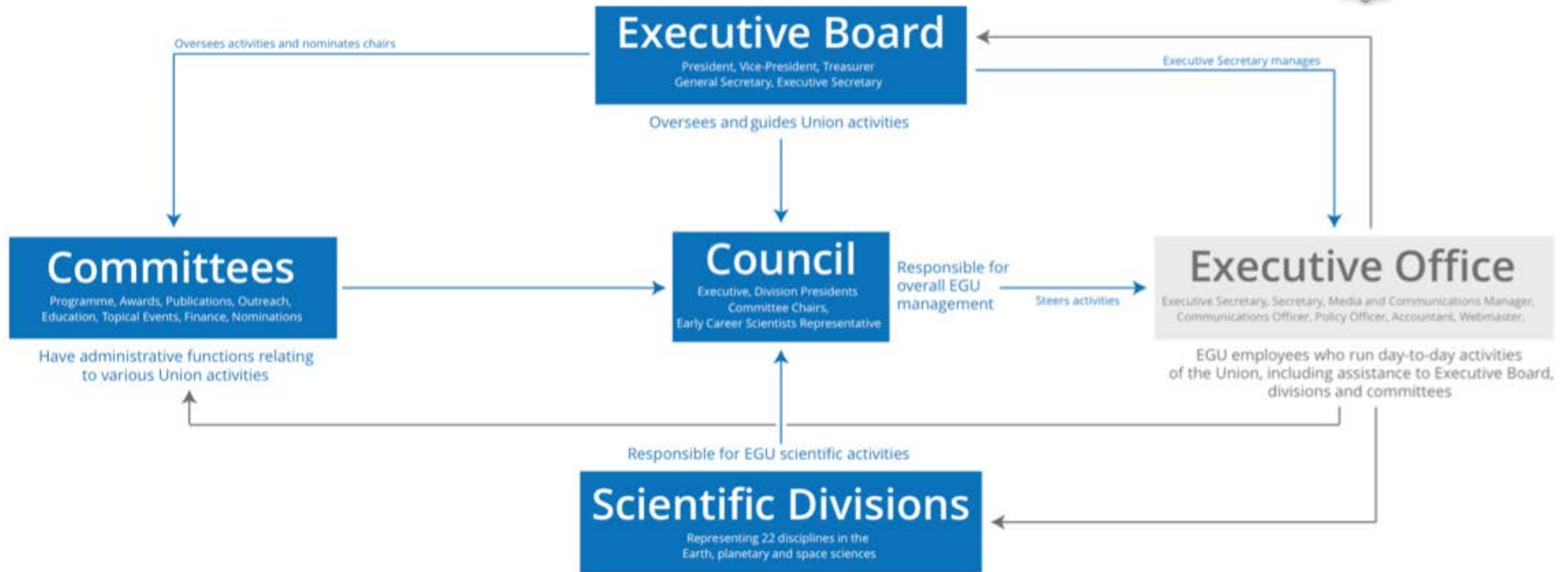




# GEODYNAMICS DIVISION MEETING 2018

## Agenda:

1. Meeting News
2. Early Career Scientists & GD Blog
3. GD Division Officers and Division Deputy President
4. Medals/Awards
  - Augustus Love Division Medal
  - Division Medal Committee
  - Division Early Career Scientist Award
  - Outstanding Student Poster Awards
  - Travel grants
5. EGU Publications
6. EGU Conferences
7. EGU feedback
8. Future Growth, Rules and Scientific Programme EGU-2019
9. Any other business



## EGU Members

Bring new ideas and feedback to EGU  
Vote in EGU elections and stand for positions in Council



# European Geosciences Union General Assembly 2018

Vienna | Austria | 8–13 April 2018

EGU.eu



## EGU General Assembly 2018 facts

**As of 5 April (12:45), the Assembly 2018 provides:**

- 17,323 papers in programme | -0.44% (2017)
- 4,776 orals | 11,128 posters | 1,419 PICOs | ratio 28 / 64 / 8
- 12,733 registrations in advance | +12.37% (2017)
- 666 unique scientific sessions | 68 short courses | 294 side events\*
- 433 out of 666 scientific sessions are co-organized (65%)
- The 433 co-organized include 20 IE sessions with 459 presentations
- Original sessions: 1,355; 1,028 still active, 327 withdrawn
- Withdrawn: 309 scientific sessions, 7 SC, and 11 side events

\*Side events include the programme groups ML, PCN, FAM, TSM, SEV, PC, PPAA

- Measures to reduce environmental impact of the General Assembly (e.g. CO2 emission offset, water bottles)
  - Poet-in-residence
  - Cartoonist-in-residence
- } <https://blogs.egu.eu/geolog/>
- Public lecture, Th 19:00, Natural History Museum
  - Lecture rooms staffed at lunch breaks
  - OSPP ‘volunteer to judge’
- X2.176 [EGU2018-6621](#) | OSPP: [volunteer to judge](#)  
★ **Modelling the Wilson Cycle: How to NOT initiate subduction at the passive margin**  
*Stephane Beaussier, Taras Gerya, and Jean-Pierre Burg*
- 70 short courses.
  - Mentoring programme matched 153 mentees with 97 mentors (ca 70 mentees unmatched – need more mentors!)



