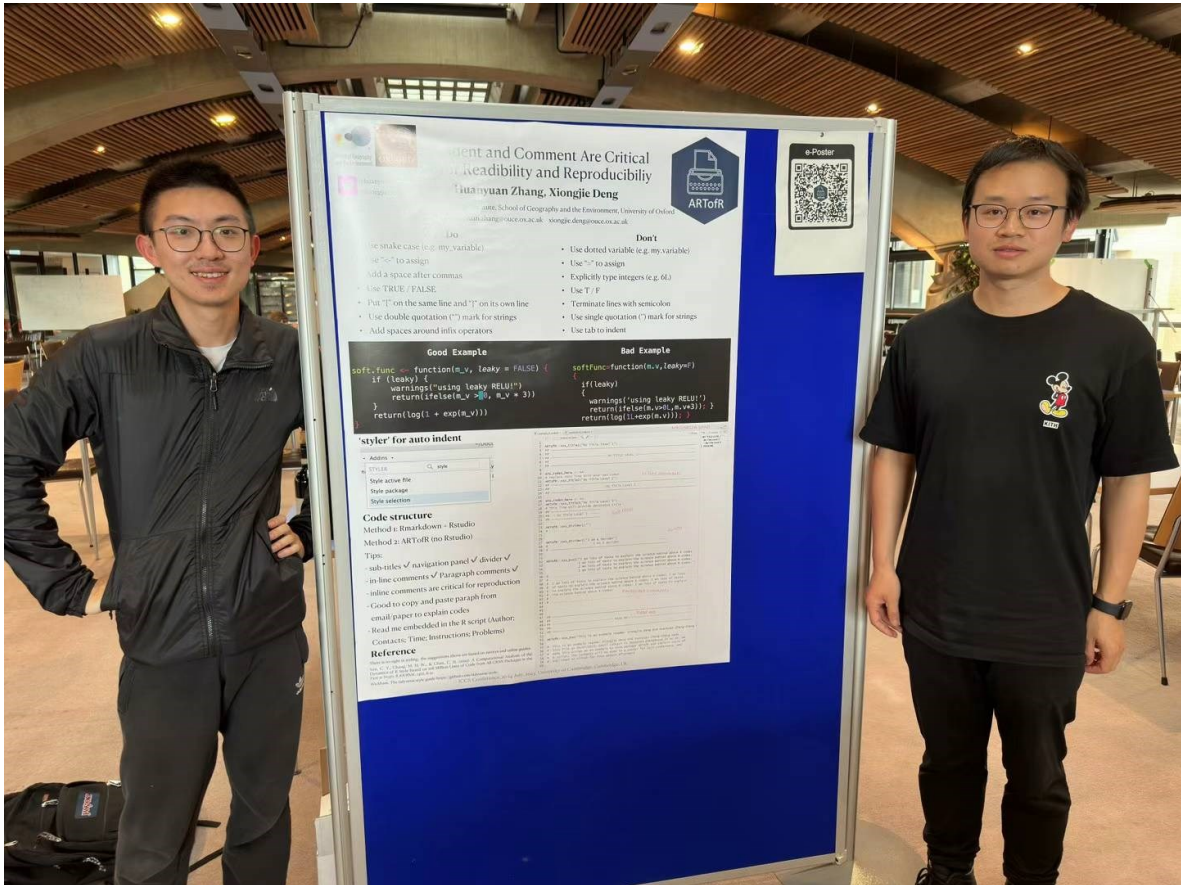


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Scholar's Letter - My Oxford Experience



COSF 2022 Scholar Xiongjie Deng (R) with fellow researcher Huanyuan Zhang at the School of Geography and the Environment

Dear COSF sponsors, supporters and friends,

I hope you are doing well! I am Xiongjie Deng, a first-year DPhil in Geography and the Environment who attended Blackfriars Hall in the autumn 2022. I am very honoured to share my experiences in Oxford in the past year.

Since I came to the UK last September, I have submitted three academic papers as either the leading author or a co-author, one of which investigated the relationship between vegetation and the water-carbon-energy cycle on global terrestrial ecosystem got published by the journal Science of the Total Environment that is a top journal in environmental science discipline in June 2023, and the other two are both under review now. Besides, I also wrote the section "Assessing Forest Carbon Budgets Using Remote Sensing" and collected relevant literature as

one of the co-authors of the chapter “Forest Carbon Budgets and Climate Change” in the monograph “Handbook of Forest Ecology”. In this section, I reviewed the history of forest carbon budget assessment and introduced state-of-the-art approaches to measuring and predicting carbon budgets using satellite remotely sensed data and machine learning algorithms, providing new insights for carbon cycle and climate change monitoring.



In addition to my research, academic communications also provide me with opportunities to talk to more peers who have similar interests to me. To date, I attended the 58th Annual Meeting of the Association for Tropical Biology and Conservation and made an oral presentation on monitoring forest structure and function using remote sensing approaches in July 2022, and I was lucky to be awarded as a member of the “Highly Attended Session”. In March 2023, I attended the ARBOLES meeting and presented my work on assessing biodiversity and forest ecosystem resilience in Latin American forests at the University of Leeds. Last, Dr Huanyuan Zhang, one of the 2019 COSF scholars, and I were invited to join the Institute of Computing for Climate Science Summer School Conference at the University of Cambridge in July 2023, we exhibited our poster and introduced our work on monitoring and simulating climate change using AI models.



Outside my academic life, I find educational outreach also essential in environmental research so I applied for the Christ Church Horizon programme for 15-year-old pupils and acted as a volunteer to give them 12 academic workshops on “Exploring Sciences” days, and I encouraged them to pay more attention to current climatic conditions and choose geography A-level courses by introducing my fieldwork in Ghana and some fundamental concepts in geography. When the kids approached me with their questions (such as why I chose to go to Ghana, the role of remote sensing in geography research, etc.) and displayed genuine interest in climate change following my workshop, I felt an overwhelming surge of excitement. It was a unique experience to witness young minds engaged and curious about such an important topic, their interest and questions remaindered me that the future lies in the hands of the next generation.



Plus, I also realised the significance of applying scientific methods to reality, so I joined a volunteering project to investigate whether Verra’s verified rainforest offset credits represent genuine carbon reductions in January 2023 by cross-checking with a handful of relevant papers, data, and models on the voluntary REDD+ carbon credits market. Finally, a Guardian article (<https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe>) cited our work. I am truly glad that I contributed to this research and Guardian reported our findings so that a wider society may pay more attention to the increasing climate change. Moreover, I applied for a teaching assistant position at the School of Geography and the Environment and led first-year undergraduate students to the Wytham Woods and gave them guidance on the identification of vegetation species in the forest and data processing and analysis using R programming.



In my daily life, I enjoyed hanging out with other COSF scholars and participating in the activities held by COSF coordinators. In the past year, we had formal dinners at Hertford College and Magdalen College and went punting together to luxuriate in the sunshine and fantastic views in May.

Joining the COSF family allows me not only to pursue my scientific research in Oxford but also to know more interesting people who share similar values with me! Once again, I extend my sincerest gratitude for your support and encouragement!

Best wishes,

Xiongjie