



Asian School of the Environment

Newsletter

June 2021

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Welcome to the June newsletter! Highlights this month include experiences from some of our TA's, fieldwork in Brunei, and an interview with ASE alumni Chua Ying Xuan. Hope everyone had a Happy Vesak Day!

ASE/EOS JEDI



The ASE/EOS JEDI committee. Check out their chats and material on [Slack](#) (JEDI@ASE/EOS).

Looking for JEDI speaker suggestions

The two JEDI seminars in April were a success. The JEDI group are looking for suggestions for additional speakers on JEDI related themes. If you have a speaker to suggest, please contact them on Slack.

JEDI coffee breaks starting in June

The JEDI group will host coffee breaks twice a month, starting in June. There won't be a set agenda but focus will be on discussing any JEDI issues that the participants find interesting. To begin with, these coffee breaks will be on Zoom, and move to in-person when possible. Details will be forthcoming by e-mail.

Faculty news



Magma – the topic of Benoit Taisnes research.

- Congratulations to **Judit Hubbard** and **Benoit Taisne**, who have been awarded Tier 2 grants from MOE! Judith's proposal has the title *Understanding cascading earthquake ruptures on orthogonal faults*, and Benoit's *Linking analogue modelling to monitoring and petrology, in order to better understand magmatic processes*.
- **David Wardle** has given the 4th lecture of [APRU SWM Global Lecture Series](#) on 26th May. The title of his talk was: "Long term drivers of aboveground-belowground linkages and ecosystem functioning".
- **David Lallemand** gave a talk on "Assessing Risk through Data-Driven Decision Making" at the recent ['Cities on the Frontlines'](#) speaker series hosted by RCitiesNetwork and the World Bank.

MSO news – WFH, Emergency Response and Field courses



Due to the ever-evolving covid-19 situation, the MSOs have started WFH since 17th May 2021. There will be one active MSO in the office, and the lab MSOs and pastoral care MSO will also be around more often to help in lab and pastoral care matters.

In the coming months, some MSOs will be attending training and subsequently appointed to the Company Emergency Response Team (CERT) which is an in-house emergency response team to deal with emergencies such as fires. They will be the first line of defence should there be a lab fire and would help SCDF to mitigate the situation in the hope that there will be less damage to both lives and property.

Monthly MSO mini interview

Over the next few months we will get to know some of the MSOs better through a series of mini interviews. This month we caught up with field coordinator **Lee Wei Kit**.

How long have you been working at ASE, and what did you do before joining us?

I joined ASE as a field coordinator in January 2019. It has been a fun and good experience working here in the past two and a half years. Prior to joining ASE, I have worked on environmental research projects studying mangroves ecology and groundwater. I have also worked as an environmental consultant before joining ASE.

As a lab and field co-ordinator, what is your favourite part of the job?

My favourite part of this job is the time spent outside of classroom with students and teaching staff. I get to see many different field sites and get to know the students and learn along with them. Getting to know and interact with teaching staff in a field class setting is also an interesting part of this job. It can be quite different from a classroom setting.

You have a major role in organizing the ASE field courses (along with Brian, teaching staff and TAs), but just as many field courses started stricter Safe Management Measures threw a spanner in the works. Could you tell us a bit more about what has been going on with the field courses in the past few weeks?

Most of the ASE field courses take place in May and June. Brian (Perttu) and I had been working with teaching staff, making preparations in the months leading to the field course season. However, starting May, the Singapore government progressively increased the SMM due to the spike in community cases, just a week before the field course start. This derailed most of our plans, and teaching staff had to make quick adjustments to the course programme as each new SMM was announced.



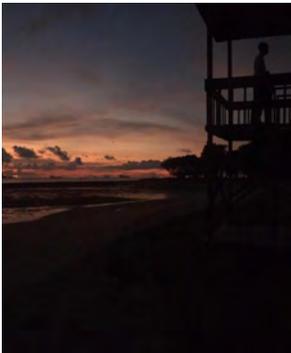
Wei Kit (left) with students during ES1006 Introductory Field Experience in Bali before the pandemic. Photo credit: Federico Lauro



Field course in Kranji Marshes earlier this year. Photo credit: Eleanor Meredith



Students on field course at the Dairy Farms. Photo credit: Elinor Meredith



Night sky during ES1006. Photo credit: Winona Wijaya

One of the undergraduate field courses which I help to organize, [ES1006 Introductory Field Experience](#), was particularly affected. As this field course involves two cohorts of students (one of the cohorts were delayed from May 2020) and more than 25 teaching staff, the adjustment was logistically challenging. We had to split students into smaller groups and arrange staggered timing to comply with SMM and regulations imposed by different sites including hotels and field sites.

