



SOCIETY OF ECONOMIC GEOLOGISTS, INC.

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Student Chapter Annual Report Cover Page

Submission Deadline: September 30th

Submit to: studentprograms@segweb.org

Month/Year Reported: From 10/2021 (mm/yyyy) – To 10/2022 (mm/yyyy)

STUDENT CHAPTER:

Check if update needed at segweb.org

Name: SEG Monash Student Chapter

University Affiliation: Monash University

Mailing Address: _____

Dedicated E-mail: sci-eae-monash-seg@monash.edu

Website: _____

Logo: _____

Facebook: https://www.facebook.com/monashseg

Twitter: https://twitter.com/Monash_SEG

Instagram: https://www.instagram.com/seg_monash/

LinkedIn: https://www.linkedin.com/company/seg-student-chapter

YouTube: _____

Chapter Executive Committee (*in office during the time frame captured on this report*) (type "Vacant" if position not filled):
The new committee is reported on the Student Chapter Membership Information form (SCMIF).

President: Eric Vandenburg eric.vandenburg@monash.edu
Name E-mail

VicePresident: Lucas Eduardo de Abreu Barbosa Araujo lucas.araujo@monash.edu
Name E-mail

Secretary: Jia-Ping Liao chiaping.liao@monash.edu
Name E-mail

Treasurer: Bin Hu bin.hu1@monash.edu
Name E-mail

Chapter Academic Sponsor: Check if SEG Fellowship in good standing

Andrew Tomkins andy.tomkins@monash.edu +61-3-99051643
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Chapter Industry Sponsor (*not affiliated with the student chapter's institution*): Check if SEG Fellowship in good standing

Laurent Ailleres laurent.ailleres@pgn.com.au +61-3-99051643
Name E-mail Phone

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Address Fax

Sponsoring Institution or Company(name): PGN Geoscience

Monash University SEG Student Chapter



ANNUAL REPORT (2021-2022)

Executive Committee:

President: Eric D.J. Vandenburg

Vice-President: Lucas Eduardo de Abreu Barbosa Araujo

Treasurer: Bin Hu

Secretary: Jia-Ping Liao

Members List

Mareike Rosemann

Cari Rand

Martin Beilharz*

Kaitlin Crewdson

Audrey Quealy

Fernanda Alvarado Neves*

Thyagarajulu Gollapalli

Elliott Barrington

Juan Carlos Graciosa

Yashvardhan Verma

Gokul Venu Sreebindu

* SEG members

1. Main Activities

1.1. Regular meetings and involvement in the community

Over 2022 we held regular meetings focused on the organization of our activities. We also had a continuous presence in our social media platforms (Facebook, LinkedIn, Instagram

and Twitter), where we use for scientific communication as well as to share events of interest to our community and followers. In addition, we set up an Instagram account for our student chapter.

1.2. Involvement with Community

At the beginning of the year, we carried out a survey with two key goals: call new students to become members of our groups and understand what are the interests of our community related to economic geology. We recruited 10 members this year, mostly PhD students. We displayed a flyer to our potential members and introduced the learning and networking events we plan to organize this year. The learning events include seminars and software learning workshops, and a field trip to visit mining sites.

THE SOCIETY OF ECONOMIC GEOLOGISTS (SEG) **MONASH STUDENT CHAPTER 2022**

Join the SEG with us!