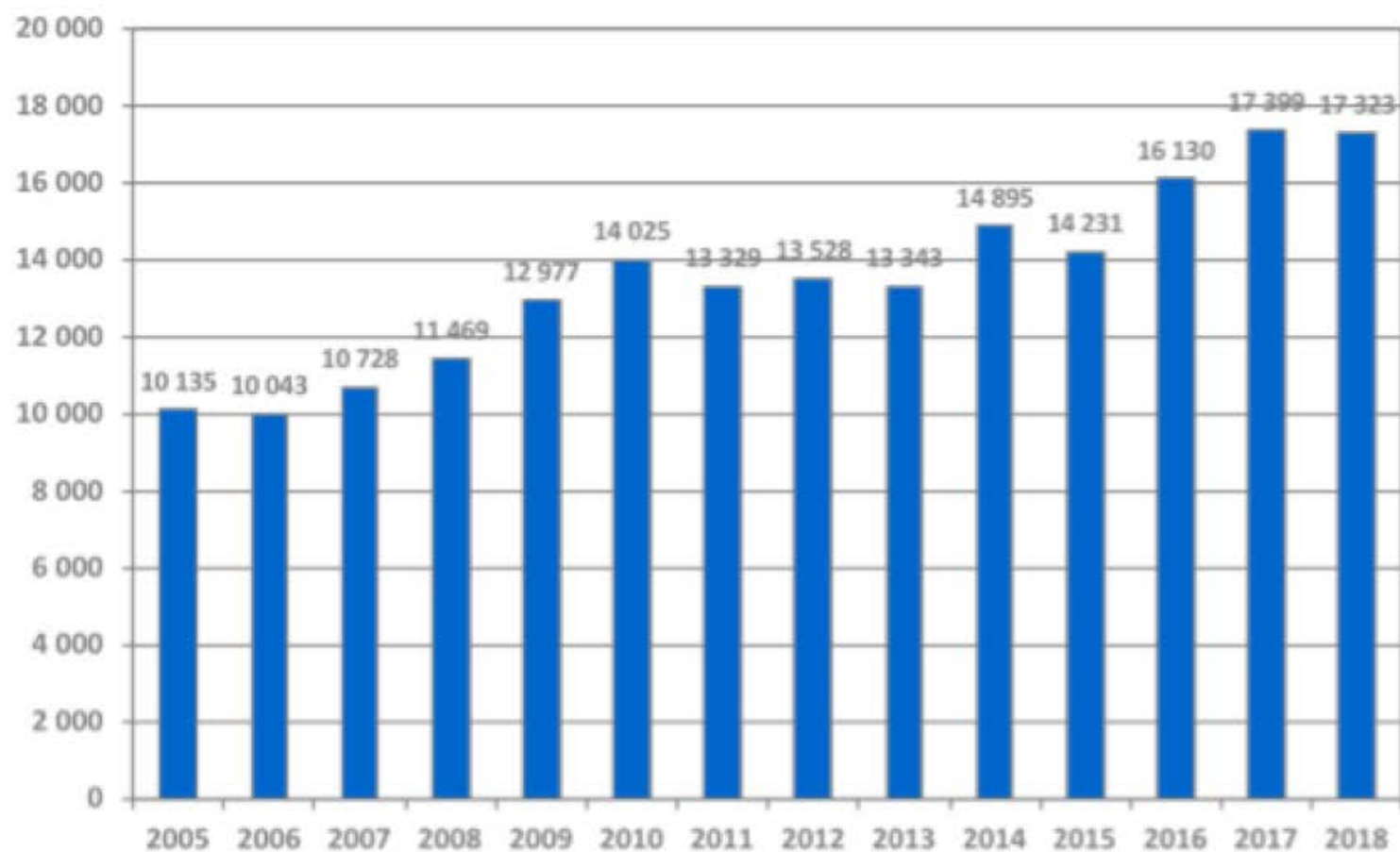
# European Geosciences Union General Assembly 2018

Vienna | Austria | 8-13 April 2018

EGU.eu



## Papers in programme 2005–2018





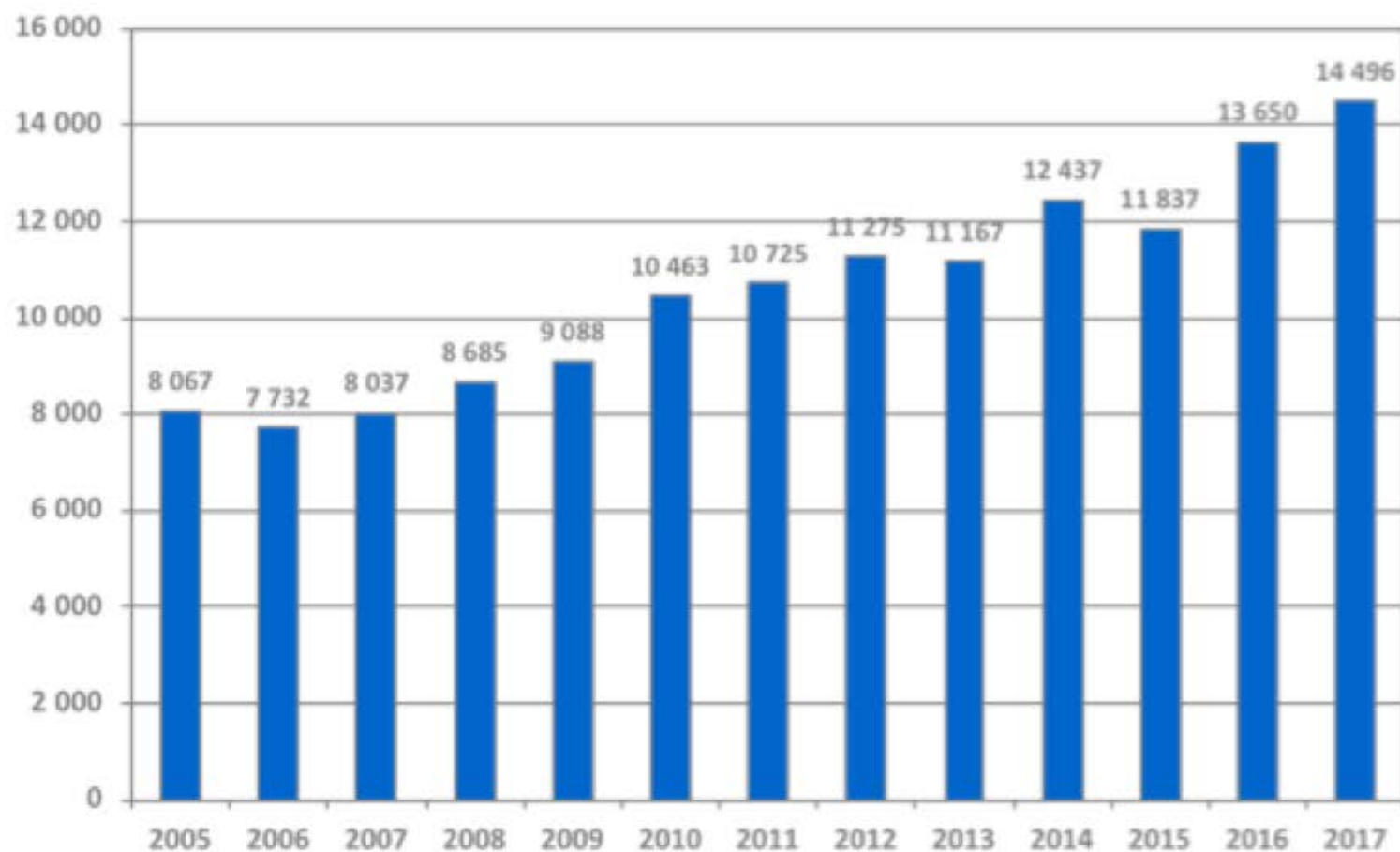
# European Geosciences Union General Assembly 2018

