

January 15, 2019

Dear IAVCEI Election Committee,

We are pleased to nominate Julia Eychenne for the Early Career Researcher position on the IAVCEI Executive Committee. Julia is an excellent researcher, collaborator, teacher, and mentor, and is currently a research fellow at Université Clermont-Auvergne. Her experience as an early career researcher and the leadership she has shown so far in her career make her an excellent candidate to represent the interests and perspectives of the early career IAVCEI membership on the Executive Committee. We also support her nomination on behalf of the IAVCEI Early Career Researchers Network (ECR-Net) Working Group.

Julia's career embodies the experience of many young volcanologists in our community and makes her a strong advocate for early career researchers worldwide. She has been very successful in leading research projects, publishing, securing research funding, and teaching and mentoring students. However, like many in our community, she has also held a number of short-term research positions in multiple countries on the path to long-term stable employment. At the same time, she has also navigated the challenges of building a family while pursuing an academic career. Her personal experiences make her an excellent candidate to lead efforts to engage and support the international community of early career volcanologists.

Through mentoring students and active participation in volcanology community, Julia has supported students and early career scientists and demonstrated leadership skills that prepare her well for a position on the Executive Committee. Julia's experience supervising students and guiding them as they start their research careers shows a commitment to mentoring the youngest members of our IAVCEI community. Her work organizing conference sessions, workshops, and participating in meetings and field trips displays her talent for leadership and drive to support IAVCEI activities. She has shown great initiative in her past service to the community and has great potential to contribute as a member of the Executive Committee.

We are confident that Julia would be a productive and engaging member of the Executive Committee and represent the ECR membership of IAVCEI well in ongoing and future initiatives of IAVCEI.

Sincerely,



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



Kathy Cashman
School of Earth Sciences
University of Bristol
Wills Memorial Building Queens Road
Bristol BS8 1RJ UK

Dr Julia Eychenne – Research Fellow in Physical Volcanology

Laboratoire Magmas et Volcans, Université Clermont-Auvergne
6 Av. Blaise Pascal
63178 Aubière
FRANCE

15th of January 2019

To the IAVCEI election committee,

I am honoured to accept Dr. Hannah Dietterich and Prof. Katharine Cashman's nomination and present my candidature for the Early Career position in the IAVCEI executive committee. Having an Early Career representative in the IAVCEI executive committee is a very exciting opportunity that will facilitate the integration in the volcanology community of the researchers from around the world who are in early stages of their careers. I would be happy to be their representative and serve the already successful ECR-net group in its mission to support and engage with early career workers.

I am a physical volcanologist with research interests on the hazard and risk associated with explosive volcanic plumes and volcanic ash. I currently hold a Research Fellowship at "Laboratoire Magmas et Volcans" in France, granted by a local consortium on studies on disaster risk and socio-economic vulnerability (CAP 20-25 I-Site Clermont project). My current research is transdisciplinary and allows me to collaborate with medical teams and economists specialized in international development. Since my PhD, I have worked at the University of Hawaii and the University of Bristol, where I was funded by a Marie Curie Research Fellowship from the European Commission. I have also worked in close collaboration with colleagues from the Instituto Geofísico in Ecuador and the French National Institute on Sustainable Development (IRD) to study the behaviour of long-lasting andesitic eruptions.

During these experiences I benefited from the support of our volcanology community, and I believe it is an essential role of the IAVCEI to help researchers navigating their way through the early stages of their careers. Early career researchers have to face many challenges in an increasingly demanding international research environment. While often working on short-term projects and moving to new positions worldwide, they are expected to lead excellent research projects, publish in world-class journals, fund their own independent research, and secure stable employment. Federating early career researchers inside IAVCEI is an excellent initiative which will allow networking, sharing experiences and mentoring. Beyond these considerations, I value the richness and diversity of our volcanology community, and I would like to take a greater part in engaging and supporting colleagues worldwide in order to develop collaborative research and advance our understanding of volcanic-related phenomena as a community.

Please find enclosed my CV and resume. I thank you in advance for considering my candidature to the ECR position in the IAVCEI executive committee and I am looking forward to hearing from you.

