

## College of Science

Department of Geological Sciences  
Tel: +64 3 364 2766, Fax: + 64 3 364 2769  
Email: [thomas.wilson@canterbury.ac.nz](mailto:thomas.wilson@canterbury.ac.nz)



**15 January 2019**

Dear IAVCEI election committee,

We write to enthusiastically nominate Josh Hayes for the IAVCEI Executive Committee (EC) Early Career Researcher (ECR) position. Josh is currently finishing his PhD, and would be a strong asset to the IAVCEI community in representing the ECR voice. He is uniquely suited to the role:

- Josh is internationally well connected. He has collaborated with researchers based in New Zealand, Argentina, Australia, the Bahamas, Chile, Indonesia, Singapore, Switzerland, the UK, and the USA. He has experience working with scientists and others who speak different languages, and has demonstrated effective communication across language barriers.
- Josh values service to the volcanology community, and would be a diligent and dedicated member of the IAVCEI EC. Examples of his international service to date include co-convening a session at COV10, and making valuable contributions to post-workshop synthesizing documents for the 1st IAVCEI/GVM Workshop 'From Volcanic Hazard to Risk Assessment' in Geneva, 27-29 June 2018. Josh has also participated at several international meeting workshops and events (notably the IAVCEI Volcanic Ash Impacts Working Group of the Cities and Volcanoes Commission), and has impressed us with his level of preparation and active contribution within these meetings.
- Josh has considerable experience given the early stage of his career engaging with non-academic stakeholders, including local and regional government representatives, the civil defense/emergency management community, critical infrastructure organisations, and the wider public. He would bring awareness of the needs of these varied communities, along with engagement experience.
- Josh is highly thoughtful, deeply empathetic and respectful of others and their viewpoints, a strong networker, sociable, and comfortable speaking up when he disagrees – including with a more senior person. He is highly regarded by his peers at the University of Canterbury and throughout the New Zealand volcanology and natural hazards community as a leading PhD scholar. He leads by example, maintains an active international network of colleagues, and consistently supports others. We are confident that Josh would strongly connect, engage with and ably represent the IAVCEI ECR community on the EC, while being a pleasure to work with.
- Josh is an experienced and active social media user, which is increasingly important for both connecting with ERC and also the broader public. He won the University of Canterbury "Tweet Your Research" competition in 2014, and has an active professional presence on Twitter.


- Over his tenure on the EC, Josh would be in the very final stages of his PhD and in his postdoc years, and so would bring the very real lived perspective of ECR scientists navigating the complex world of securing positions and the early stages of post-PhD life.

For these reasons and many more, we are excited to nominate Josh Hayes for the IAVCEI EC ERC position. His experience, leadership, diligence, and commitment make him exceptionally well suited to represent the ECR voice.

Yours sincerely,



Thomas Wilson, Ph.D.  
Associate Professor in Disaster Risk and Resilience  
University of Canterbury  
IAVCEI Membership Number: 1659



Natalia Irma Deligne

Natalia Deligne, Ph.D.  
Scientist – Volcanic Hazard and Risk  
GNS Science  
IAVCEI Membership Number: 1681

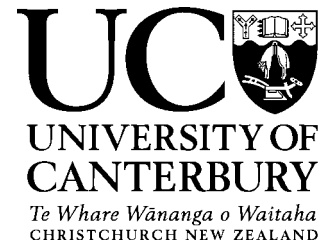
**Fulfilment of IAVCEI Status and By-Laws criteria:**

26. Josh Hayes is a current IAVCEI member (membership number 2350).
27. Josh Hayes's principle co-nominators are current IAVCEI members (Tom Wilson membership number 1659; Natalia Deligne membership number 1681).
28. Josh Hayes is based in New Zealand.
30. Josh Hayes's nomination is seconded by three current IAVCEI members based outside of New Zealand.

*Early Career Researcher Status:* Josh Hayes is currently a PhD student at the University of Canterbury, with an expected graduation date of 2019 or early 2020. He is under the age of 35.

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Department of Geological Sciences  
Tel: +64 3 364 2766, Fax: + 64 3 364 2769  
Email: josh.hayes@pg.canterbury.ac.nz



### *Letter of acceptance of nomination*

Dear IAVCEI Election committee,

I hereby accept the nomination to membership of the IAVCEI Executive Committee as Early Career Researcher should I be elected.

Please feel free to contact me if you need any further information.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Josh L. Hayes'.