Then we had to keep in touch with the vendors and external collaborators to inform them of our programme changes, find out their new restrictions if any, amend permits and logistical arrangements. I am very thankful of their patience and flexibility in dealing with us during this period.

We also have to set up COVID-19 SMM and SOP specific to our field course. It was a bit of a crazy time. There were texts, e-mails, calls through the days and weekends. Just as we thought we were able to pull it off, on Day 1 of the ES1006 field course, a COVID-19 heightened alert SMM was announced and the allowed group size was reduced to 2. There was another round of calls, text exchanges, e-mail and meetings. At the end of that day, we decided there is no way the field course could go on. And for the safety of everyone involved, we suspended the field course.

Given the latest COVID-19 SMM, other field courses have either continued with an adjusted programme structure or been postponed to later dates. All ASE admin and teaching staff including teaching assistants have tried their best to provide our students with the best field course possible under the circumstances, while navigating the constantly shifting ground. Everyone involved deserves a pat on their back for their effort!

Undergraduate students

In-person convocation ceremonies have been postponed, overseas exchange programmes suspended, and field courses were interrupted by SMM, but nothing can stop our undergraduates from being engaged and making a positive difference. Here is what they have been up to in the last month:

[ASEC MAPATHON EVENT 2021 – by Wee Su Fen](#)

Being the community outreach director of ASE Club, I decided to host the school's first official mapathon event on 5th May 2021. A mapathon is a coordinated mapping event, in which participants go online on laptops/computers to trace and draw out the features of an area based on satellite imagery. This helps put vulnerable places on a global map database, thereby improving coverage and to help disaster risk assessment and energy management. Through this event, participants have a real impact on the delivery of global risk and hazard preparedness and response.



Participants of the ASEC Mapathon Event. Photo credit: Wee Su Fen



Participants of the ASEC Mapathon Event. Photo credit: Wee Su Fen



ASE snacks and coasters from ASE Club Bizmag Committee. Photo credit: ASE Club



Writing notes for ASE. Photo credit: ASE Club



"Prof Adam is my hero"

In addition, this event was a collaboration with YouthMappers, and I am proud to say ASEC is Singapore's very first YouthMappers chapter. YouthMappers is international consortium of university-level student mapping clubs, with local chapters in universities of various countries. This gives ASEC a chance to network with other chapters around the world and exchange information and ideas, leading to greater understanding of risk and disaster management.

To add a "twist" to the mapping process, I decided to revolve the mapping activity around a game – similar to battleship. Participants were tasked with mapping Msambweni, a small fishing town in southeastern Kenya. Kenya experiences a number of natural hazards, the most common being weather related, including floods, heavy rains and droughts. Other hazards experienced in Kenya include HIV/AIDS, and more recently, the Covid-19 pandemic. Participants were engaged and expressed satisfaction with the event, stating that it was fulfilling to learn new skills and help with relief efforts in Kenya, in a way that was interesting and engaging!

ASE Club Exam Welfare Initiatives for Semester 2 (AY20/21)

The ASE Club Bizmag Committee has got a variety of items to give to ASE students. These included many of our favourite snacks, exclusive ASE stickers, hand sanitizers, and diatomite coasters!

The ASE Club Events Committee took the opportunity to hold an interactive event for the ASE students. Students were given out little notes to decorate and write anything about ASE or encouragements for finals, and these notes were hung up along the ASE corridor! It was really one of the rare opportunities to bring ASE back together again, not physically but in thoughts and words!