Sincerely,

Julia Eychenne



Dr Julia Eychenne – Research Fellow in Physical Volcanology

Laboratoire Magmas et Volcans
Université Clermont-Auvergne
6 Av. Blaise Pascal
63178 Aubière
FRANCE

RESEARCH INTERESTS

My research interests focus on the hazard and risk associated with explosive volcanic plumes. Volcanic plumes are common but unpredictable phenomena occurring during explosive eruptions. They transport volcanic ash through the atmosphere and have disruptive environmental and socio-economic impacts both on the ground (water contamination, issues for human health, damage on infrastructures, crops and livestock) and in the air (interruption of air traffic). Mitigating these impacts and quantifying the associated risk for the vulnerable and exposed elements require an in-depth understanding of the behaviour of volcanic plumes and the dynamics of explosive eruptions. Indeed, the near-vent behaviour of plumes (e.g. plume height) as well as the characteristics of tephra fall deposits (e.g. thickness) and the texture of the ash grains (e.g. composition, vesicularity) are essential to e.g., determine safe airspace zones, quantify structural damage thresholds, assess the health impacts on humans. My past research focus on quantifying the volcanic ash hazard. My aim in my current research is to apply my hazard-related knowledge to develop a comprehensive research program on the risks associated with volcanic ash.

CURRENT POSITION

2019 - 2021 **Research Fellowship, LMV, France:** *Health and economic impacts of volcanic ash.*
Funded by a *Fellowship from the CAP 20-25 I-Site Clermont consortium.*

I am currently holding a research fellowship focusing on the impact of volcanic ash on human health and the economy of developing countries. I am working in collaboration with a medical team specialized in toxicological studies on human tissue, and a team of economists who are experts in research on international development. This transdisciplinary research program aims at quantifying some of the risks associated with the formation and spreading of volcanic plumes through the atmosphere.

INVOLVEMENT in the VOLCANOLOGY COMMUNITY

- 2017 **French translation of the voiceover for 6 short educational films** of the series “VolFilm” designed to help communities living near volcanoes (initiative of the Global Volcano Model).
- 2017 **Organisation of a workshop** on Transdisciplinary Research on Volcanic Risk hosted by LMV, with participants from physical science (volcanology, mathematics, engineering) and socio-economical science (cognitive psychology, economy of development).
- 2017 Participation in the **IAVCEI General Assembly, Portland, USA**
- 2015 Participation in the **IUGG General Assembly, Prague, Czech Republic**
Session convening
- 2014 **Organisation of a workshop** on Volcanic Ash hosted by the University of Bristol, with academic and non-academic (London Volcanic Ash Advisory Centre) participants.
- 2014 **Cities on Volcanoes 8 Field Trip** in the Tondano Caldera, North Sulawesi, Indonesia, led by Dr. J. Pallister and H. Wright (USGS), and Pak Kristianto (Badan Geologi, Indonesia).
- 2014 Participation in the **Cities on Volcanoes 8 conference, Yogyakarta, Indonesia**
Session convening
- 2013 Participation in the **IAVCEI General Assembly, Kagoshima, Japan**
- Since 2013 **Member of the IAVCEI, AGU and French Geological Society.**

Dr Julia Eychenne – Research Fellow in Physical Volcanology

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63178 Aubière, France

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33 years old (04/11/1985)
One child (born 5/09/2018)

EDUCATION

- 2008 – 2012 **PhD in Volcanology:** Laboratoire Magmas et Volcans (LMV), University Clermont-Auvergne, France
Eruptive budgets and origin of andesitic explosive paroxysms during open-system activity: the August 2006 Tungurahua eruption, Ecuador. Advisor: J.L. Le Pennec
- 2008 **Engineering Graduate Diploma in Petroleum Geosciences and Master degree in Geodynamics:**
“Engineering School” of Geology (ENSG) and University of Lorraine, Nancy, France

