

# ASE Newsletter

January/February 2022

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ASIAN SCHOOL OF THE  
**ENVIRONMENT**

Welcome to a new year at ASE! We have a new chair, new PhD students, and a new interview series by undergraduate student Terese Teoh. We catch up with the new Personal Assistant to ASE Chair's Office, Maybel D'Silva, and the ASE Alumni interview features PhD student Lee Ming Yang.

All the best for the Chinese New Year!



## Staff Turnover and new roles from January 2022



**Assoc Prof Emma Hill** is the new **Interim Chair** of ASE.



**Maybel D'Silva** is the new PA to the ASE Chair.



**Asst Prof Patrick Martin** is the new Associate Chair for Student Life.



**Edwin Tan Seng Tat** is the new MSO Representative for ASE.



**Asst Prof David Lallemand** is new Asst Chair (Student life).



**Asst Prof Janice Lee** is new Asst Chair (Student life).

## Welcome to ASE new staff



**Marcus Teo** joins us as Research Assistant.

He will be working with Asst Prof David Lallemand's team.

## Career Opportunity

EOS – Remote Sensing Lab, or EOS-RS) is hiring a Research Assistant (Developer). Find out more [here](#)



## Awards and Recognition

### Health and Safety Performance Award 2021 – Rising Star Award to Asian School of the Environment-Earth Observatory of Singapore

ASE has received the “Health and Safety Performance Award 2021— Rising Star Award”.

*“NTU Safety Awards is a platform to recognize all the great efforts, including ideas or safety projects that the various Schools, Centres and Departments have done in year 2021 in fostering a safe work environment for our community. This year Health & Safety Awards for SHARP Cat 2 group recognize Schools/Centres/Departments that are a source of inspiration and pride.”*

NTU Safety Awards are based on an occupational health and safety performance assessment of Schools/Centres/Departments.



At ASE/EOS, Safety Officer Alistair Ting and Lab Manager Heryani Binte Ahmad have demonstrated great efforts in implementing Safety and Health within the workplace as follows:

1. Leadership and Commitment by Management Team
2. Efforts by Safety Committee
3. Consultation / Participation
4. Emergency Preparedness, Safety Moments

Great work Alistair and Heryani!

*Safety Officer Alistair Ting and Lab Manager Heryani Binte Ahmad with the Health and Safety Performance Award 2021 – Rising Star Award*



## New interview series with ASE researchers

This is the first part in a series of interviews where ASE undergraduate student Terese Teoh explores the experience of ASE researchers of working in the field of environmental science, with so many urgent issues to solve. This first interview features Asst Prof Joyce Ong, head of the Aquatic Biochronology Lab. (The interview is also published on the [ASE News Blog](#)).

### Saving the fish in a time of environmental crisis

*"#whyASE – staff edition" - part 1 in an interview series by ASE student Terese Teoh*

*It is small, white and stone-like. Circular in shape, crusty edges. To an inexperienced eye, it would quickly be dismissed. Nothing new about this; surely no different from a slab of white concrete. But to fish biologists like ASE Professor Joyce Ong, this is much like a piece of gold — this is an otolith.*

*What? I wonder. Like protolith, the name of an unmetamorphosed rock we had learnt in Solid Earth? Or megalith, those large stones used in prehistoric monuments?*

It turns out to be none of those. (Of course, after all, I'm speaking to an ecologist, not a geoscientist!) Prof Joyce spells out the word for me, then goes on to explain. An otolith is a calcified structure inside the ear of a fish. So tiny, and yet this ear stone is the key to unlocking many mysteries, like the age of the fish at death, which then is an indicator for the health of the fish population. Is the fish population growing, or shrinking? Was this a natural or unnatural death?

She was an undergraduate student, too, when she first discovered this gem. Since then, she's dived into the world of marine biology and never looked back. (Especially exciting was the time she spent five weeks searching for nemo in the Philippines!)

Today, in her mid-late thirties, Prof Joyce specialises in fish ecology. This includes understanding the life cycle of fishes, their migratory patterns, or how climatic events affect fish populations. After all, from the temperature to the salinity of the water, so many factors influence fish populations.