MONTHLY SEMINAR SERIES
Invited speakers of economic geology, mineral deposits, structural geology

WORKSHOPS
SOFTWARE LEARNING SERIES

- QGIS, ioGAS, Leapfrog, Geoscience Analyst

FIELD TRIPS!
Visit mine sites, amazing mineral deposits and famous geology locales

NETWORKING AND CAREER EXPLORATION

- Networking events
- Students & academic geoscientists
- Students & industry

MEMBER MEETINGS

- Exchange ideas
- Share knowledge and learning skills
- Meet potential mentors
- Make friends

Membership sign-up link
\$5 before March 28th
\$15 regular fee / year

Contact us for more info ©
Eric Vandenburg (President): eric.vandenburg@monash.edu
Lucas Araujo (Vice President): lucas.araujo@monash.edu

Jia-Ping Liao (Secretary): chiaping.liao@monash.edu
Bin Hu (Treasurer): bin.hu1@monash.edu

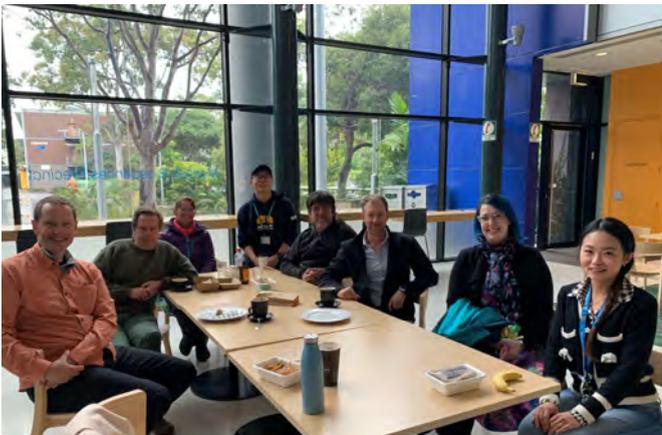
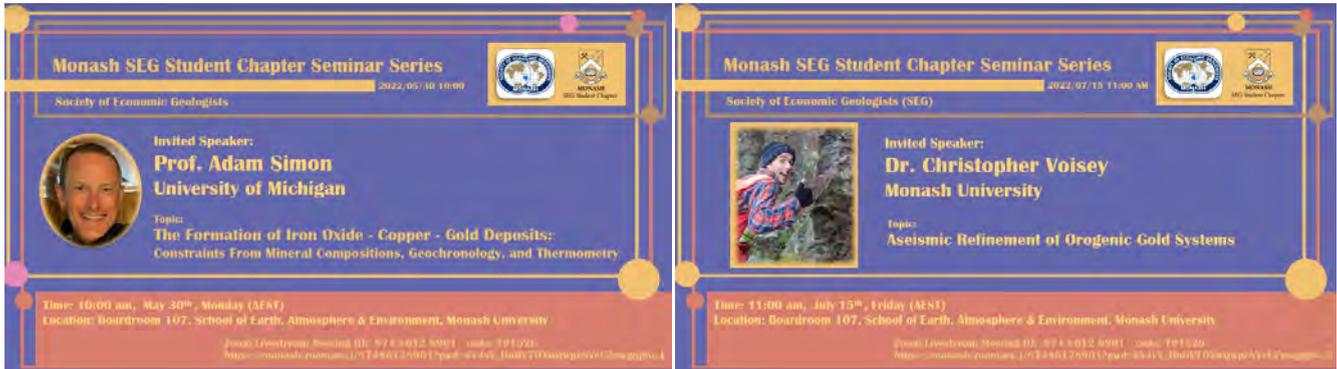
1.3. Seminar organization

We initiated the seminar series this year, in an attempt to bring professionals and academics to our students, by either providing career advice or general geological knowledge.

The first seminar was delivered on May 30 by Prof. Adam Simon from the University of Michigan, entitled "The Formation of Iron Oxide - Copper - Gold Deposits: Constraints From Mineral Compositions, Geochronology, and Thermometry." He discussed various competing models of source-transport-trap for IOCG deposits, and provided his unique insights into the origin of these deposits. We had a participation of 15 people, including our student members and Monash staff. After the talk, we had lunch with him at Campus for further discussion and communication.

