

# Alexandra McCredie PhD, BEng (hons)

Wickford, Essex.  
07736304349

## Academic background

- Current pursuit – Diploma in Full Stack Development (Code Institute)
- July 2022 – Level 4 Award in The Internal Quality of Assessment Processes and Practice (Chelmsford College)
- July 2018 – Level 3 Certificate in Assessing Vocational Achievement (The New Assessment Company)
- June 2012 – Qualified Teacher Status (Teacher Reference Number 1065478)
- July 2011 – PGCE (King's College London)
- August 2010 – PhD Mechanical Engineering (UCL)
- June 2006 – BEng Mechanical Engineering (Upper Second with honours) (UCL). Optional units included non-destructive testing, materials science and mammalian physiology (in conjunction with Medical Physics)

## Employment history

*Sabbatical to upskill into software development (July 2023 – present)*

- **Freelance projects:** Identified and addressed needs through small-scale projects to practise and apply the coding skills gained from my Code Institute course. Developed online training videos and explored the potential transformation into a subscription-based app service. Currently redesigning my company's website and considering future projects, including a potential website redesign for a primary school.
- **Connecting and networking:** Engaging in ongoing conversations and ideation exchange with fellow learners at the Code Institute and my assigned mentor.

*Chelmsford College – Engineering Lecturer, Curriculum Team Leader, Temporary Interim Curriculum Area Manager (April 2013 – July 2023)*

- **Effective Curriculum Development:** Spearheaded the proposal and implementation of HNC Engineering courses, addressing underperformance, and aligning curriculum with local employment needs and university entrance requirements.
- **Educational Leadership:** Led a curriculum team to meet the demands of stakeholders and fostered maximum exposure to essential engineering elements for learners.
- **Assessment Expertise:** Completed Assessors and Internal Verifiers awards, gaining a comprehensive understanding of the apprenticeship program from both academic and workplace perspectives.
- **Greenpower Program:** Played a crucial role in the design, construction, and troubleshooting of electric racing cars in collaboration with students, promoting both outreach and personal development.

- **Interim Management:** Stepped into an interim management role, overseeing departmental decisions, disciplinary matters, and maintaining teaching responsibilities during the manager's extended absence.

#### *Poole AM2/Goldcard Electrical Training – Company Director*

- **Entrepreneurship:** Founded and managed an electrical end-point assessment centre, overseeing the entire business plan, accreditation process, and ongoing management.
- **Innovation:** Personally constructed assessment rigs, demonstrating hands-on technical expertise.
- **Stakeholder Engagement:** Collaborated closely with external stakeholders to ensure the success and relevance of the assessment centre.

#### *St Bernard's High School Westcliff – Physics Teacher*

- **STEM Education:** Taught science and mathematics, including Physics at A level, fostering students' interest in robotics through the initiation of a robotics club.
- **Educational Enrichment:** Organised a residential visit to CERN with sixth-form students, broadening their horizons and scientific understanding.
- **Effective Lesson Preparation:** Thrived in preparing lessons and training materials, realising my passion for teaching and training.

#### *UCL – Postgraduate Researcher*

- **Cutting-Edge Research:** Conducted EPSRC-funded research on ultrasonic techniques to characterise cartilage tissue, pioneering the 'elastography' technique.
- **Technical Prowess:** Demonstrated proficiency in ultrasound, signal processing, and materials behaviour modelling within MATLAB.
- **Research Leadership:** Supervised and marked undergraduate laboratories, enhancing the academic experience for peers.
- **Academic Engagement:** Presented research findings at international academic conferences on acoustics and biomedical engineering.

### **Profile/Personal interests**

I am a highly effective communicator and a rapid, creative problem solver, comfortable in dynamic environments that require quick adaptation to new and changing information. While I excel in independent work, I am equally adept as a team player.

Beyond my professional pursuits, I am dedicated to physical fitness, particularly my interests in aerial hoop and the flying trapeze. I am also committed to continuous learning through reading 'popular science' texts. One of my key passions is the Greenpower electric car program, where I continue to support a former colleague (now working in a local secondary school) engage in building, monitoring, and supporting race days.

### **References**

Prof. Nader Saffari, Mechanical Engineering (UCL)

Mr. Mark Johnson (Waltham Forest College)