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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 a Seaglider. 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 group member, 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, 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

Submitted Dec 2019 **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* x1

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 2019 **Use of an ADCP Seaglider, results from a trial in Loch Linnhe, Scotland** | Marine Autonomy Showcase | National Oceanography Centre, Southampton, UK.

Nov 2018 **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 from AutoNaut.
- Preparation, testing, launch and recovery of two Seagliders.
- 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
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.

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.