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PROFILE

Diligent and driven electrical engineer and physicist with a broad academic background in renewable energies, power networks and infrastructure resilience, who enjoys the challenge of adapting his skillset to diverse situations. Extensive experience in research, industry and policy. Advanced programming, system modelling and data analysis skills. Proficient in communicating complex scientific and technical information to a diverse audience. Experienced in multidisciplinary working across international settings. Conscientious, curious and solution-focused with a recognition for the importance of socially responsible solutions to global challenges.

HIGHLIGHTS

* Authored 14 peer-reviewed journal and conference papers ([ResearchGate: tinyurl.com/mnoebels-publications](https://www.researchgate.net/profile/Matthias-Noebels/research))
* Research council-funded PhD Studentship
* Competitive policy placement at the Welsh Parliament
* Experience from academia, industry, policy and self-employment

RELEVANT EXPERIENCE

PhD RESEARCHER | THE UNIVERSITY OF MANCHESTER | Sept. 2016 - present  
Studentship from the EPSRC Centre for Doctoral Training in Power Networks.

* **Thesis: "Assessment and Enhancement of Power Grid Resilience to Shocks and Stresses".** Analysis of the performance of power networks during extreme weather events and implementation of smart, risk-based strategies to mitigate the impact of such events.
* **Completed MSc Modules:** 1)Future Energy Challenges; 2) Introduction to Power Systems; 3) Power System Plant, Asset Management and Condition Monitoring; 4) Smart Grids and Sustainable Electricity Systems; 5) Understanding Energy as a System Driving Modern Society; 6) Megaproject Leadership and Strategy.
* **Software:** Matlab, PowerFactory, PowerWorld, IPSA Power, LabView, Python, SQL.
* **Dissemination:** Published several peer-reviewed journal and conference articles. Presented my research at several prestigious scientific conferences, both nationally and internationally, e.g., IEEE PowerTech, IEEE ISGT, EPSRC RiskDay. Peer-reviewed several journal and conference articles.
* **Outreach:** Authored blog articles for Policy@Manchester and the Faculty of Science and Engineering Hub.
* **Teamwork & Collaboration:** (Inter-)national collaboration with scientists in the U.K., U.S., Chile and Costa Rica.
* **Social Responsibility:** Department and faculty representative; tutoring university candidates from disadvantaged backgrounds in the Manchester Access Programme, mentor and judge at the IET Faraday Challenge for local school children.

RESEARCH ASSISTANT | WELSH PARLIAMENT | Jan. 2021 - Apr. 2021  
Competitive policy placement funded by UKRI.

* **Dissemination:** Writing policy briefings and blog articles. Responding to enquiries by Members of the Senedd.
* **Multidisciplinary teamwork and Collaboration:** Collaboration with other research and parliamentary support staff, academics and stakeholders. Supporting the Climate Change, Environment and Rural Affairs Committee.
* **Diversity:** Working across a broad range of topical affairs such as animal welfare, nature conservation and environmental protection.

RESEARCH ASSISTANT | THE UNIVERSITY OF KONSTANZ | May 2016 - Aug. 2016

* **Research:** Optimised structural analysis methods for materials which are used in organic solar cells.
* **Innovation:** Introduced a new analysis technique to my research group which helped understanding the influence of materials on solar cell performance.

RESEARCH ASSISTANT | ISC KONSTANZ | Oct. '13 - Apr. '16

Delivery and dissemination of a smart grid community energy trading platform within the EU FP7 project CoSSMic.

* **Technical skills:** Photovoltaics, embedded systems, programming in Java, PHP, SQL, electronics, circuit design.
* **Teamwork and collaboration:** Interdisciplinary work with international partners from industry and academia.
* **Social awareness and development aid:** Contributed to several development aid projects in Egypt and Tanzania, for example providing a remote high school with renewable energy from solar panels.

RESEARCH ASSISTANT | THE UNIVERSITY OF KONSTANZ | Jun. '10 - Jul. '13  
Involved in research activities on cluster physics, nanostructures and organic solar cells. Independent research and laboratory work. Software and electronic circuit developing.

