



# D R . T A N Y A E D W A R D S

PHONE  
+49 176 87931979

EMAIL  
TANYAEDWARDS@HOTMAIL.CO.UK

ADDRESS  
GHEUERTAL 4,  
73432 AALEN

DATE OF BIRTH  
19.05.1989

PLACE OF BIRTH  
DURBAN, SOUTH AFRICA

NATIONALITY  
BRITISH

GITHUB  
tanyaedwards.github.io

## S K I L L S

PYTHON  
PANDAS, NUMPY, SCIPY,  
MATPLOTLIB, SEABORN,  
PLOTLY, SCIKIT-LEARN

C++

SQL

MACHINE LEARNING

DECISION TREES, RANDOM FOREST, REGRESSION,  
K-NEAREST NEIGHBOURS,  
K-MEANS, NEURAL NETWORKS

COMMAND LINE

JUPYTER NOTEBOOK

GIT

ALGORITHMS

SIMULATIONS

STATISTICS/DATA ANALYSIS

DATA CLEANING

DATA VISUALISATION

## E D U C A T I O N :

**DOCTOR OF NATURAL SCIENCES (DR. RER. NAT.)**  
09.2012–12.2016 / Max Planck Institute for Nuclear Physics / Heidelberg

Gamma-ray Astrophysics and Particle Physics with the topic: *Separation of Gamma-Ray, Electron and Proton induced Air Showers applied to Diffuse Emission Studies with H.E.S.S.* (an Optical Telescope)

**Activities:** Programming, Algorithm Development, Simulations, Data Analysis and Statistics, Machine Learning, Image Processing, Multivariate Analysis, Mathematical Modelling, Conferences, Team Discussions und Presentations. Grade: cum laude

**BACHELOR AND MASTER OF PHYSICS**  
09.2008 – 07.2012 / University of Leeds / UK

Computational Physics and Astrophysics with the topic: *Investigating Differences in Shower Maximum, First Interaction and Energy Deposition between e+ and Induced Electromagnetic Air Showers.*

**Activities:** Programming, Simulations, Mathematical Modelling, Data Analysis and Statistics, Team Discussions und Presentations. Grade: upper second class (~1.6)

**A LEVELS (ABITUR)**  
09.2005 – 07.2007 / Hertford Regional College / UK

**Main Subjects:** Physics (A), Mathematics (B), Psychology (B), Chemistry (C)

## W O R K E X P E R I E N C E :

**SCIENTIFIC RESEARCHER (POSTDOC)**  
01.2017-04.2017 / Max Planck Institute for Nuclear Physics / Heidelberg

Handover of my scientific work to the next generation within the topic: *Diffuse Emission Studies with H.E.S.S.*

**RESEARCH PLACEMENT**

07.2011 – 09.2011 / Escubed Ltd. (Partners of Leeds University) / UK

Research into tribocharging of pharmaceutical powders. I built a prototype to measure the charge transfer of powders.

## LANGUAGES

ENGLISH | Native speaker

GERMAN | Advanced (B2 / C1)

AFRIKAANS | Basic

---

## INTERESTS

CYCLE TOURING

HIKING

GUITAR

SPORT CLIMBING

BOULDERING

SALSA DANCING

---

## FURTHER WORK EXPERIENCE:

### "YEAR IN INDUSTRY"

08.2007 – 07.2008 / The Wrigley Confectionery Company Ltd. / UK

Project to improve the efficiency, quality and production costs of the Wrigley Factory. Achieved a cost reduction of £620 000 per annum and ensured the International Standards Organization (ISO) 22000 accreditation. I received the *QINETIQ Environmental Award* and was a national finalist in the *National Contribution to Business Award*.

## EXPERIENCE ABROAD:

### 20 000 KM ON A BICYCLE GERMANY TO SOUTH AFRICA

05.2017 – 03.2019 / Cycle Tour / Europe & Africa

Self-organised project called "Rock, Road & Rhino". Cycling from Germany to South Africa while raising awareness and funds for the charity "Save the Rhino International".

### TELESCOPE OBSERVATIONS

11.2014 and 11.2015 / The H.E.S.S. Telescope / Namibia

Observations at the H.E.S.S. Telescope sight in Namibia. Running the control room and troubleshooting hardware and software problems.

### NORTH AMERICA EXCHANGE PROGRAM

07.2010 – 06.2011 / Queen's University / Canada

Received a stipend for an exchange year at Queen's University in Kingston, Ontario, Canada.

## FURTHER DEVELOPMENT:

### GERMAN LANGUAGE COURSE

C1 Level / 07.2020 – now / Goethe Institute / Online

B2+ Level Evening Course / 02.2020 – 07.2020 / VHS / Aalen

B2 Level Full time Course / 07.2019 – 11.2019 / DAA / Aalen

B1 Level Full time Course / 03.2019 – 06.2019 / VHS / Aalen

Aalen, Germany

*Zanya Edwards*