



# Noel Conlisk, BEng, PhD

Current location: Edinburgh, UK.

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## Key Skills

- Technical writing and science communication
- Proofreading and Academic editing
- Project Management
- Programming and web development
- Concept / design to realisation
- Medical image reconstruction/analysis
- Simulation of biological structures
- Leading cross-functional teams

## Experience

### Freelance Consultant

Dec '19 - Present

- Proofreader for academic and non-academic manuscripts and technical documents.
- Web development and scientific programming.
- Photogrammetry and 3D image/medical image reconstruction.
- Computer aided design and numerical simulation.
- Online community engagement and security.

### Senior Postdoctoral Research Associate

Nov '18 – Dec '19

Institute for Bioengineering, The University of Edinburgh, UK

- Collaborated with clinical and industrial partners to develop sophisticated computational models of a new orthopaedic implant used in the treatment of severe bony defects.
- Contributed to the development of a successful joint RSE – NSFC proposal with clinical and academic partners based in China, on the application of computational modelling, machine learning and computer vision for non-invasive estimation of fractional flow reserve from coronary computed tomography. Timeframe: 2 years. Total funding: £11,820.

### Career Break/Parental Leave

Oct '17 – Oct '18

### Postdoctoral/Visiting Researcher

Institute for Bioengineering, The University of Edinburgh, UK

Jul '16 – Oct '17

- Led multiple research projects within a cross-disciplinary team consisting of Engineers, Surgeons and Industrial Partners.
- Prepared grant applications for future research projects.
- Provided supervision and training to PhD (4), MEng (6), MSc (1) students, and visiting international researchers (2) within various research groups.
- Collaborated with clinical researchers in Ecole Nationale Supérieure des Arts et Métiers, Paris, France. To develop a sophisticated finite element model of the forearm.
- Technical content reviewer for 6 prestigious peer-reviewed journals in the field of biomedical engineering.
- Developed skills in using python for data science through self-directed learning.

### Research Associate in Computational Modelling

Jun '13 – May '16

Centre for Cardiovascular Science, The University of Edinburgh, UK

- Computational modelling lead on a clinical trial (The MA3RS trial), a multi-centre study primarily based in Scotland, with partner investigators in Perth, Australia, and software vendors in Sweden. Project focus: To improve rupture risk prediction in patients under surveillance for abdominal aortic aneurysms. Timeframe: 3 years. Total funding: £2,145,640. Outcomes: Several publications including 2 first author journal papers.
- Computational modelling lead on an EU funded multi-center proof of concept study with clinical partners at Newcastle University and software engineers at the University of

Sheffield. Project focus: Modelling of cerebral aneurysms (CAs) using the GIMIAS Angio Suite workflow (VPH-share), Timeframe: 6 months. Funding: £13,662.

- Collaborated with vendor in Sweden (VASCOPS ) on software customization
  - Tested software to ensure fit for purpose.
  - Reported bugs and liaised with vendor to correct issues in a timely manner.
- Compared and improved workflows for the creation of detailed three-dimensional patient-specific finite element models of aneurysms (aortic and cerebral) from CT/MRI imaging data sets.

**Research Engineer (temporary contract)**

Orthopaedic Engineering group, The University of Edinburgh, UK

**Feb '13 – May '13**

- Conducted computational research on the topics of fracture fixation and implant design.
- Provided training and assistance to 2 PhD students and 1 visiting researcher.

**Academic Tutor/Teaching Assistant**

School of Engineering, The University of Edinburgh, UK

**Oct '08 – Nov '12**

- Responsible for teaching and grading undergraduate and postgraduate course work/projects in the follow modules: Finite element analysis theory and practical (using Abaqus), AutoCAD/ProgeCAD, and civil engineering projects.

**Education**

**PhD** Orthopedic Engineering

**Oct '08 – Apr '13**

*The University of Edinburgh, Edinburgh, UK*

- This research has led to 6 first-author peer-reviewed journal publications.
- Presented research at 10 different conferences, 5 of which were major international events attended by top experts in the field.

**BEng** Mechanical Engineering **1<sup>st</sup> Class Hons.**

**Sep '04 – May '08**

*Galway-Mayo Institute of Technology (GMIT), Co. Galway, Ireland*

**Self-directed Learning**

- Data Science in Stratified Healthcare and Precision Medicine (Coursera 2019).
- Introduction to Python for Data Science (edX 2016).
- Web-development--cs253 (Udacity 2013).

**Technical Skills**

- Finite Element Analysis software (Abaqus and Ansys).
- Experience in medical image reconstruction methodologies (Mimics, VASCOPS, Amira, VTK, VMTK, and Simpleware).
- Scripting languages for scientific and data acquisition purposes (e.g. Python, C#, LabVIEW and Matlab), (DAQ)/signal processing.
- Proficient in the design and fabrication of custom experimental test equipment and prototypes.
- Soldering and basic electrical/electronic knowledge.
- Windows and Ubuntu operating systems.
- Website design (HTML5 and CSS3) and web applications development (python, jinja, Gql).

**Awards**

Poster prize in the category of “Breaking new technical ground” at the Centre for In Vivo Imaging Science Annual Scientific Meeting, Edinburgh, UK (2013).  
International Travel Grant from The Royal Academy of Engineers (RAEng) to present research at Computer Methods in Biomechanics and Biomedical Engineering, Valencia, Spain, 2010.  
Full PhD scholarship from the University of Edinburgh, 2008.  
Celestica Award for Best Student in Mechanical Engineering, GMIT Galway, 2006.  
Third in regional finals of Young Engineer Ireland, 2004.

**Publication List**

<https://scholar.google.co.uk/citations?user=3ALGTB8AAAAJ&hl=en>