Josh L. Hayes

## Josh L. Hayes

January 2019

Email: [josh.hayes@pg.canterbury.ac.nz](mailto:josh.hayes@pg.canterbury.ac.nz)

### EDUCATION

2015 – 2019 (expected)	University of Canterbury, PhD Candidate, Disaster Risk and Resilience
2015 – 2016	Universite de Geneve, Specialization Certificate in the Assessment and Management of Geological and Climate Related Risk
2013 - 2015	University of Canterbury, MSc (1 <sup>st</sup> Class Honours), Hazard and Disaster Management
2009 - 2012	University of Canterbury, BSc: Geology and Geography, Endorsement: Environmental Sciences

### PROFESSIONAL HISTORY

2014 - present	Research and teaching assistant, Department of Geological Sciences, University of Canterbury, New Zealand
2016 – 2017	Research Consultant, DRR Solutions/University of Canterbury, New Zealand

### ROLES, RESPONSIBILITIES AND ACHIEVEMENTS

- Executive member QuakeCoRE Emerging Researcher Chapter (2018 – present)
- Ad hoc reviewer: Bulletin of Volcanology
- Supported coordination of multi-national field research activities
- Claude McCarthy Fellowship (2016)
- UC Connect PhD Scholarship
- Sir Julius von Haast Award for best Hazard and Disaster Management MSc Thesis
- University of Canterbury Tweet your thesis competition – 1<sup>st</sup> place (2014)
- Determining Volcanic Risk in Auckland (DEVORA) Research Scholarship (2014)
- International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) – Young Researcher Member
- International Association of Emergency Managers (IAEM) – Student Member
- Volcanic Impacts Study Group, Auckland Lifelines Group – Member
- USGS/GNS Science Volcanic Ash Impacts Group (member of scientific advisory team)
- Undergraduate class representative (2010 – 2011)

### SELECTED KEY PUBLICATIONS

- Hayes, J.L.**, Calderon, R., Wilson, T.M., Deligne, N.I., Leonard, G., Jenkins, S.F., Williams, G. (in review). Timber-framed building damage from tephra fall and lahar: 2015 Calbuco eruption, Chile. *Journal of Volcanology and Geothermal Research*
- Hayes, J.L.**, Tsang, S.W., Fitzgerald, R.H., Blake, D.M., Deligne, N.I., Doherty, A., Hopkins, J.L., Hurst, A.W., Le Corvec, N., Leonard, G.S., Lindsay, J.M., Miller, C.A., Németh, K., Smid, E., White, J.D.L., Wilson, T.M. (2018). The DEVORA scenarios: multi-hazard eruption scenarios for the Auckland Volcanic Field. Lower Hutt (NZ): GNS Science. 138 p. (GNS Science report; 2018/29). doi:10.21420/G20652
- Deligne, N.I., Fitzgerald, R.H., Blake, D.M., Davies, A.J., **Hayes, J.L.**, Stewart, C., Wilson, G., Wilson, T.M., Castelino, R., Kennedy, B.M., Muspratt, S., Woods, R. (2017). Investigating the consequences of urban volcanism using a scenario approach I: Development and application of a hypothetical eruption in the Auckland Volcanic Field, New Zealand. *Journal of Volcanology and Geothermal Research* 336, 192–208. doi:10.1016/j.jvolgeores.2017.02.023
- Hayes, J.**, Wilson, T.M., Deligne, N.I., Cole, J., Hughes, M. (2017). A model to assess tephra clean-up requirements in urban environments. *Journal of Applied Volcanology* 6, 1. doi:10.1186/s13617-016-0052-3
- Hayes, J.L.**, Rovins, J.E., Brown, N., Sunandang, K., Usdianto, B., Triutomo, S. (2016). Identification of Best Practices in the Development of Disaster Response Frameworks. Report prepared for New Zealand Ministry of Foreign Affairs and Trade (MFAT). Wellington
- Hayes, J.L.**, Wilson, T. M., Magill, C. (2015). Tephra fall clean-up in urban environments. *Journal of Volcanology and Geothermal Research*, 304, 359–377. doi:10.1016/j.jvolgeores.2015.09.014

# Josh Hayes resume for IAVCEI Executive Committee (EC) Early Career Researcher (ECR) position

Josh Hayes is a PhD Candidate in Disaster Risk and Resilience at the University of Canterbury, New Zealand. He has a MSc in Hazard and Disaster Management from the University of Canterbury and a Specialization Certificate in the Assessment and Management of Geological and Climate Related Risk from the University of Geneva, Switzerland. Josh is committed to ensuring the interests of early career researchers of all backgrounds are considered. He has served in similar capacity as an undergraduate class representative in Geology (2010-2011) and is a current executive member of the QuakeCoRE Emerging Researcher Chapter in New Zealand.