The second seminar took place on July 15, delivered by Dr. Chris Voisey, from Monash university, and was entitled "Aseismic Refinement of Orogenic Gold Systems". We had a participation of 11 people. He discussed crustal- to nano-scale influences on orogenic gold systems, and illustrated the mechanisms of concentrating high-level gold between seismic

events. Dr. Chris Voisey expressed his research ideas and recent work vividly and made our audience more interested in this research topic.



1.4. Networking event

We held a networking event during the 33rd Victorian Universities Earth & Environmental Sciences Conference (VUEESC) on April 22. This event provided our members with an opportunity to talk with professionals and ask questions about how to pursue an academic career/PhD degree, how to apply for a job in industry, and explore more interesting scientific ideas. In addition, we displayed a poster to make more people know the official SEG and the scholarships that our student members can apply for.

We invited Prof. Joel Brugger as our panelist to talk about his research in mineralogy and ore formation processes. Prof. Joel Brugger also demonstrated how to use a portable XRF analyser to roughly estimate the elemental composition of rocks.

We also had a small rock exhibition at this event. The rock specimens were mainly a collection from our advisor Prof. Andy Tomkins, and included the famous Banded Iron Formation and other rocks from different mining sites. People showed a great interest in understanding the formation of the ore-formed/related rocks and we even had fruitful discussions with students in different backgrounds like atmospheric science.



2. Plans for 2023

We have planned the following activities for 2023:

- Continuation of our seminar series (online or presentially when possible), and invitation of an SEG distinguished lecturer. The attendance numbers at these events have shown us that there is an interest from our community in the topics we have brought into the school so far, and therefore we will continue to deliver this initiative over the next year.
- Funding applications: (1) the Stewart R. Wallace Fund to support our organized educational field trip in early 2023. (2) Monash Graduate Association (MGA) grant to support our organized workshops and networking events.
- Facilitating career sessions to engage our student community; we would like to invite guest speakers from the industry, government and academia sectors to share a career discussion session with our students. Our plan involves our invited speakers describing their journey into their current role, providing our student members and recent graduates with a better understanding on what is a geoscientist's role in the economic geology sector. We will use some of the SEG active mentors for this.
- Continuous dissemination of scientific information in our social media platforms, as well as our student's successes and accomplishments. We will also disseminate SEG-related events, and encourage our students to engage in the mapping workshops, and SEG field trips, SEG conferences, etc.
- Continuing looking for fundings and/or sponsorships; we have planned some fundraising activities and opportunities for sponsorship, which we hope that we'll be

able to carry out every month in conjunction with our seminar series once the university reopens.

- We will host at least two workshops next year. We have bounced ideas between loGas drillhole data processing, machine learning analyses, geophysical data processing, anaconda mapping techniques, structural mapping techniques on ore bodies, and remote sensing for exploration. We will decide the content of the workshops depending on our students interests and the speaker's availability.

3. Papers published by Monash SEG members (members in bold)

Gokul, V. S., K. M. Sreejith, G. Srinivasa Rao, M. Radhakrishna, and Peter G. Betts. "Crustal and upper mantle density structure below the Indian Ocean Geoid Low based on 3-D constrained potential field modelling: Inferences on causative sources." *Tectonophysics* 822 (2022): 229161. <https://www.sciencedirect.com/science/article/pii/S0040195121004431>

Zuhair, M., **Gollapalli, T.**, Capitanio, F. A., Betts, P. G., & **Graciosa, J. C.** The role of slab steps on tectonic loading along subduction zones: Inferences on the seismotectonics of the Sunda convergent margin. *Tectonics*, e2022TC007242. <https://doi.org/10.1029/2022TC007242>

Bin Hu, L. P. Zeng, W. Liao, G. Wen, H. Hu, M. Y. H.i Li, X. F. Zhao. "The Origin and Discrimination of High-Ti Magnetite in Magmatic-Hydrothermal Systems: Insight from Machine Learning Analysis." *Economic Geology* (2022): 117 (7) 1613–1627. doi: <https://doi.org/10.5382/econgeo.4946>