RESEARCH APPOINTMENTS

- 2019 - 2021 **Research Fellowship, LMV, France:** *Health and economic impacts of volcanic ash.*
Funded by a *Fellowship from the CAP 20-25 I-Site Clermont consortium on studies on disaster risk and socio-economic vulnerability.*
- 2016 – 2018 **Research Fellowship, LMV, France:** *Experimental calibration of satellite-based methods for the study of volcanic plumes.*
Funded by an *Independent Research Fellowship from the French National Research Institute for Sustainable Development (IRD).*
- 2013 – 2016 **Research Fellowship, University of Bristol, UK:** *Primary and secondary processes of ash formation and transport during dry explosive eruptions.*
Funded by an *Independent Intra-European Marie Curie Fellowship* from June 2013 to June 2015.
- 2012 – 2013 **Post-Doctoral research position, University of Hawaii, USA:** *Dynamics of the 2008-2012 explosive events at Halema`uma`u Overlook vent, Kilauea volcano.*

KEY PUBLICATIONS

- Gouhier M, **Eychenne J**, Azzaoui N, Guillin A, Deslandes M, Poret M, Costa A, Husson P, **2019**. Low efficiency of large volcanic eruptions in transporting fine ash into the atmosphere. *Nature Scientific Reports*
- Buckland HM, **Eychenne J**, Rust AC, Cashman KV, **2018**. Relating the physical properties of volcanic rocks to the characteristics of ash generated by experimental abrasion. *J Volcanol Geotherm Res* 349:335-350
- Eychenne J**, Rust AC, Cashman KV, Wobrock W, **2017**. Distal enhanced sedimentation from volcanic plumes: insights from the secondary mass maxima in the 1992 Mount Spurr fallout deposits. *J Geophys Res Solid Earth* 122:7679-7697
- Bernard J, **Eychenne J**, Le Pennec J-L, Narváez Rivadeneira D, **2016**. Mass budget partitioning during explosive eruptions: insights from the 2006 paroxysm of Tungurahua volcano, Ecuador. *Geochem Geophys Geosyst* 17:3224-3240
- Engwell S, **Eychenne J**, **2016**. Contribution of fine ash to the atmosphere from plumes associated with pyroclastic density currents. In *Volcanic Ash: Hazard Observation*, edited by Mackie S, Ricketts H, Watson M, Cashman K, Rust A. 67:85
- Eychenne J**, Cashman K, Rust A, Durant A, **2015**. Impact of the lateral blast on the spatial pattern and grain size characteristics of the May 18, 1980 Mount St. Helens fallout deposit. *J Geophys Res* 120:6018-6038
- Eychenne J**, Houghton B, Swanson D, Carey R, Swavely L, **2015**. Dynamics of an open basaltic magma system: the 2008 activity of the Halema`uma`u Overlook vent, Kilauea Caldera. *Earth Planet Sci Let* 409:49-60
- Eychenne J**, Le Pennec J-L, Ramon P, Yepes H, **2013**. Dynamics of explosive paroxysms at open-vent andesitic systems: High-resolution mass distribution analyses of the 2006 Tungurahua fall deposit (Ecuador). *Earth Planet Sci Let* 361:343-355
- Eychenne J**, Le Pennec J-L, **2012**. Sigmoidal particle density distribution in a subplinian scoria fall deposit. *Bull Volcanol* 74:2243-2249
- Eychenne J**, Le Pennec J-L, Troncoso L, Gouhier M, Nedelec J-M, **2012**. Causes and consequences of bimodal grain size distribution of tephra fall deposited during the August 2006 Tungurahua eruption (Ecuador). *Bull Volcanol* 74:187-205



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15th January 2019

Re: Letter of support for Dr Julia Eychenne

Dear Madam or Sir,

I am writing to wholeheartedly support the nomination of Dr Julia Eychenne as the Early Career Researcher (ECR) representative of the IAVCEI Executive Committee (EC); she will be an excellent fit to the position. I have known Dr Eychenne since 2013, when she started as a Post-doctoral Research Fellow at the University of Bristol while I was carrying out my PhD studies. She was an excellent addition to the Volcanology group, not only contributing with her wealth of academic knowledge, but also helping to mentor younger PhD, MSc and undergraduate students, passing on her considerable experience despite being at an early stage herself. I have continued to interact with Dr Eychenne in various situations, including in my current role on the IAVCEI ECR-net committee, where she is always happy to help.

Dr Eychenne has an impressive academic publishing track-record and has successfully secured three independent postdoctoral research fellowships, the last of which is transdisciplinary collaborating with medical and international development experts. These inspiring achievements and experiences will allow Dr Eychenne to formulate new ideas and initiatives to share her knowledge with the burgeoning volcanology ECR community and help them along their chosen career paths, whilst being aware of the many difficulties facing early career researchers. This is something I know from personal experience that Dr Eychenne is passionate about, and excited to contribute.