PhD students – PhD welfare, TA-ing, and field work in Brunei

PhD Student Welfare



ASE PhD student Elinor Meredith was recently elected as the [NTU's Graduate Student Association Welfare Director](#). As such, Elinor is the welfare liaison between graduate students and NTU, listening to the needs and feedback of students and reporting to the university leaders to improve welfare services. She also leads the Welfare Committee. Elinor advocates for a fair, equal and diverse campus, free from judgement or harassment, with a range of wellbeing support available, so that students can focus on their research.



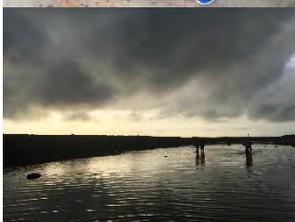
Welfare Director of NTU's Graduate Student Association, ASE PhD student Elinor Meredith

The GSA Welfare Committee is made up of 20 Graduate students across NTU, including PhD students Ning Ding, Rahul, Amit, Raquel and Maple from ASE. The team will organise a plethora of events over the next year to equip students with the tools to support their mental wellbeing such as mindfulness sessions and art therapy, and actively promote mental health awareness across NTU.

If you have any feedback regarding support for your wellbeing from the university during this pandemic, or want to know about what support is available for your mental wellbeing in Singapore, please contact ntugsa-welfare@ntu.edu.sg

The TA experience

Around 30 PhD students have performed their Teaching Assistant (TA) duties during Semester 2 AY 2020-21 for a total of 17 ASE courses, preparing class material and activities, designing quizzes and tutorials, and grading the students. Being a TA in ASE is a great opportunity that allows PhD students to gain experience in teaching while working on soft skills such as communication and teamwork. In addition to the theory-based courses, TAs also recently participated in ES1006 Introductory Field Experience, and ES0001 Physical Environments of Singapore, two courses with a significant fieldwork component. Despite the challenges derived from the social distancing restrictions, the TAs had a great time carrying out these courses, as you can see from the experiences shared below.



Photos from Introductory Field Experience. Photo credit

ES1006 Introductory Field Experience

"It was a good experience, albeit short-lived, it reminded me of how important these experiences are to the students, and how much responsibility we have to make the learning experience valuable" – Kristy Chang

"I was an ASE undergrad, so I went through the "Bali" field course 5 years ago. It feels really different to be on the other side of the course! And it was really fun to be back in the field with the students for the first time since last year, albeit only for 1 day haha. Totally worth the 5.30 am call up time!" – Winona Wijaya

"It was great to see how enthusiastic and motivated the ASE undergraduate students were in the Geoscience section of the course. I had much fun spending the day with the group; it was a great opportunity to chat with the students and

(from the top): Yudhishthra Nathan, Federico Lauro, Kristy Chang, and Winona Wijaya.



Students examining a 3D printed rock. Photo from Introductory Field Experience. Photo credit: Andrea Verolino

get to know them better. It is an experience that I would definitely like to repeat!" – Vanesa Burgos

"It was a pleasure to have been able to TA the latest run of ES1006, the undergraduate field course which is now temporarily based in East Coast Park – much further afield from its usual location in Bali! It was great to meet so many undergraduates whose passion for wanting to better understand the environment was unwavering, despite the challenging circumstances we found ourselves in due to developments in the national COVID19 situation." - Yudhishthra Nathan

ES0001 Physical Environments of Singapore

"Being a TA for Physical Environments of Singapore is very rewarding, with field trips each week. It was fun searching for mudskippers and crocodiles in the mudflats of Sungei Buloh, exploring the coastline of Labrador Park and looking for dykes at Little Guilin Quarry in heavy rain with some very inquisitive students. I also learnt a lot of fun facts from the students' final projects, for example that hornbills are omnivores, the seeds of the Nipah Palm are added to ice kacang dessert and ~40% of red-eared sliders bought as pets are released by owners into the wild!" – Elinor Meredith

"I was excited to find out that some of the rock formations that we see around NTU campus are the same that we find in Batam, and also that, although the campus area has been highly constructed, we still can observe natural features in the landscape, such as the Nanyang Hill, that tell us about the underlying geology." Benet Morant Damia

Colton travelled to Brunei for field work

How was it to travel outside of Singapore in these times?

