EMMA GRIFFITHS

PERSONAL INFORMATION

Citizenship:	South African
Residence:	Germany
Sex:	Female
Languages:	English (Native), German (A2)
LinkedIn:	https://www.linkedin.com/in/emma-griffiths-7a366a9a/

EMPLOYMENT HISTORY

November 2021 – Present
Postdoctoral Researcher at Friedrich-Alexander-Universität Erlangen-Nürnberg

Here I am involved in the creation and simulation of brain models to simulate neurosurgery. This position involves the solving of complex and large problems that have never been attempted before. During this time MATLAB, Python and C++ were explored and utilized to some degree. See https://github.com/EmmaTG/BrainMesher for an example of what I have done here.

2020 – 2021
Graduate Software Developer at Dariel, South Africa

In this position the development of software solutions for a variety of clients was conducted. An application to assist a bank to update their complex relational database was developed. All areas of this application were tasked to me, these included: frontend creation (Angular and PrimeNG), backend data handling (Java, StringBoot), Database maintenance (MySql), API requests (AWS lambda), operations management and development pipeline (Azure DevOps and AWS ECS).

2019-2019
Ad-Hoc Lecturer at the University Cape Town

I lectured two courses to master's students at the University of Cape Town
Courses: Introduction to the Finite Element Method and Nonlinear Finite Element Methods.

EDUCATION

1. Undergraduate studies
   Degree: Mechanical Engineering (BscEng(Mech))
   Completed: December 2015

2. Post-Graduate Studies
   PhD (Mech Eng) in Computational and applied mechanics (CERECAM) at the University of Cape Town. A focus on finite element multi-physical simulations of hierarchical composites with the aim of understanding the micro-mechanical mechanisms present.
   Conferral date: December 2020

SKILLS

LANGUAGES

JAVA	Expert
C++	Competent
PYTHON	Competent
HTML, CSS	Adv. Beginner
JAVASCRIPT	Adv. Beginner
TYPESCRIPT	Adv. Beginner

FRAMEWORKS

ANGULAR	Proficient
SPRINGBOOT	Adv. Beginner

DATABASES

MySQL	Proficient
POSTGRESQL	Adv. Beginner
MONGODB	Adv. Beginner

TOOLS

MATLAB	Expert
DOCKER	Novice
AZURE DEVOPS	Adv. Beginner
LINUX	Novice
GIT	Proficient
AWS	Adv. Beginner

Key:

Novice	Adv. Beginner	Competent	Proficient	Expert

CERTIFICATIONS

- AWS Certified Cloud Practitioner (Validation Number B6ZSGBNBLE1QQM3P)

PERSONAL PROJECTS

- GitHub: https://github.com/EmmaTG

PUBLICATIONS

1. Emma Griffiths, Swantje Bargmann, and B. Daya Reddy. "Elastic behaviour at the nanoscale of innovative composites of nanoporous gold and polymer." Extreme Mechanics Letters, 17, (2017):16-23. https://doi.org/10.1016/j.eml.2017.09.006

2. Emma Griffiths, Jana Wilmers, Swantje Bargmann and B. Daya Reddy. "Nanoporous metal based composites: Giving polymers strength and making metals move." Journal of the Mechanics and Physics of Solids, 137, (2019):103848. https://doi.org/10.1016/j.jmps.2019.103848

3. Emma Griffiths, Celal Soyarslan, Swantje Bargmann and B. Daya Reddy. "Insights into fracture mechanisms in nanoporous gold and polymer impregnated nanoporous gold." Extreme Mechanics Letters, (2020): 100815.

4. E. Griffiths, J. Hinrichsen, N. Reiter, S. Budday. "On the importance of using region-dependent material parameters for full-scale human brain simulations." European Journal of Mechanics - A/Solids 99, (2023):104910. https://doi.org/10.1016/j.euromechsol.2023.104910

5. E. Griffiths., & S. Budday. (2022). Finite element modeling of traumatic brain injury: Areas of future interest. Current Opinion in Biomedical Engineering, 24, 100421. https://doi.org/10.1016/j.cobme.2022.100421