDELATIF, AO**, 2012. sudacon.net: News of construction industry in Sudan Available at: [www.sudacon.net](http://www.sudacon.net)