It was an exciting experience to travel again. It was my first time flying in over a year and I was eager to see Brunei as I had never been there before. Plus, I was keen to get out of the big city and explore a proper forest again...Their view on wearing mask is the opposite from here and it took a few days to adjust to not wearing a mask. At first, I felt like I was doing something wrong but since there have been so few cases in Brunei over the past year, the norm is to not wear one. In fact, people avoid others if they are wearing a mask because only a sick person would wear a mask.

However, traveling through the airports made me nervous. Since the number of covid case in Singapore and Brunei are relatively low, the greatest chance of catching covid is at the airport since you pass through the same areas as incoming passengers prior to their testing and quarantine. In addition, passing through immigration was abnormally stressful. After hearing stories of people not being able to travel or getting stuck abroad because of a missing or improperly filled document, I was sweating as Singapore's immigration pulled me aside for an hour to confirm my "rare" paperwork. Fortunately, I was allowed back into the country!



Colton Collins (front right) in Brunei. Photo credit: Colton collins



Peat swamp river. Photo credit: David Warlde



Balancing on a log through the peat swamp. Photo credit: David Wardle

How important was this fieldtrip for your PhD? Will you be going again?

My PhD is in field-based ecology, so this fieldtrip was critical to my research. The trip has been delayed for over a year, so it was urgent that I go as soon as possible if I am to graduate on time. In July I will be going again. In order to gather the necessary data for my PhD, this trip will last about four months.

You visited peat swamps in Brunei, can you describe to all of us who never had that experience what it is like to be in a peat swamp?

What makes peat swamps particularly different is the forest floor. As a kid, have you ever played the game, the floor is lava? It's a game where you imagine the floor is lava and in order to avoid touching the lava, you have to step/hop from the couch to a chair or whatever other furniture is in the room. Walking in a peat swamp is kind of like that. When you are not wading through water, it's best to step from buttress root to buttress root. If you don't, you'll find that anyone of your steps could give way and instantly you are waist deep in leaf litter.

ASE/EOS Research fellows – Nonacademic careers



Which path to follow after post doc? Photo credit: Shutterstock

Non-academic careers was the theme of the monthly post doc professional development series in May. Thanks to Deepthi Chimalakonda for summarizing what was discussed for the newsletter.

For May's career development seminar, Janice Lee joined the post doc group to talk about non-academic careers. Janice briefly spoke about her own journey to an academic job while having industry jobs as plan B throughout. She stressed the importance of networking and forging professional relationships with industry partners while doing a Ph.D. and even after.

All of us shared potential non-academic jobs we could get into. While we all know the academic job drill well, a lot of us are unaware/scared/nervous about applying for industry jobs. Fear of the unknown, genuine interest in working in an academic environment, lack of knowledge about industry hiring practices generally stop some of us from applying to other jobs. For a couple of postdocs, their current job provided the right balance of academic, field work, and computer work and they were generally happy. We all recognized that postdocs are temporary positions, but given current changes to age and salary requirements for EP/DP, these questions hit hard home.

Another point raised was that usually finding non-academic jobs could be facilitated by long-formed strong [alumni associations](#) that ASE/EOS (as a fairly new school) can build up over time.

Another point raised was that usually finding non-academic jobs could be facilitated by long-formed strong alumni associations that ASE/EOS (as a fairly new school) lack but we can build that up slowly perhaps.



ASE Alumni Association on LinkedIn – a place for research fellows to find new jobs?



Job applicants waiting
Photo credit: Shutterstock

We identified some industry jobs that some of us could potentially apply to, such as Big data analyses, Sustainability (for example Microsoft Sustainability Team), conservation NGOs, Geotechnical companies, etc. As most of us have never applied for non-academic jobs, it would be useful to have some industry interview experience to familiarize ourselves with the process and make this transition smoother if it were to happen. On that note, an open question: could anything can be done to develop skill/professional relationships with relevant companies even at the department level?

The ASE Alumni Association

ASE Alumni Association

On LinkedIn

<https://www.linkedin.com/in/aseaa/?originalSubdomain=sg>

On the NTU website

<https://www.ntu.edu.sg/alumni/associations/school/aseaa>

Email

ase_alumni@ntu.edu.sg

First a message from the ASE PhD students that PhD students are now connecting with the ASE Alumni Association (AA). If you are in touch with graduated PhD students, please let them know that they can join AA (see contact details in the column to the left).