I have no doubt that an ECR position will be a huge success for both Dr Eychenne and the IAVCEI. To reiterate, I absolutely support Dr Julia Eychenne for the IAVCEI ECR position.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J. Hickey'.

Dr James Hickey

Lecturer in Geophysics | University of Exeter



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15 January, 2019

Dear Professor, Nakada,

I am extremely pleased to second the nomination of Dr. Julia Eychenne to the Early Career Researcher position of the IAVCEI Executive Committee. I have known Julia for over 5 years, as a colleague and as a friend. I am writing this letter of support in my capacity as an IAVCEI member and as a lecturer working in the fields of volcanology and petrology. Julia is an experienced and passionate volcanologist who would be an excellent candidate for this position.

Julia's research addresses the hazards and risks of explosive volcanic eruptions and associated processes of ash dispersion and deposition. She has extensive laboratory, field and analytical experience in physical volcanology. Her current position, as a research fellow at the Laboratoire Magmas et Volcans in France, emphasises the health and economic impacts volcanic ash and has required her to adopt a highly trans-disciplinary approach to scientific research. As part of this process, she has engaged with mathematicians, engineers, economists, psychologists, and medical practitioners and worked across the academic, government, and private sectors. Prior to this, through successive research positions in the United States, the United Kingdom and Europe, she has worked to bridge the gap between post-eruptive deposits of ash on the ground and syn-eruptive behaviour of ash in the atmosphere. Julia's collective research experience has brought her into contact with diverse scientific cultures, a wide variety of disciplines, and a cross section of the practicing volcanological community. As such, she promises to bring a breadth of perspective on our science and its societal impacts to governance of the organisation.

Since 2013, I have been involved in the governance of another scientific society, the American Geophysical Union, in which I currently serve on the Board of Directors. I feel strongly that effective scientific governance requires qualities that extend beyond one's aptitude for research. Breadth of perspective, a desire to affect positive change, and a capacity for stewardship are all extremely valuable. Julia has all of these qualities and more. She has worked across sectors in countries across the globe. She has experienced the unique pressures of postdoctoral research from a variety of vantage points, and is well-positioned to advocate for the needs of IAVCEI's early career researchers. Like many of them, she is a new mother. She is personable, friendly, and optimistic, and I am pleased to have had the opportunity to work with her over the years.

Julia has all of the attributes required to serve as an effective leader and representative of the volcanological community. I am confident she will be an asset to the IAVCEI executive committee, and I encourage you to consider her nomination seriously. If you have any further questions, please feel free to get in touch.

Best,

A handwritten signature in blue ink that reads "Jenny Riker". The signature is written in a cursive, slightly slanted style.

Dr. Jenny Riker

January 15, 2019

***Letter of recommendation for Julia Eychenne
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 Julia Eychenne for the position of IAVCEI Executive Committee (EC) Early Career Researcher (ECR). I have known Julia since 2013, when we worked together at the University of Bristol. We research similar sub-disciplines of volcanology – ash transport and impacts – and so I am very familiar with her research and her standing within the community. Julia is a well-respected, hard-working and very accomplished early career researcher, collaborator and teacher. She has worked on a number of different projects in multiple countries, and has been involved in mentoring students and fellow researchers within these posts. Thus, she has a demonstrated ability to connect with young researchers from different backgrounds and to support them in the early parts of their career. This means that Julia understands well some of the challenges facing IAVCEI early career researchers and the tenacity required to excel in an academic career. I think her background and mentoring and communication skills would be an asset to the IAVCEI Executive Committee.

Julia has actively participated in the volcanological community through convening sessions and workshops at IAVCEI conferences, participating in outreach and collaborative activities. This shows a desire and skill for collaborating and communicating her science.

On a personal level, Julia is a great person to interact with – she is dependable, supportive and genuine. I wholeheartedly support Julia's application for the position of IAVCEI EC Early Career Researcher and think she will be an excellent addition to the IAVCEI Executive Committee.

Sincerely,



Dr Susanna Jenkins