*Preparing ziplock bags to put the clownfish. [Photo: Joyce Ong]*

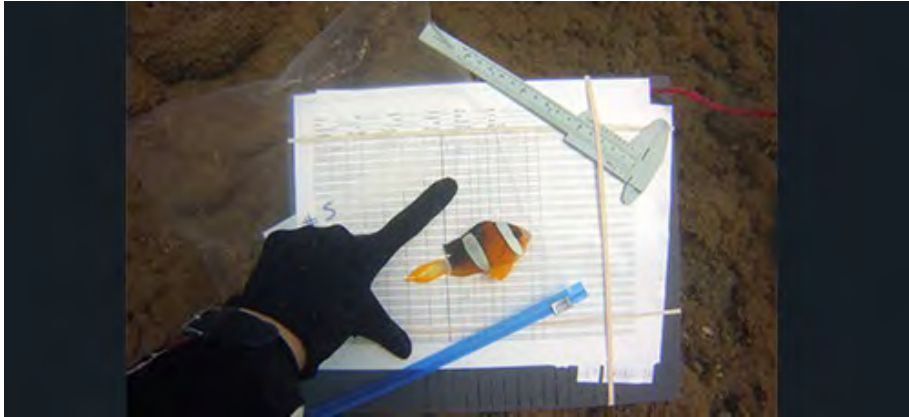
However, the dearth of data about the Southeast Asian fish populations makes many fish populations vulnerable: many fish populations are potentially being overfished to the point of population collapse.

In other parts of the world, some fish populations have been on the verge of facing such a fate. One is the Orange roughy fish, found in the deep, cold waters of the Atlantic, Pacific and Indian Oceans. Another is the Atlantic cod, found off the northeast of the U.S. coast. Thankfully, some of these populations have recovered, since fisheries management realised that these populations had been over-exploited.



Indeed, in some areas in Southeast Asia, the marine habitats are degrading. In a dive a few years ago, Prof Joyce was shocked at the extensive damage to the coral reefs caused by the human litter, mostly plastic in origin. "This was supposed to be a coral reef, but now there's just plastic trash everywhere, and the corals are dead... and all this trash wasn't here the year before." An entire ecosystem ravaged in a single year. Broken under the weight of the plastic products we mindlessly use. "This was the saddest dive of my life."

Indeed, in some areas in Southeast Asia, the marine habitats are degrading. In a dive a few years ago, Prof Joyce was shocked at the extensive damage to the coral reefs caused by the human litter, mostly plastic in origin. "This was supposed to be a coral reef, but now there's just plastic trash everywhere, and the corals are dead... and all



*Measuring the clownfish. [Photo: Joyce Ong]*

These experiences, good and bad, are why the sea continues to captivate Prof Joyce. Knowledge of these behavioural patterns and trends can pinpoint urgent places for conservation. For example, most coral reef fish have juveniles residing in different habitats such as the estuaries, seagrass beds and mangroves. Therefore, protecting coral reefs must be done in lockstep with protecting other habitats.

But it is no good, either, for the knowledge to accumulate just in the minds of scientists, she says. In the past, many in the scientific community were caught in their own bubble, because of all the jargon used, she says. Scientists have to communicate their findings better to the public; scientists must find a way to connect in a way that resonates with them.

Then, once there is awareness on which are the unsustainable seafood, action will follow. Less will buy fishes that are overexploited in their habitats. At present, there are many organisations issuing sustainable seafood certifications, such as the one certified by Marine Stewardship Council (MSC), by Aquaculture Sustainability Council (ASC) or by the World Wildlife Fund (WWF). There also many other sustainable seafood labels, such as the one indicating dolphin-safe tuna.

Do you have any regrets being in the job? Prof Joyce shakes her head firmly. There is nothing to get bored of here; the deeper you dive into the topic, the more questions you discover.

Speaking to Prof Joyce, I felt like I had just received a boost of optimism. If my professor had hope that the fishes can be saved in time, then I had no reason to be dispirited, either.



*A snapper species, about 40–50 years old, studied by Prof Joyce. [Photo: Joyce Ong]*



## The JEDI Committee

The ASE/EOS JEDI committee has an active Slack group with materials and chats. Please contact any of the JEDI committee members if you want to know more! Contact info can be found on the: [JEDI web page](#)

### Updates from the JEDI Committee:

- JEDI workshops have been scheduled for the first half of the semester, and announcements for sign-ups have gone out. The training sessions for the second half of the semester will be scheduled in the next few weeks, after we see the initial response from the first set of sign-ups.
- We're working on a policy document on hiring protocols to promote inclusive practices at all hiring levels going forward.
- We had a successful JEDI retreat in December, and in January we will start working on a vision statement for JEDI in ASE and EOS.

