NAFEMS Technical Working Group Overview

Education and Training (ETWG)
2019

Education & Training

- The NAFEMS Education and Training Working Group (ETWG) is formed to examine the **education and training needs** for all numerical analysts and to provide information and documents to satisfy these needs.

- The ETWG are responsible for **accrediting courses** run by NAFEMS and other external agencies. In addition, the working group support the NAFEMS **Professional Simulation Engineer** Scheme and are responsible for a significant number of education publications that have been developed. The working group reviews the existing gaps in NAFEMS archive of best practice information and addresses these gaps by collaborating with other NAFEMS Technical Working Groups or by commissioning the documents themselves.

- Meetings are held both face-to-face, at the Institute of Mechanical Engineering in London, and online using WebEx online meeting platform.

- **Chair** - Professor Adib Becker, University of Nottingham, UK

- The group includes representatives from Altair, D. J. Goode & Associates, Cyient, Dassault Systemes, FETraining, GKN Aerospace, Glasgow Caledonian University, MSC Software, Ohio State University, Open University, Ramsay Maunder Associates, SELEX-ES, STRAND7 software, University of Manchester, University of Nottingham, Widener University, Wood Plc.

- Information about the Education and Training Working Group can be found on the NAFEMS website at **www.nafems.org/community/working-groups/education**

- To enquire about joining this working group complete the online form at **www.nafems.org/community/working-groups/education/get_involved**

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Education & Training

- **Areas of Activity**
  - Accreditation of classroom and eLearning short courses on engineering simulations
  - Monitoring the Professional Simulation Engineer (PSE) scheme
  - Commissioning publications to meet the education and training needs of engineering analysts

- **Publications in Progress**
  - How To Model Crack Propagation Using FEA
  - Case Studies Demonstrating Industrial Usage of Engineering Analysis & Simulation
  - Online Assessments for the PSE Core FEA Technical Area

- **Recent Publications**
  - Why do Discrete Element Analysis
  - How to perform linear dynamic Finite Element Analysis
  - How to perform electromagnetic Finite Element Analysis
  - The NAFEMS Benchmark Challenge - Volume 1

- **Proposed Publications**
  - Lay Person's Guide to FEA
  - FEA and Engineering Design Codes and Standards

- **Other Activities**
  - The working group are encouraging academic institutions to gain NAFEMS Approval for modules/courses with engineering analysis and simulation content.
  - The group has initiated a Compendium of NAFEMS Benchmarks to contain a collection of the best representative benchmarks published by NAFEMS.

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Chair Bio

Professor Adib Becker obtained his BSc(Eng) in Mechanical Engineering from Imperial College London and continued his studies at Imperial College to obtain a PhD in 1983. He then took up a Senior Lecturer post at Staffordshire University and returned to Imperial College as Lecturer in 1986. He joined the academic staff at the University of Nottingham in 1990 and was appointed to a Chair in Mechanical Engineering in January 2001. He was awarded a DSc in 2010.

In addition to being Chair of the NAFEMS Education and Training Committee, Adib is a member of the IMechE Professional Review Committee and was Chairman of the IMechE Structural Technology and Materials Committee (2010-2012). Adib serves on Editorial Boards of two international journals, and has organised and chaired several international conferences. He has served as an External Examiner for many PhD theses in the UK and abroad, and an External Examiner for undergraduate courses. He has also served on international expert research panels abroad and is a member of the [Gas Turbine and Transmissions Research Centre](#) (G2TRC).

Professor Becker has published over 275 publications in the open literature, including 137 journal papers, and is the author of four textbooks on computational mechanics. He has Research Expertise in computational mechanics and stress analysis, including Finite Element advanced simulations, Boundary Element techniques, high temperature and creep applications, analysis of welds, contact mechanics, fracture, structural integrity and manufacturing simulations. Innovative applications include inverse mechanics, simulation of surgery and modelling plant root growth.

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