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Callum Rollo

I am a third year postgraduate researcher in the glider group at the University of East Anglia. My PhD is focused on the use of an acoustic Doppler current profiler (ADCP) on an autonomous marine glider. I study shelf break processes, including upwelling, cross shelf transport of nutrients and internal waves. During my PhD I have gained significant field experience, completing two oceanographic cruises as the sole or senior glider operator, as well as multiple single day coastal equipment tests. I have assisted in glider piloting during 10 missions in a range of environments. Alongside my PhD I lead the UEA Python users group, design and deliver Python training courses to students and staff, represent PhD students on the university IT Forum, and collaborate to write open source software for ocean science.

Education

2017–present **PhD in Oceanography** | *University of East Anglia* | Norwich, UK | Supervisors: Prof. Karen J Heywood, Dr. Robert Hall and Dr. Alexander Phillips. Expected submission May 2021.
Thesis title: **Estimating shear from a glider mounted acoustic Doppler current profiler**.

2013–2017 **Integrated Master of Science (MSci) Geophysics** | *University of Southampton* | Southampton, UK | Third year at Utrecht University, Netherlands. Supervisor: Dr Nicholas Harmon.
Thesis title: **Ambient Noise Tomography in the Sumatra Subduction Zone**.

Publications and conferences

Accepted Jun 2020 **Rollo. C.,**Heywood, K.J., Hall, R., Barton, E., Kaiser, J. | Glider Observations of the Northwestern Iberian Margin During an Exceptional Summer Upwelling Season *JGR:Oceans*.

Editorial Service

Reviewer for *Journal of Physical Oceanography* x2

Oral presentations

Apr 2019 **Absolute velocity estimates from a glider mounted ADCP** | PICO presentation | EGU General Assembly | Vienna, Austria.

Apr 2019 **Glider observations of an eastern boundary slope current and upwelling system** | Challenger Society Coastal Processes Special Interest Group | University of East Anglia, UK.

Sep 2018 **Glider observations of an eastern boundary slope current and upwelling system** | Challenger Conference | Newcastle University, UK.

Poster presentations

Nov 2018 **Use of an ADCP Seaglider, results from a trial in Loch Linnhe, Scotland** | Marine Autonomy Showcase | National Oceanography Centre, Southampton, UK.

Nov 2017 **Shear Madness, a new method of measuring ocean currents from a glider** | Marine Autonomy Showcase | National Oceanography Centre, Southampton, UK.

Session convener

May 2020 **Convener of session OS4.1** | Open session on ocean processes and techniques | Sharing Geoscience Online | EGU General Assembly, Vienna, Austria.

Fieldwork Experience

Jan–Mar 2020 **EUREC4A field campaign aboard the R/V *Meteor*** | *Barbados* | International collaboration to better understand the formation of shallow trade wind cumuli.

- Preparation, testing and launch of a 3.5 m autonomous surface vehicle.
- Preparation, testing, launch and recovery of two Seagliders.
- Shift leader taking CTD casts and water samples.
- Live location tracking of UEA platforms, automated NRT data sharing and processing

Apr 2019 **Hydrographic survey on MRV *Scotia*** | *North Sea and Faeroe Shetland Channel.*
- Taking CTD casts and biogeochemical sampling.
- Deployment and recovery of a Seaglider for which I had sole responsibility.

Nov 2018 **ADCP Glider trials** | *Loch Etive, Scotland* | Collaboration between University of East Anglia and British Antarctic Survey.
- Planned a trial mission of an ADCP glider, including sensor setup
- Sole responsibility for preparation, deployment and recovery of a Seaglider

Skills and Expertise

Computer Skills

OS: Linux • Windows • Unix
Languages: Python • MATLAB • Julia
Document prep: LaTeX • Markdown
Misc: git • MySQL • shell scripting

Languages

English: Native speaker
Spanish: C1-level
French: B2-level
Dutch: B1-level
Italian: B1-level

Vocational Training

Jul 2019 **FDSE Environmental fluid dynamics summer school** | *Ecole Polytechnique, Paris* | Two week course on fluid dynamics including lectures, computer labs, practical experiments and a group presentation.

Jul 2019 **Eastern Boundary Current Systems (EBUS) summer school** | *ICTP Trieste, Italy* | 1 week of lectures and practicals on the physical, chemical and biological processes of the coupled ocean-atmosphere EBUS system.

May 2018 **Glider training course** | *UEA, Norwich , UK* | Training in the functioning, maintenance, piloting and data processing of Kongsberg Seagliders.

Teaching

2019–present **Scientific Python** | Group leader | University of East Anglia | Supporting the use of Python across the science faculty. I organise talks, host drop in help sessions and run the website.

2019–2020 **Professional development courses: Python for scientists** | Course design and delivery | University of East Anglia | Courses attended by PhD students, faculty members and technicians. Including a 3 day course in collaboration with Cefas.

2018–2019 **Teaching assistance** | Glider training course, mathematical methods for scientists, introduction to oceanography, applied geophysics | University of East Anglia.

Awards and scholarships

Jun 2019 **NEXUSS Capital Fund** | Proposal for an ADCP for integration autonomous surface vehicle submitted with Karen Heywood and Benjamin Webber | Awarded £35'000.

May 2019 **EGU Early Career Scientist travel support** | For the EGU General Assembly, Vienna..

2014 **Progression Scholarship** | Top 20 results, School of Ocean and Earth Science.

2013 **Entry Scholarship** | Top 10 entry results, School of Ocean and Earth Science.

References

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