Josh is driven to contribute towards developing societal resilience to volcanism, which is reflected in his research on areas such as volcanic impact assessment, urban clean-up, restoration, and recovery after volcanic eruptions. Josh has actively contributed to a number of international workshops and documents dedicated towards this aim, including the IAVCEI Volcanic Ash Impacts Working Group of the Cities and Volcanoes Commission and the 1<sup>st</sup> IAVCEI/GVM workshop on "From Hazard to Volcanic Risk". He has worked on research projects from volcanic hazard assessment, vulnerability and impact assessment, to community response and recovery from volcanic eruptions. He has participated in and co-led multi-national interdisciplinary post-eruption volcanic impact assessments in Indonesia and Chile respectively. He has worked with researchers based in a wide variety of locations around the world including: New Zealand, Argentina, Australia, the Bahamas, Chile, Indonesia, Singapore, Switzerland, the UK, and the USA.

Josh also enjoys working with non-academic stakeholders such as emergency managers, critical infrastructure organisations, and wider society. He has given several public talks to University of the 3<sup>rd</sup> Age groups (learning groups for retired people), and is regularly invited to present to professional groups such as the Auckland Lifelines Group (group of critical infrastructure organisations in Auckland, New Zealand).

As a late stage PhD Candidate currently planning the transition towards a professional research career, Josh understands many of the challenges and pressures early career researchers face. If Josh is elected to the IAVCEI Executive Committee, he will make a concerted effort to ensure that all early career researchers have a voice on the committee and can contribute towards the future growth of IAVCEI. Josh will do this by maintaining an approachable presence at scientific meetings, on social media, through existing channels such as ECR-Net, and will make an active effort to elicit feedback from members wherever possible.



**UNIVERSITÉ  
DE GENÈVE**

**FACULTÉ DES SCIENCES**

SECTION DES SCIENCES DE LA TERRE  
ET DE L'ENVIRONNEMENT  
**DÉPARTEMENT DES SCIENCES DE LA TERRE**

Costanza Bonadonna  
Professeure

Prof. Setsuya Nakada, Chair of the  
IAVCEI EC election Committee

Geneva, January 14, 2019

***Letter of recommendation for the position of IAVCEI Executive Committee (EC) Early Career Researcher***

Dear Prof. Nakada and election committee members,

I am writing to second the nomination of Josh Hayes for the position of IAVCEI Executive Committee (EC) Early Career Researcher (ECR). I have had the opportunity to work with Josh during his time as a participant on the Specialization Certificate in the Assessment and Management of Geological and Climate Related Risk (CERG – C) at the University of Geneva, Switzerland, between April and June 2015 (<http://www.unige.ch/hazards/>). Josh was selected out of a large pool of applications and was ranked the best of his year. His project entitled “Estimating the impact of an Auckland Volcanic Field eruption on residential habitability in Auckland City, New Zealand” also got the maximum mark. Given his motivation, scientific maturity and insights into various aspects of risk reduction, he was also invited to attend the 1st IAVCEI/GVM workshop “From Hazard Assessment to Risk Assessment” that took place in Geneva in June 2018 (<http://www.unige.ch/hazards/iaxcei-gvm-workshop-2018/>).

During the CERG-C training, Josh demonstrated his scientific independency but also his ability to work with other participants from a wide variety of cultures, disciplinary backgrounds and skill sets. In fact, the CERG-C can be a challenging training given that participants all come from different backgrounds, different work environments and different countries and are systematically asked to work in groups and reflect together on various topics of geologic risk reduction (including seismic, landslide, volcanic, flood and climate-related risk). Nonetheless, Josh has largely embraced the experience and demonstrated to work well in multi-cultural and multi-disciplinary teams. He was happy to take the lead when appropriate still respecting and valuing the differences that could come up in his groups but was also open to learn from his colleagues with different expertise. In fact, Josh was appreciated by all other participants and well integrated in all groups.

Josh has also demonstrated commitment to advancing the objectives of IAVCEI by contributing to the 1st IAVCEI/GVM workshop “From Hazard Assessment to Risk Assessment”. Even though Josh is still at the beginning of his career, he was very active before, during and after the workshop and provided very enthusiastic and mature contributions to all workshop discussions, to a survey we sent before the workshop and to the final consensual document. In particular, Josh demonstrated a wide knowledge in the field of risk reduction always suggesting stimulating and thought-provoking perspectives. Josh has also demonstrated service to the discipline by convening a session of volcanic hazard and risk scenarios at Cities on Volcanoes 10, Naples, Italy.