Vienna | Austria | 8-13 April 2018

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## Participants at EGU General Assemblies 2005–2017







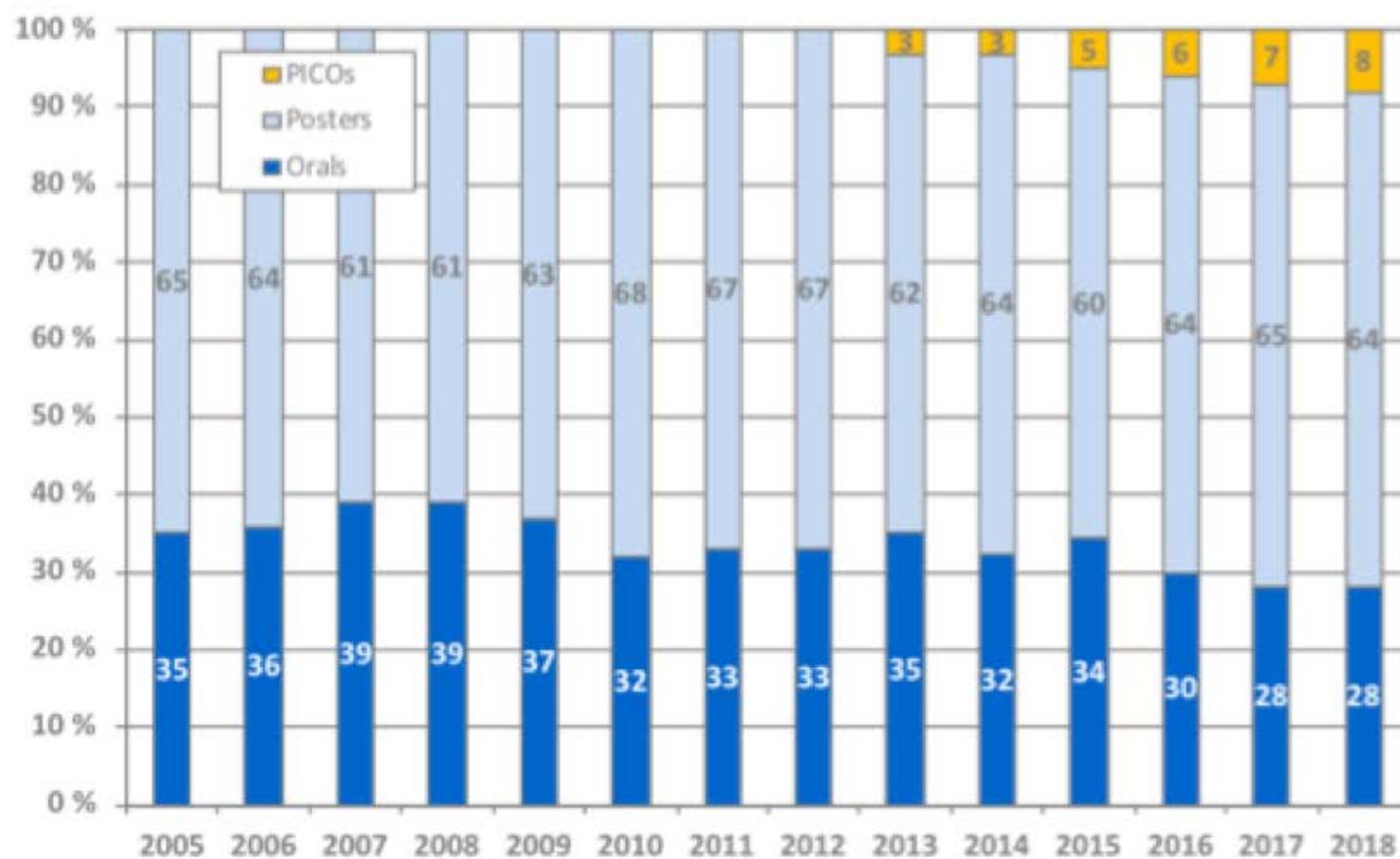
# European Geosciences Union General Assembly 2018

Vienna | Austria | 8-13 April 2018

EGU.eu



## Presentation ratio 2005–2018



## Programme group statistics

Active scheduled	1,447
Granted supports	None: 1,433 (99%) ESTS: 1 (0%) ECSTS: 13 (1%)
Presentations	Orals: 404 (28%) Posters: 887 (61%) PICO: 156 (11%)
Author identification specifics	ECS: 745 (51%)

## Meeting statistics

Active scheduled	17,165
Granted supports	None: 16,884 (98%) ESTS: 16 (0%) ECSTS: 265 (2%)
Presentations	Orals: 4,767 (28%) PICO: 1,402 (8%) Posters: 10,996 (64%)
Author identification specifics	ECS: 8,886 (52%)