Monthly interview with ASE Alumni

This month we catch up with ASE Alumni **Chua Ying Xuan** from the Public & Civil Service micro-network.

Micro-networks in AA

Environment &
Environmental
Consulting

Academic Research &
Education

Geoscience Consultancy

Corporate Sustainability
& Governance

Business,
Entrepreneurship &
Technology

Public & Civil Service

Where have you been since your graduation?

I'm a Management Associate at Enterprise Singapore, a governmental agency championing enterprise growth.

Under my programme, I will be rotated around 3 divisions over the course of a year. If not for Covid-19 travel restrictions, I'll be able to experience working in one out of our 35 overseas centers for two months. Nevertheless, I'm enjoying the industry development work in ESG - helping our local enterprises build capabilities, innovate and expand beyond the shores of Singapore. I'm energized by the interactions with our local business owners, and glad to be part of their growth journey!

Who was/were your inspiration in ASE?

Prof Janice! I was fortunate to be able to conduct a research module under her, where she gave me the flexibility to examine environmentalism through the lens of the Christian faith! I appreciate how she curates curriculum in such a way that each individual student's interest is taken to heart! Her classes help us explore our interests by equipping us with the methodologies through which we can analyze human & natural systems through different lens. Even as classes were shifted online due to Covid-19 last year, our learning was not compromised as resourceful Prof Janice tapped on her personal network and used this opportunity to invite guest lecturers to share their research areas with us!

What do you miss about ASE, if at all?

I miss nothing as much as I miss FIELD TRIPS! In the hurried frenzy of working life, we don't often get to slow down to observe the nature that is all around us. I



ASE alumni Chua Ying Xuan is a Management Associate at Enterprise Singapore. Photo credit: Chua Ying Xuan



Chua Ying Xuan misses going on field trips. ASE students in Labrador Park. Photo credit: Elinor Meredith.

missed being happily forced outdoors with a field notebook in my hands to observe, take notes and make sense of the world around me.

Tell us some lifestyle changes you have experienced since graduating and starting work!

I miss the flexibility of time that I used to have as a student, as these are not the advantages a full-time working adult would have! Long gone are the undisrupted most cherished summer breaks... But well, these new-found job responsibilities also come with perks as well. I enjoy the expanded financial capacity that I did not once have. Of course, it's heartening to know that generating value to society and to the household!

Famous last words for this interview?

We are all students of this school called life. Stay curious & keep on learning 🙌😊

Some recent outreach and publications from ASE

ASE/EOS authors are in bold. The list is not in alphabetical order and does not aim to include all published papers from ASE/EOS, but to give a taste of the incredible diversity of topics we publish on with some recent examples.

Have a recent publication or outreach we could include? Let Anna know: alagerstroem@ntu.edu.sg



Yuen et al. published on land use change and natural hazards in the river deltas of Vietnam.

Shailendra Mishra, Susan E. Page, Alexander R. Cobb, **Janice Ser Huay Lee**, Antonio Jonay, Jovani-Sancho, Sofie Sjögersten, Adi Jaya Aswandi & **David A. Wardle** (2021) [Degradation of Southeast Asian tropical peatlands and integrated strategies for their better management and restoration](#). *Journal of Applied Ecology*.

Kai Wan Yuen, Tang Thi Hanh, Vu Duong Quynh, **Adam D. Switzer**, Paul Teng, and **Janice Ser Huay Lee**. (2021) [Interacting effects of land-use change and natural hazards on rice agriculture in the Mekong and Red River deltas in Vietnam](#). *Natural Hazards and Earth System Sciences*.



Shailendra Mishra published a review on degradation of peatlands.

Nagur Cherukuru, **Patrick Martin**, **Nivedita Sanwlani**, Aazani Mujahid, Moritz Müller (2021) [A Semi-Analytical Optical Remote Sensing Model to Estimate Suspended Sediment and Dissolved Organic Carbon in Tropical Coastal Waters Influenced by Peatland-Draining River Discharges off Sarawak, Borneo](#). *Remote Sensing*.