I recommend Josh for the position of IAVCEI Executive Committee (EC) Early Career Researcher (ECR). Josh is organized and committed to getting the job done and would make an excellent addition to the committee.

Sincerely,

Costanza Bonadonna

January 14, 2019

Dear IAVCEI Election Committee,

I am pleased to second the nomination of Josh Hayes to run for the early career position on the IAVCEI Executive Committee. In my role as a representative of the current IAVCEI Early Career Researchers Network (ECR-Net) Working Group, I believe that Josh would be an excellent candidate to represent the interests and perspectives of the early career IAVCEI membership on the Executive Committee.

Currently finishing up his PhD in 2019, Josh is among the large group of early career volcanologists around the world making the transition from student to research professional in our community. This demographic is a critical one for the future growth and engagement of IAVCEI. As a current student, Josh's perspectives on student training and resources in volcanology could greatly contribute to IAVCEI activities. Near the point of finishing, he is also a participant in the international volcanology job market. He embodies the international volcanology early-career experience and therefore would be a keen advocate for these numerous, but under-represented, IAVCEI members.

Even as an early-career member of the IAVCEI community, Josh has taken on numerous leadership roles that would prepare him well for a position on the Executive Committee. His studies have been based in New Zealand, where he has taken an active leadership role in volcanic impacts research and communication, including being a member of the Volcanic Impact Study Group and the scientific advisory team for the USGS/GNS Science Volcanic Ash Impacts Group. Josh took the lead on a session he co-organized at the Cities on Volcanoes 10 meeting last year. He also has prior experience with early-career-targeted groups, participating in IAVCEI ECR-Net programs and events, and currently working as an executive member of a similar organization for disaster-related researchers in New Zealand (QuakeCoRE Emerging Researcher Chapter). All of these roles demonstrate tremendous initiative and management experience valuable for future leadership in IAVCEI.

The IAVCEI ECR-Net Working Group and I are confident that Josh would be an excellent member of the Executive Committee and we would work closely with him to represent the ECR membership of IAVCEI in ongoing and future initiatives of IAVCEI and IAVCEI ECR-Net.

Sincerely,



Hannah Dietterich

Alaska Volcano Observatory  
U.S. Geological Survey  
4230 University Drive Suite 100  
Anchorage, AK 99508 USA

January 14, 2019

***Letter of recommendation for Josh Hayes  
for the position of IAVCEI Executive Committee (EC) Early Career Researcher***

Dear Professor Nakada and IAVCEI election committee,

I am writing to strongly support the nomination of Josh Hayes for the position of IAVCEI Executive Committee (EC) Early Career Researcher (ECR). I have known Josh since 2014, when we met at the Cities on Volcanoes conference in Yogyakarta, Indonesia and subsequently worked together on a post-eruption volcanic impact assessment of the 2014 eruption of Kelud volcano. Since that time, I have seen Josh grow into a hard-working, productive and very accomplished early career researcher.

Josh has demonstrated exceptional organisational and leadership skills during a recent collaborative research project involving researchers from New Zealand, Chile and Singapore. The collaboration team included a number of very busy senior scientists across multiple timezones and cultures. Josh really drove the project, and the manuscript currently being reviewed with JVGR is a credit to his communication and problem-solving skills, as well as his tenacity and general likeability. These skills would be an asset to the IAVCEI Executive Committee.

Josh has shown dedication to the discipline and to IAVCEI through convening sessions at Cities On Volcanoes 10 in Napoli, contributing to the IAVCEI International Volcanic Ashfall Impacts Working Group as well as engaging with stakeholders through the Volcanic Impacts Study Group and the Auckland Engineering Lifelines Group. For example, Josh has worked with Auckland Council to develop an outreach poster that provides information on cleaning up volcanic ash, one of Josh's unique areas of expertise. This shows a desire and skill for communicating science across multiple disciplines and levels of seniority.

On a personal level, I really enjoy working with Josh – he is dependable, pleasant to be around and genuine, while also being an excellent and professional researcher who really holds a team together while driving projects forward.

To conclude, I wholeheartedly support Josh's application for the position of IAVCEI EC Early Career Researcher and think he will be an excellent addition to the IAVCEI Executive Committee.

Sincerely,



Dr Susanna Jenkins