## MSO

### MSO Interview



In every newsletter we get to know one of the MSOs better through a series of interviews. This month we catch up with **Maybel D'Silva**, new Personal Asst to ASE Chair's Office.

**You are the new Personal Asst to ASE Chair's Office, but you are not new to ASE. How long have you worked at ASE/EOS and in what roles?**



I first started out at The Earth Observatory of Singapore in the days when Assoc Prof Charles Rubin was Chair of the Division of Earth Sciences (DES) as ASE was called previously. I am humbled to have worked with Assoc Prof Emma Hill ever since then, following her as her secretary through her different roles, as PI, Provosts' Chair in Earth Sciences, Strategy & Research Director in EOS and now as PA to her new role of Acting-Chair, in ASE. Right from the start I have always liked the vibrancy of this place and the atmosphere of the school and it continues to baffle me after all these years it is still an

*Maybel D'Silva* awesome and exciting place to be part of.

**You have seen ASE grow, what are some things about the school that has changed over the years?**

When I first joined, the school had expertise more in geosciences. It is really wonderful to have a school with research on geohazards here in NTU because many areas in the region around Singapore now, but not much then, are severely affected by violent volcanoes, tsunamis and earthquakes. Now, that climate change has also moved up on the global agenda, we have seen more and more climate science here, which is both very timely and exciting! Also, now we have ecology and researchers specialised in insects,



fish, forests and so on. I am simply in awe how the school has branched out to this extent for students' as well as for our humble learning !

**What do you like best about your job, and what is challenging?**

The most important thing for me now is to grasp the many diverse interests of ASE and to assist the Acting-Chair in her vision for ASE to be a community impacted School.

**You always seem to have a smile to spare for everyone, any tips on how the rest of us can become more like you?**

Ha Ha! It is the most easiest facial exercise one can do to stay ever young! Just smile! Everyone smiles here, so no difference for me!

**Finally, what do you like to do in your spare time?**

I hope to have more spare time but when I do, I really like solving crossword puzzles and reading non-fiction books about universal truths. I also like, design concepts with colours, it is so satisfying to see how they all come together in its finality!

**Anything else you'd like to add?**

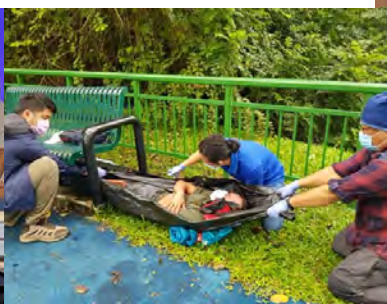
I am, as just mentioned earlier, so happy and humbled to be given the opportunity to continue to learn and grow here as it is really an awesome place to be!

### Wilderness First Aid

ASE recently hosted Wilderness Advanced First Aid (WAFA) for our staff and PhD students who are involved in field programs. The course provider this time is Wilderness Medical Associates.

Highlights of the course includes CPR/AED, wound management in the field and field evacuation procedures.

Please also note that as part of the safety management, there must be someone trained in first aid for any field programs conducted. Do look for Alistair if you need more information on the related



Left: Class of WAFA Nov 2021. Middle: Learning how to move patient in difficult terrains. Right: Doing bandage in wilderness setting. Top: Learning how to move a injured patient up a slope. Photo credit: Alistair Ting.





## ASE Club — Undergraduate Students

### ASE Teams in top in the CoS Challenge



Two ASE teams took the top two places in the College of Science (CoS) Challenge final on 26 January. Congratulations to Team Yeet-2-5-2 ((Zann Teo Jiexin, Phoebe Julian, Shawn Ang, Neo Tung Yin, and Chua Bing Hong) and Team The Quizkipedia (Chow Jun Rui, Alexis Goh, Gooi Jia Yi, Tay Syn Yee Grace, and Oh Jee Hon)!

CoS Challenge is a quiz tournament open to undergraduates from all schools in the CoS. They compete in quizzes with questions in the following categories: 'Brain teaser', 'Complete the song', 'Pop culture', and 'Quotes'. Teams from ASE, SBS and SPMS participated.

Below are some photos of the winning teams (photo credit Benoit Taisne and participating students).