Geodynamics led: 481 abstracts, 19 sessions





## GD Early Career Scientist (ECS) representative



**Adina Pusok**  
**(UC San Diego)**  
**2016-2018**

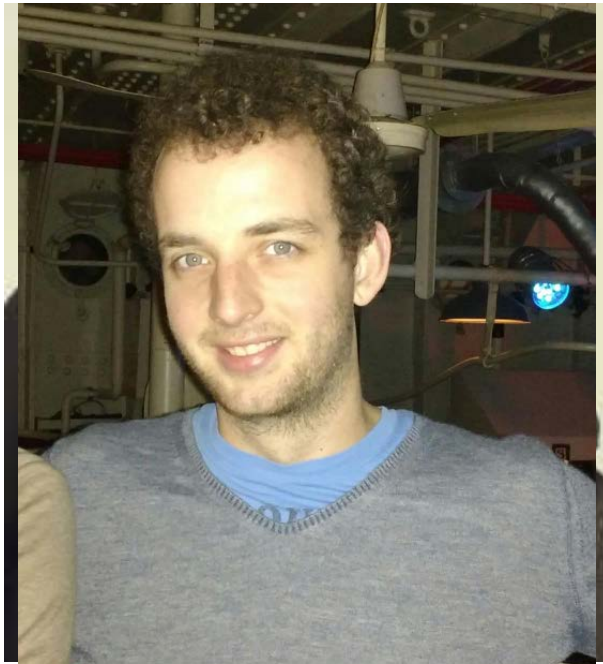
**Plans to retire...**

Role: Each of the division ECS representatives encourage and coordinate ECS relevant events within division and gather feedback from ECS in their fields.

Contact: [ecs-gd@egu.eu](mailto:ecs-gd@egu.eu)



## GD Early Career Scientist (ECS) representative



**Nicholas Schliffke**  
**(U. Durham)**  
**2018-2020**



**Adina Pusok**  
**(UC San Diego)**  
**2018-2019 (co-rep)**

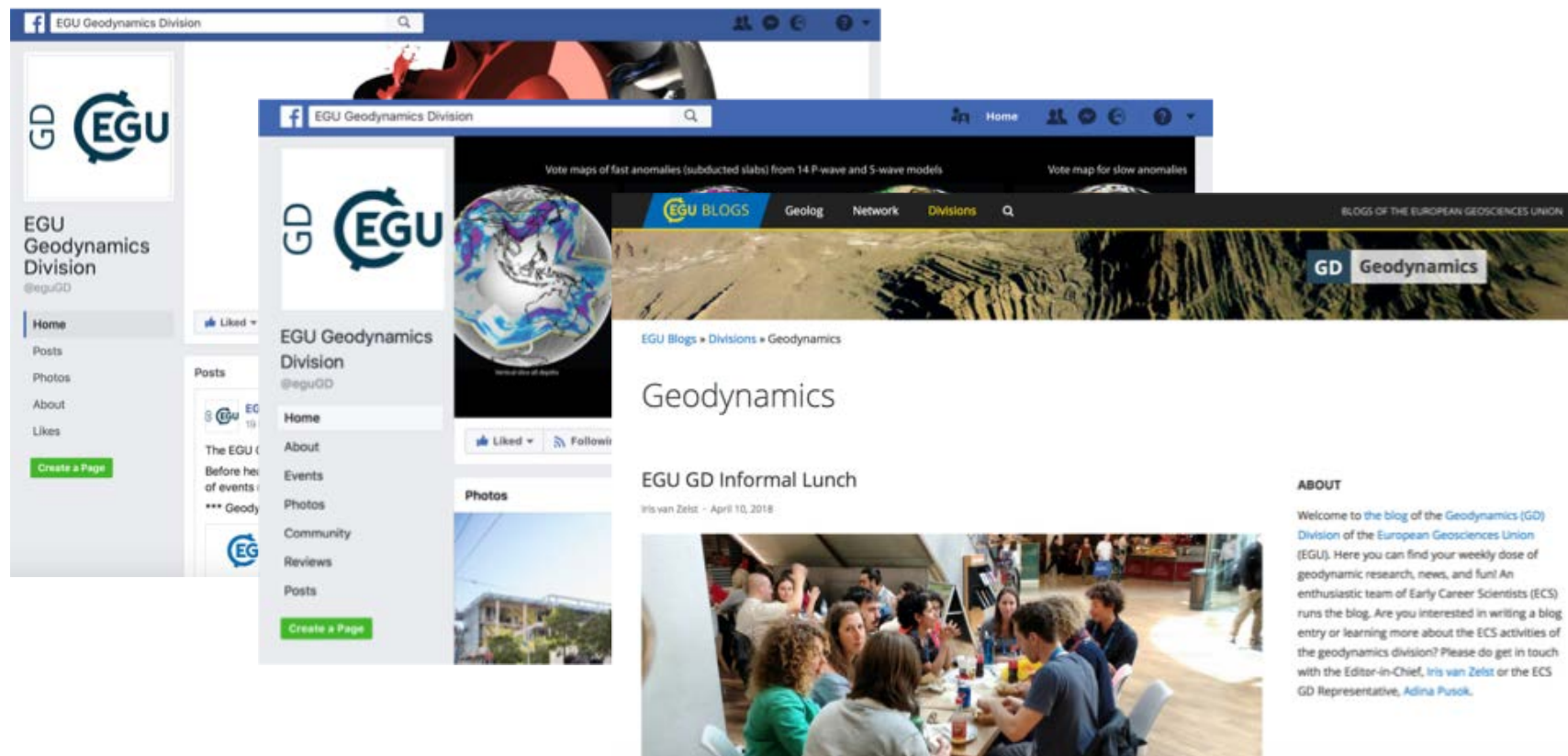
Role: Each of the division ECS representatives encourage and coordinate ECS relevant events within division and gather feedback from ECS in their fields.

Contact: [ecs-gd@egu.eu](mailto:ecs-gd@egu.eu)



## GD ECS Activities over the past year

1. **Social media: Facebook page, Division blog** (Coordinator Iris van Zelst, [ecs-gd@egu.edu](mailto:ecs-gd@egu.edu))



Build Geodynamics network and outreach





## GD ECS Activities over the past year

### 2. Social events: NetherMod2017, AGU FM 2017, EGU GA 2018



ECS GD informal lunch



ECS GD dinner (Wed)





## GD ECS Activities over the past year

3. **Short course at EGU2018: Geodynamics 101 - How to use and interpret numerical models of the solid Earth (Wed) ~70 participants**



### **ECS events thanks to:**

Fabio Cramer  
Juliane Dannberg  
Anne Glerum  
Diogo Lourenco  
Adina Pusok  
Antoine Rozel  
Nicholas Schliffke  
Iris van Zelst  
**+everyone attending!**

Many ideas for next year EGU! Get in touch with us if you want to get involved  
**[ecs-gd@egu.eu](mailto:ecs-gd@egu.eu)**!