EDUCATION

MSc Physics | UNIVERSITY OF KONSTANZ, GERMANY | Oct. '12 - Oct. '15

(1.2, equivalent to UK Distinction)

* **Thesis: "Characterisation Methods for Surface Charge States in Solids".** Developed and constructed a fully automatized Kelvin probe setup for characterisation of materials used in organic solar cells.
* **Technical skills:** Photoelectron spectroscopy, cyclic voltammetry, electron microscopy, electrical circuit design, analogue and digital signal processing, programming in Java, Python, PHP.
* **Completed MSc Modules:** 1) Advanced Quantum Mechanics and Electrodynamics; 2) Quantum Transport; 3) Semiconductor Technology and Physics of Solar Cells; 4) Magnetism and Spin-dependent Transport; 5) Experimental Astrophysics; 6) Nanomechanics.

Erasmus Exchange Semester | UNIVERSITY OF ABERYSTWYTH | Feb. '12 - Jul. '12

BSc Physics | UNIVERSITY OF KONSTANZ, GERMANY | Oct. '09 - Sep. '12

(1.4, equivalent to UK First Class Honours)

* **Thesis: "Exploration of spray-coating for producing polymer bulk-heterojunction solar cells".** Results published in peer-reviewed journal paper.
* **Completed BSc Modules:** 1) Integrated Experimental and Theoretical Physics; 2) Analytical Mechanics; 3) Solid State Physics; 4) Nuclear and Elementary Particle Physics; 5) Statistical Mechanics; 6) Semiconductor Physics; 7) Mathematics for Physicists; 8) Methods of Applied Computer Science; 9) Chemistry for Physicists.

OTHER WORK EXPERIENCE

TEACHING ASSISTANT | THE UNIVERSITY OF MANCHESTER | Nov. '17 - Jan. '21

* Tutor in the following undergraduate and postgraduate modules: 1) Measurements & Analytical Software; 2) Power Electronics; 3) Power Systems Analysis; 4) Analysis of Electrical Power & Energy Conversion Systems.
* Supervised and advised on several MSc projects.

FREELANCER

Developing customised, small-scale software and electronics projects.

* **Programming:** PHP, SQL, C, Java, Assembler, Python, JQuery, HTML..
* **Electronics:** Microcontroller, embedded systems and circuit design
* Independent working, project management, accounting, self-taught technical skills.

SAILING INSTRUCTOR and PROFESSIONAL SKIPPER | since '13

* Licensed dinghy and yacht sailing instructor, lifeguard.
* Organising and running sailing courses and holidays.
* Leadership and team management skills.

SOCIAL RESPONSIBILITY

CLUB PRESIDENT | UNIVERSITY OF MANCHESTER FENCING CLUB | Jun '19 - May '20

* **Responsibilities:** Overseeing the committee; budget planning; organisation of competitions, training and trips; main contact for members, the Athletic Union and British Fencing; social media.
* **Achievements:** Organisation of training events, such as armoury, refereeing and coaching courses. Founded the Manchester Cup, a varsity competition involving the three Manchester universities.

PROJECT LEADER | BIKO BIKES (University bicycle workshop and hire) | Jan. '17 - Sep. '19

* **Responsibilities:** Overseeing the workshop, training volunteers, managing finances, looking after the social media presence, repairing bikes, and generally promotion the usage of bicycles as a means of transportation.

EVENT AND PUBLICITY OFFICER | IEEE PES STUDENT BRANCH | Feb '19 - Jan '20

* **Responsibilities:** Advertisement of events. Creating promotional material. Collating feedback. Organising the annual Manchester Energy and Electrical Power Systems workshop. Chairing panel discussion with representatives from academia and industry.
* **Achievements:** 2020 IEEE Exemplary Student Branch Award.

LANGUAGES | English (Fluent) | German (Native) | Russian (Basic) | Welsh (Basic)

INTERESTS | Sailing | Travelling | Hiking | DIY | Music | Electronics