## PhD Students

Congratulations to this year's first PhD graduate, **Olivier Patrick Paul Bernard!** He passed his oral defence on the 27 January. The title of his thesis is: *Investigating the inner controls on explosive eruptions using textural analyses and petrology.*



A warm welcome to the seven new PhD students who joined ASE this January:

YOCHI OKTA ANDRAWINA

LEUNG TSZ KIN CALVIN

ALINA BILL-WEILANDT

KOENIGER MADELEINE SANDRA

MATTHEW JOSEPH WALKER

NGUYEN TRAN THE HUNG

MARFITO BRYAN JIMENEZ

Thanks to Chung-Wing, Sam, Gina and Clarence for organising a fantastic welcome and orientation day for the new PhD students! These are some photos from the event (provided by Chung-Wing Ko).





## ASE PhD students travelled to AGU meeting in the US

After a long time of online meetings and conferences the opportunity to attend the AGU (American Geophysical Union) in December was a welcome change to many. Four PhD students from ASE were able to attend the conference in person, and many more joined virtually.

Among those who took the opportunity to travel to New Orleans, LA, and attend the meeting in person were PhD students **Elinor Meredith** and **Raquel Felix**, who presented their posters *Past records of lava flow damage for use in risk assessments* (Elinor) and *Tsunami hazard in Lombok & Bali, Indonesia due to the Flores backarc thrust* (Raquel). (See photos below).

*“It was great to finally be back at a conference again in person. There weren't any more restrictions at AGU than what we're used to in Singapore, and everyone was being safe and careful - but you have to make sure you have all the certificates and tests ready to fly”* said Meredith.

She added that *“With less physical posters in the hall, there were more people coming up to our posters, which was a good opportunity to showcase our research and meet others. I felt it was more effective and useful to join the skills workshops in person. Also, it was nice to get out of Singapore and explore New Orleans on the various tours available and spot the alligators”*. And of course they did not have to worry about the unavoidable technical issues with conducting a hybrid conference. She is hoping to attend more in person conferences in the future.



*Elinor Meredith and Raquel Felix presenting at the AGU in December 2021. Their posters were titled: “Past records of lava flow damage for use in risk assessments” (Elinor) and “Tsunami hazard in Lombok & Bali, Indonesia due to the Flores backarc thrust” (Raquel). Photos provided by Elinor Meredith.*



## Coffee with our ASE Alumnus — Lee Ming Yang

### How did you spend the recent end of the year holiday season?

I took some time away from my research to catch up with friends and family, eating loads and trying out some new stuff like kayaking and go-karting!

### How was the TA experience and why did you decide to volunteer your time?

Being a TA was pretty fun, especially when I was out in the field. It reminded me of the times when I was an undergraduate doing similar field courses years ago, being amazed at the intricacies of the environment that our professors shared. I think part of the reason I wanted to TA the “Bali” field course was to share the experience of wonder and interest in the natural environment that I felt back then to the undergrads. Of course, being able to take some time off from researching everyday to explore some of Singapore’s less accessible natural spots was a big bonus as

### As your current position as a PhD student requires field work, is it a different experience from the field trips you went on as an undergraduate?

Definitely. When I’m out in the field doing serious research through gathering samples and field data, you don’t necessarily find the time or mental space to immerse yourself fully in nature the same way an undergraduate taking a field course under instructors do. That being said, having been working in tropical forests numerous times over the last 2 or 3 years, I picked up many new perspectives of looking at the natural environment, and it is a refreshing feeling to be able to look at other forest regions in Singapore in a new light by applying what I’ve learnt

### Did you have any takeaways from the TA experience?

It is comforting to see so many students in the next generation of ASE undergraduates still very vested in learning about the environment. To the undergrads, keep that passion burning bright!

### What are your aspirations for 2022?

I hope to 1) write up my first paper/thesis chapter this year; and 2) travel!



Lee Ming Yang is a 2nd year PhD student under the tropical biogeochemistry lab headed by Dr. Kelly Andersen. He digs up roots and soil to study how tropical plant species respond to soil phosphorus limitation belowground, and how their responses impact tropical communities at an ecosystem level.



## Save the date!

**COASTAL CLEANUP**  
**@ EAGLES POINT**

**PAssionWaVe @ Sembawang**      **29 Jan, 2pm-4pm**

👉 As part of the inaugural NTU Service Week, your volunteering efforts will be **matched with donations** to the NTU Priorities Fund to benefit needy students

👉 Meet fellow ASE alumni and have fun together while doing your part for the environment at Sembawang's hidden beach that's only exposed at low tides!

*Sign up here today!*

Oops, this newsletter is sent out a little later than scheduled! Hope you made it to coastal cleanup.