## EGU ECS representative at Union level

### Meeting and networking



Stephanie Zihms,  
from EMRP

- ECS Meeting Corner and Lounge
- ECS Great Debates and Short Courses
- ECS Forum – Thu, 12.15-13.15
- ECS Representative Meeting – Fri, 12.15-13.15

The Union-level representative gathers information from each of the division reps and takes it to the EGU's Programme Committee and to the EGU Council.



# EGU GD Blog

<https://blogs.egu.eu/divisions/gd/>

Weekly blog posts!

Regular features:

- Geodynamics 101
- Remarkable Regions
- Wit & Wisdom
- ECS events
- And more ...



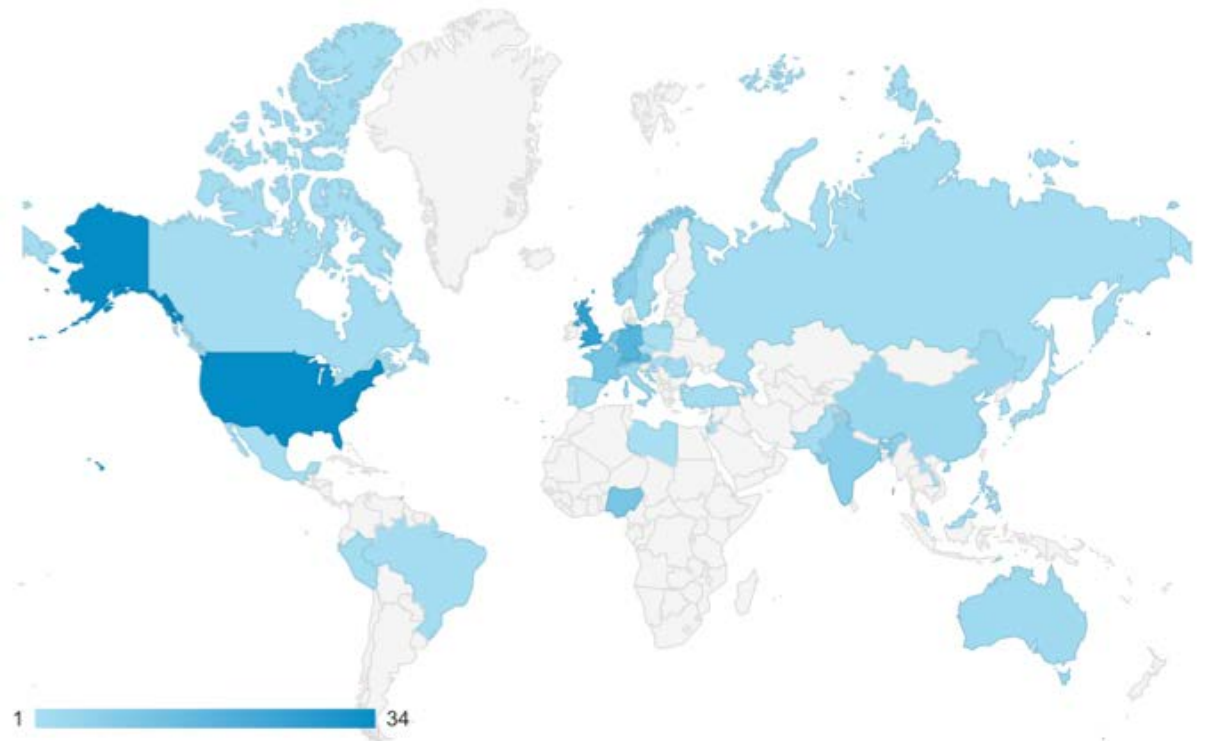
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# EGU GD Blog

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<https://blogs.egu.eu/divisions/gd/>

- >100 unique views per blog post
- many returning visitors
- worldwide readership



Number of views per country in the last 7 da

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# EGU GD Blog

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<https://blogs.egu.eu/divisions/gd/>

## Editors 2017 - 2018

- Iris van Zelst
- Luca Dal Zilio
- Anne Glerum
- Grace Shephard

## Guest authors 2017 - 2018

- Alice Adenis
- Manar Alsaif
- Suzanne Atkins
- Marie Bocher
- Clint Conrad
- Fabio Crameri
- Juliane Dannberg
- Maximilian Döhmann
- Richard Ghail
- Saskia Goes
- Kirstie Haynie
- Charitra Jain
- Agí Királi
- Kristina Kislyakova
- Maurits Metman
- Luke Mondy
- Elvira Mulyukova
- Jessica Munch
- Lena Noack
- Vojtech Patočka
- Adina Pusok
- Cedric Thieulot
- Anthony Osei Tutu
- Sabin Zahirovic
- Yue Zhao

# EGU GD Blog

<https://blogs.egu.eu/divisions/gd/>

We are looking for:

- Guest authors (always!)
- Blog editors

Interested? Contact:

- Iris van Zelst (Editor-in-Chief)  
[iris.vanzelst@erdw.ethz.ch](mailto:iris.vanzelst@erdw.ethz.ch)
- Adina Pusok (ECS GD Rep)  
[ecs-gd@egu.eu](mailto:ecs-gd@egu.eu)







	Division Group	Division Officers
GD1	Geodynamics General Sessions	GD President
GD2	Crust, Lithosphere, and Asthenosphere: Observations and models	Irina Artemieva
GD3	Mantle Dynamics	Paul Tackley
GD4	Core Dynamics	Andy Biggin
GD5-7	Plate Tectonics (subduction+collision, rifting, general)	Hans-Peter Bunge
GD8	Regional Geodynamics	Paul Tackley
GD9	Experimental/Theoretical Studies on Earth Materials Relevant to Geodynamics	Shun Karato
GD10	Modelling and data processing: computation and analogue models	Paul Tackley
GD11	Integrated Geophysical Observations and Modelling in Geodynamics	Irina Artemieva



## Division structure

### Proposal for Division Officers

#### GD Division Officers

Deputy President: Jeroen van Hunen

Irina Artemieva

Andy Biggin

Hans-Peter Bunge

Shun Karato

To be approved by the Division Meeting



## The EGU Awards & Medals:

### At Union level:

- The Union Medals for senior scientists including the most prestigious awards made by the Union that are associated with an EGU Honorary Membership. Arthur Holmes Medal (J-P. Brun, T. Torsvik, C. Laj, K. Burke, S. Cloetingh, V. Courtillot, ...)
- The Union Arne Richter Outstanding Early Career Scientists Awards

### At Division level:

- The Division Outstanding Early Career Scientists Award (1)
- The Division Augustus Love Medal for a distinguished scientist (1).