Roy P. Remme, Howard Frumkin, Anne D. Guerry, Abby C. King, Lisa Mandle, Chethan Sarabu, Gregory N. Bratman, Billie Giles-Corti, **Perrine Hamel** ... Gretchen C. Daily. (2021) [An ecosystem service perspective on urban nature, physical activity, and health](#). *Proceedings of the National Academy of Sciences*.

Ryan, E. J., **Morgan, K. M.**, Kench, P. S., Owen, S. D., Carvajal, C. P., & Turner, T. (2021). [Fossil reefs reveal temporally distinct late Holocene lagoonal reef shutdown episodes at Kiritimati Island, central Pacific](#). *Geophysical Research Letters*.

Hyodo, F., Takebayashi, Y., Makabe, A., **Wardle, D. A.** and Koba, K. (2021) [Changes in stable nitrogen isotopes of plants, bulk soil, and soil dissolved N during ecosystem retrogression in boreal forest](#). *Ecological Research*.

Nuske, S., Fajardo, A., Nunez, M., Pauchard, A., **Wardle, D. A.**,Gundale, M. J. (2021) [Soil biotic and abiotic effects on seedling growth exhibit context dependent interactions: evidence from a multi-country experiment on Pinus contorta invasion](#). *New Phytologist*.



Kyle Morgan published a study from Kiritimati Island.



Education Minister Wong

Janice Lee and Ben Horton mentioned by minister

“There is a strong pool of researchers in Singapore who are able to support the implementation of the Singapore Green Plan 2030” said Education Minister Lawrence Wong in Parliament on May 11. He specifically mentioned ASE, Janice Lee and Ben Horton. (To hear the reply in full, click on the photo of the minister for a CNA video).



Issue 18 (2021) of 'Pushing Frontiers'

Lot's of research from ASE in the latest issue of *Pushing Frontiers*, NTU's research and innovation magazine, covering research across various scientific disciplines:

- **Janice Lee** writes about eco-labels, this research is also featured on [NTU Research Hub](#).
- **Md Saidul Islam** writes about *Social forces shaping climate change*
- **Kyle Morgan** on muddy coral reefs
- **Benjamin Horton** on sea level rise (cover story)
- **Simon Redfern** interview on Singapore's environmental challenges
- **Emma Hill** profile



National Geographic picked up the story by Judith Hubbard and others on the Himalayas.

“Breathing” of the Himalayas story in Natinal Geographic

Judith Hubbard and co-authors were interviewed by [National Geographic](#) about their recent publication on how the Himalayas “breathe”. “The ultimate goal is to know what kinds of earthquakes we can expect and what kinds of damage they will produce,” Hubbard said, adding that doing so requires significant detective work. “If we’re trying to learn about that exhale or cough process but the earth isn’t exhaling or coughing, it’s really hard to learn about it.”



Nikita Kaushal wrote an article for PAGES.

ASE/EOS visible in the 30th Anniversary Issue of PAGES

[PAGES \(Past Global Changes\)](#) supports research which aims to understand the Earth's past environment in order to obtain better predictions of future climate and environment, and inform strategies for sustainability. They encourage international and interdisciplinary collaborations and seek to promote the involvement of scientists from developing countries in the global paleo-community discourse. Recently PAGES published its [30th Anniversary Issue](#), where they highlight the HOLSEA project (with **Ben Horton** and **Nicole Khan**) on page 19, and **Nikita Kaushal** is lead author of an article on openly accessible paleoclimate records from the Indian region on page 50 – 51.



CNA interview on coastal defenses

Adam Switzer was interviewed about sea level rise and coastal protection on CNA. (Click on the image to watch the video).

Several Southeast Asian cities are already sinking for various reasons

Adam Switzer from Nanyang Technological University says rising sea levels and other climate change factors are causing a number of Southeast Asian cities to sink.



Media interest for the two Nature Geoscience papers

The two Nature Geoscience papers published by researchers from EOS Geodesy group got plenty of media attention from around the world. Here are a few samples:

[Phys.org](#), [Science Daily](#), [Nature News and Views commentary](#), and of course [the CoS Blog!](#)

Have some news to share? Flick Anna an e-mail at alagerstroem@ntu.edu.sg