## Looking for career opportunities?

Environmental Consultant - Site Investigation & Risk Assessment, LPMR (Entry Level) | ERM | [Apply here](#)

Research Associate, Media optimization team | Umami Meats | [Apply here](#)

Agri-Sustainability Operator (ASO) | Insect Feed Technologies | [Apply here](#)

Mid-Year Risk Assurance - Sustainability & Climate Change Internship | PwC Singapore | [Apply here](#)

Sustainability Analyst | EcoVadis | [Apply here](#)

## Follow us on LinkedIn!

Follow us to connect with your fellow Alumni, strengthen your professional

[Click here to follow us](#)



## Recent Publications

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.

Please know that there is no automatic recording of published papers from ASE for this newsletter. This list depends on authors notifying Anna. Have a recent publication or outreach item we could include? Please send it to: [alagerstroem@ntu.edu.sg](mailto:alagerstroem@ntu.edu.sg)



Li Yuen Chiew published on dung beetle-mammal interaction. Photo from [TEE Lab web site](#).



J. M. Majewski is lead author of a study on sea level and coral microatolls with many ASE/EOS authors.

J. M. Majewski, A. J. Meltzner, A. D. Switzer, T. A. Shaw, T. Li, S. Bradley, J. S. Walker, R. E. Kopp, D. Samanta, D. H. Natawidjaja, B. W. Suwargadi, B. P. Horton (2022) [Extending instrumental sea-level records using coral microatolls, an example from Southeast Asia](#). *Geophysical Research Letters*.

Li Yuen Chiew, Talya D. Hackett, Jedediah F. Brodie, Shu Woan Teoh, David F. R. P. Burslem, Glen Reynolds, Nicolas J. Deere, Charles S. Vairappan, Eleanor M. Slade (2022) [Tropical forest dung beetle–mammal dung interaction networks remain similar across an environmental disturbance gradient](#). *Journal of Animal Ecology*.

Grau-Andrés, R., Wardle, D. A. and Kardol, P. (2022) [Bryosphere loss impairs litter decomposition consistently across moss species, litter types, and micro-arthropod abundance](#). *Ecosystems*.

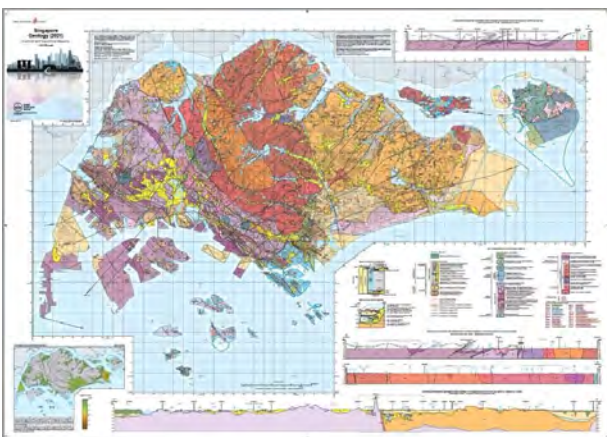
Kench, P.S., Beetham, E.P., Turner, T. Morgan, K.M., Owen, S.D., McLean, R.F. (2022) [Sustained coral reef growth in the critical wave dissipation zone of a Maldivian atoll](#). *Communications Earth Environ.*

Gavazov, K., Canarini, A., Jassey, V. E. J., Mills, R., Richter, A., Sundqvist, M. K., Väisänen, M., Walker, T. N. W., Wardle, D. A. and Dorrepaal, E. (2022) [Plant-microbial linkages underpin carbon sequestration in contrasting mountain tundra vegetation types](#). *Soil Biology and Biochemistry*.

Jing Zhao, Janice Ser Huay Lee, Andrew J. Elmore, Yuti Ariani Fatimah, Izaya Numata, Xin Zhang and Mark A. Cochrane (2022) [Spatial patterns and drivers of smallholder oil palm expansion within peat swamp forests of Riau, Indonesia](#). *Environmental Research Letters*.

## Recent Outreach from ASE

A new **Singapore Geological Memoir and Maps** has been produced with ASE/EOS contribution. Find the bundle [here](#).



ASE Asst Profs **Joyce Ong** and **Janice Lee** will be working with NUS researchers on using larvae of Black Soldier Flies to create a circular food system in Singapore.

**ST: [Researchers develop blueprint for sustainable food system using black soldier flies](#)**