In relation with its General Assemblies, EGU presents the Outstanding Student Poster/PICO (OSPP) Award to further improve the overall quality of poster/PICO presentations and, most importantly, to foster the excitement of younger colleagues in presenting their work in poster or PICO form.



**The Augustus Love Medal  
is awarded to a distinguished scientist  
in the field of geodynamics,  
comprising mantle and core convection,  
tectonophysics,  
post-glacial rebound and  
earth rotation.**



*The medal has been exclusively designed for the EGU by József Kótai.*

# The EGU Augustus Love Medal previous recipients



2005: Geoff Davies (ANU, Australia)




2006: Jerry X. Mitrovica (Harvard, USA)



2007 : David Gubbins (Leeds, U.K.)



2008: Richard J. O'Connell (Harvard, USA)



2009: Ulrich R. Christensen (Max Planck Inst., Germany)



2010: Philip England (Oxford, U.K.)



2011: Bradford Hager (MIT, USA)



2012: Yanick Ricard (ENS-Lyon, France)



2013: Michael Gurnis (CalTech, USA)



2014: Shun-Ichiro Karato (Yale, USA)



2015: Gregory Houseman (Leeds, U.K.)



2016: Jason Phipps Morgan (Royal Holloway, U.K.)



2017: Barry Parsons



The 2018 Augustus Love Medal  
is awarded to

**Edgar Marc Parmentier**

for outstanding research in  
the fundamental  
geodynamical processes of  
sea-floor spreading, melt  
extraction and crustal  
formation, and the application  
of geodynamical principles to  
flow in the mantle.





## EGU Medals: Please nominate your colleagues !!!

- Any person is eligible to receive one EGU Medal.
- Any EGU member can submit nomination for a colleague for an EGU medal and awards.
- Nominations for all the medals and awards are to be sent by e-mail by 15 June of each year (absolute deadline).
- Candidates for the Union and Division medals are evaluated by the respective Medal Committees and finally approved by the Council.
- Medal committees consist of previous recipients

All details are on EGU web-site



## GD Medal Committee

### Composition of the Division Medal committees:

- **Chair:** Term is one year and can be renewed 3 times.
- **Minimum three additional members**, preferentially past medalists. Term is one year and can be renewed three times. At least one member of the committee is replaced every year. The role of the past medalists is, among other things, to maintain the quality of the medal by judging the candidates' achievements.
- Division president as ex-officio member.
- Chair of the Union Awards Committee as ex-officio member.

Nominations for medal committees are discussed at business meeting and are appointed by the Council.



# GD Medal Committee

## 2018 proposal

Committee Chair	Committee Members without Ex-Officio Members	Term #	Medal (year)
G. Houseman	E. Marc Parmentier	1	2018
(as in 2017)	Barry Parsons	2	2017
	Jason Phipps Morgan	3	2016
	Gregory Houseman	4	2015

To be approved by the Division Meeting

Nominations for medal committees are discussed at the GD division meeting and are appointed by the Council.



# The Division Outstanding Early Career Scientist Award

Early career scientist:

<7 years from highest degree (normally PhD)  
(no age limitation)





**The Division Outstanding Early Career Scientist Award (OECSA)** recognizes scientific achievements in the field covered by the related Division, made by an early career scientist.

**Selection procedure:**

by votes of the Division Officers

The “winner” of the Division OECSA competes for the Arne Richter EGU OECSA with other divisions OECSA winners



# EGU Geodynamics Division Outstanding Early Career Scientist Award

## Previous recipients:

2011: Boris Kaus  
(Arne Richter OYSA)

2012: Richard Foa Katz

2013: Juan Carlos Afonso

2014: Rhodri Davies

2015: Manuele Faccenda  
(Arne Richter OYSA)

2016: Grace Shephard  
(Arne Richter OYSA)

2017: Nicolas Flament

2018 medalist



**Thibault Duretz**



# EGU Geodynamics Division Outstanding Early Career Scientist Award

The 2018 GD Division Outstanding Young  
Scientist Award is awarded to

**Thibault Duretz**

For his fundamental contributions to  
understanding slab detachment, shear  
zones, passive margin formation,  
obduction and development of new  
numerical algorithms.



**Medal lecture: yesterday**



## The Division Outstanding Early Career Scientist Award

Nominations for all the medals and awards are to be sent by e-mail by 15 June of each year (absolute deadline).

Please nominate your young colleagues !!!

Gender statistics:

30% of EGU are females

Only 1 female GD OECSA awardee so far



# The Division Outstanding Student Poster \ PICO Award





## Outstanding Student Poster/PICO (OSPP) Award

Eligible for the **OSPP Award** are students that:

- are first author and personally present the poster at the conference;
- satisfy one of the following criteria:
  - are a current BSc, MSc, or PhD student;
  - are a recent undergraduate or postgraduate student (conferral of degree after 1 January of the year preceding the conference) who are presenting her/his thesis work.



# Outstanding Student Poster (OSP) Award

<b>Scientific content</b>	Correctness of methods and information
	Significance of the work
	Originality and creativity of the approach
	Conclusions supported by data and analysis
	Authors knowledge of the subject matter and comprehension of prior research in the field
<b>Presentation technique</b>	Organization and logical structure (e.g., clearly stated questions, results and conclusions)
	Visual clarity (clarity of figures, appropriate font sizes, effective use of space, headings, ...)
	Aesthetic appeal (layout, use of <u>color</u> , density of information, neatness, ...)
	Good writing (easily readable, spelling, grammar)
	Ability to answer questions



# Outstanding Student Poster/PICO Awards EGU-2017 contest

**Ludovic Räss**



*“M2Di: MATLAB 2D Stokes solvers using the finite difference method”*

**M2Di: MATLAB 2-D STOKES SOLVERS USING THE FINITE DIFFERENCE METHOD**

Ludovic Räss<sup>1,2</sup>, Thibaut Duvet<sup>1</sup>, Nuri Y. Fedakchikov<sup>1</sup>, Stefan M. Schmalzer<sup>1</sup>  
<sup>1</sup>Scientific Computing Group, <sup>2</sup>Institute of Earth Sciences (ISTE) | University of Lausanne, Switzerland

**Objectives and Methods**

- M2Di: Mechanics 2-D iterative (Räss et al., 2015) in C++
- Linear and power law incompressible viscous flow based on the Finite-Difference Method
- The codes are written in a compact vectorized MATLAB fashion and can achieve a time to solution of 2.2 s for linear viscous flow on 1000<sup>2</sup> grid points using a standard personal computer.
- Linear Stokes flow - Picard linearization, symmetric positive-definite matrix operators on Cartesian grids with either regular or variable grid spacing
- Power law Stokes flow, both Picard and Newton variational landscape iterations schemes are implemented.
- The M2Di routines are available from Bitbucket and the University of Lausanne Scientific Computing Group website.

**Enclosures**

- Validation of power law Stokes flow
- Validation of linear Stokes flow

**Linear and Power Law Results**

- Coupled Stokes dynamics
- Deformation of heterogeneous power law viscous material
- Creeping Stokes
- Pressure variation around a viscous inclusion
- Shearing corner

**Solver Performance**

**Outlook Towards Future Development**

- 2.2 s for the linear solver and both 100 and 400 s for the nonlinear Newton solver with power law equipment m3 and m3L, respectively, on a 1000<sup>2</sup> 2-D domain.
- Vectorized assembly of matrix operators and solvers relying on efficient sparse Cholesky factorization routines (SuiteSparse).
- The developed mechanical solver can be further extended to address coupled multiphysics problems and design efficient solving procedures to include advection and free surface.



OSPP coordinator (2<sup>nd</sup> year):

**Jean-Arthur Olive** ([jaolive@ldeo.columbia.edu](mailto:jaolive@ldeo.columbia.edu))

**Students:**

Please don't forget to register next year

**Seniors:**

please volunteer to be OSPP judges !!!

Only 25 OSP registered for EGU-2015

Ca. 50 OSPP registered for EGU-2016

46 OSPP registered for EGU-2017

**57 OSPP registered for EGU-2018**



# Roland Schlich Travel Support





# EGU Roland Schlich Travel Support

## Two types of awards:

ECSTS – early career scientist TS

ESTS – established scientist TS

Scheme	Target audience	Approximate Funding allocation	Funding
Young Scientist's Travel Award (YSTA)	Young scientists (world wide with earmarked funds for European economically disadvantaged (EED) countries)	EED: 30-35%	<ul style="list-style-type: none"> <li>• Registration</li> <li>• APC</li> <li>• Maximum of €300 travel expenses</li> </ul>
		Other countries: 50-60%	
Established Scientist's Travel Award (ESTA)	Established scientists (low and lower middle income countries)	10-20%	



## Publications

The EGU, through Copernicus Publications, publishes 17 peer-reviewed open access journals covering various topics of the Earth, planetary and space sciences.

**Solid Earth – EGU journal in geosciences,**  
**IF=3.495 (2017)**

Two-stage publications with public peer-review and interactive public discussions.

The discussion and peer-review of submitted papers are handled in the open access discussion forums (e.g., Solid Earth Discussions).

Final papers, upon acceptance, appear in the corresponding peer-review journals (e.g. Solid Earth).



# EGU Galileo conferences

- Address well-focused cutting-edge topics at the frontier of geosciences research.
- 3-5 days meeting for discussion and debate for about 100 participants.
- EGU provides comprehensive organizational support allowing organizing committees to focus on the scientific aspects.
- Aside from partly sponsoring the event, EGU is giving a deficit guarantee.
- **2 stage application process on-line.**



## Topical meetings

EGU co-sponsors

- **conference series**,
  - Alexander von Humboldt Conferences
  - International Workshops on Mantle and Lithosphere Dynamics
- **training schools**,

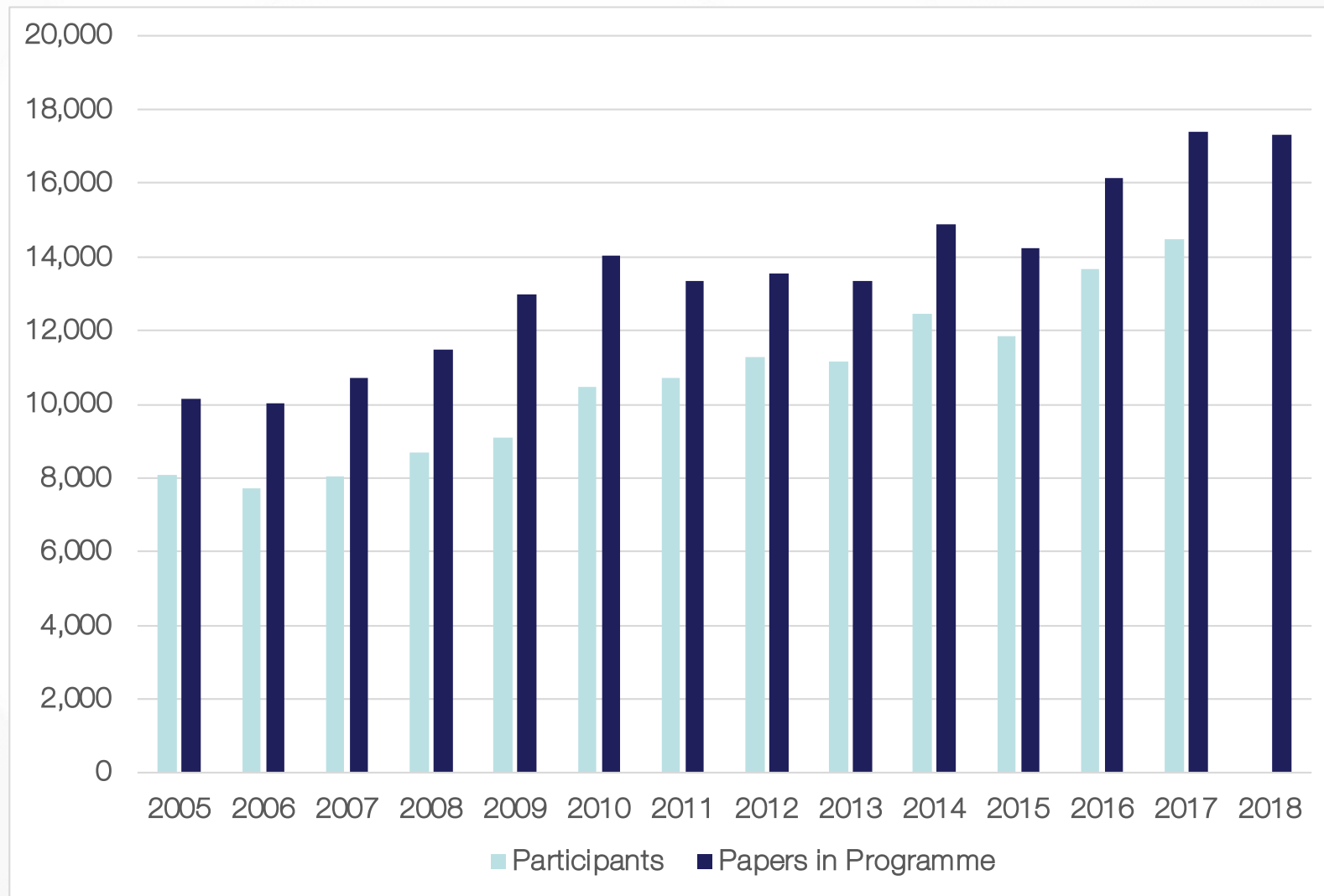
for the benefit of all scientists and with special attention to the needs of young scientists.

**GD Meetings Calendar**

<http://www.egu.eu/gd/meetings/>

# Future format General Assembly

## Papers in programme 2005–2018 and participants 2005-2017





## The need for a change

- We may reach maximum poster capacity in ~2 years
- Oral sessions can reach 80% median room fill in ~2 years, meaning 50% of the rooms will be full to overfull
- There is no possibility for new rooms or extra space in the ACV
- EGU has signed a contract with the ACV until 2024
- 60% - 65% (2013-2018) of abstracts are posters, which are presented in 1.5 hours only

**→ We need to act**

## Ideas that have been suggested

- 6 days instead of 5
- Only 1 abstract per person (2 if invited)
- Limit total #abstracts (requires review/rejection of abstracts)
- Increase oral time from 6 hours to 8 hours (-> overlap with posters)
- Different posters in morning and afternoon
- Shorter talks (12 minutes)

## Points for consideration

- Participants need time for networking and for meeting colleagues
- Take into consideration both the number of presentations and the number of participants
- A sixth day:
  - likely costs order 300 k€ (very rough estimate)
  - Saturday or Sunday will not be popular
  - Participants voted against in earlier GA surveys
- Coffee breaks of 30 minutes are also for accommodating late-running sessions, meeting colleagues, and uploading presentations
- Lunch breaks now 1hr 30 minutes. These slots have Union medal lectures, division meetings etc. 1 hr 20 minutes might work

# Future format General Assembly

## Current model (6h orals)

TB1	Orals, PICO
Break	
TB2	Orals, PICO
Lunch	
TB3	Orals, PICO
Break	
TB4	Orals, PICO
Break	
TB5	Posters, drinks
TB6	Medal lect, TM

- 4800 orals
- 1800 PICO
- 12500 posters (full day)
- Poster capacity full ~2020
- Room fill issues 2020/2021

## Alternative model (8h orals)

TB1	Orals, PICO, Posters
Break	
TB2	Orals, PICO, Posters
Lunch	
TB3	Orals, PICO, Posters
Break	
TB4	Orals, PICO, Posters
TB5	Exhibition, drinks
TB6	Medal lectures, TM

- 6000-6400 orals
- 1800 PICO
- 12500 posters (full day).
- Poster capacity full by ~2023.
- Double poster capacity to 25000 by half-day showing time
- No room fill issues next 10 years

## New rules for GA 2019

- No solicited presentations by conveners: “Authors (first and co-authors) should not have a solicited presentation in a session they (co-)convene. (Co-)conveners should not be presenting author, and are discouraged from being co-author, on oral presentations in a session they convene.”
- 1 solicited presentation per oral block (2 solicited possible to accommodate session merges) (already in 2018)
- 1 abstract rule: “Authors are allowed as first author to submit either one regular abstract plus one abstract solicited by a convener, or two solicited abstracts.”
- Number of conveners on a session: At session submission minimum 2 – maximum 5
- Number of convenerships as a recommendation: 1 as main convener, maximum 3 (co-)convenerships total
- Length of Outstanding Early Career Scientist Award Lecture: 15 minutes or 30 minutes?

## GA 2019 timeline

01 Jun – 21 Jun 18	Call-for-skeleton. Only sub-programme structure (headers), no sessions
25 Jun – 13 Sep 18	Public call-for-sessions Includes GDB and US
17 Sep – 12 Oct 18	Session programme finalization
11 Oct 18	PC Meeting Ismanning
15 Oct 18 – 10 Jan 19	Abstract submission



## GA 2019 timeline

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PLEASE SUBMIT YOUR PROPOSALS FOR EGU-2019  
SESSIONS!

PLEASE TALK TO EACH OTHER – TO JOIN FORCES  
ON CLOSE TOPICS



## EGU-2018 feedback

What can be improved?

What were the problems?

- Sessions?
- Rooms?
- Organization?
- Information?
- Food?



Any other business?