Early Career Scientists (ECS) Panel

International Council for Science General Assembly (ICSU GA)

Working Paper Draft   
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Chair: **Kim Nicholas**, Lund University Centre for Sustainability Studies, Sweden @KA\_Nicholas

**Christine Jasoni**, Department of Anatomy, University of Otago, @JasoniCL

**Fola Babalola**, Center for Environmental Economics and Policy in Africa, University of Pretoria, South Africa. @folababs2000

**Jianzhong Xu**, Chinese Academy of Sciences, @JackLZC

**Yvonne Grunder**, Department of Physics, Liverpool University @YvonneGruender

**Wilma Waterlander**, National Institute for Health Innovation, University of Auckland, New Zealand, @wwaterlander

Note: these were a working draft that we prepared before our panel. We improvised a bit, so these are not exact transcripts of what we actually said. The panel video will be posted on ICSU’s YouTube channel (<https://www.youtube.com/user/ICSUwebsite>). Slides presented during the panel are available from <http://t.co/TnnewJrw9S> . Feedback welcome to @KA\_Nicholas.

**At the end of the panel, a decision related to supporting Early Career Scientists was proposed by delegate Yvonne Grunder on behalf of the UK delegation, seconded by several members from the floor, and after discussion was unanimously approved. The decision text presented is:**

**Proposed decision text:**

* We urge the executive board to take action within ICSU to integrate and involve early career scientists
  + in advisory, review and governance bodies as appropriate
* and encourage its national and union members, interdisciplinary bodies, and associates to support early career scientists through:
  + Mentoring and career support networks
  + Opportunities and incentives to engage in science for society
  + Including them in day-to-day business between GAs and in the GA delegation
* And to report back on progress made for the next GA.

# Welcome - Kim

* Thanks for having us here. I’m Kim Nicholas from Lund University, I’ve been asked to chair the Early Career Scientist panel this afternoon.

## Who are we and how did we get involved?

* + We’re here at the invitation of the International Council for Science to offer a **perspective from ECS at the GA**, really grateful for this opportunity to participate and **have a voice** here. We’ll be talking about how we think early career scientists can contribute to science, and to ICSU and its members, and how ICSU and its members can help us.
  + We are within 2-10 years of our PhD, in the process of establishing independent research careers
  + 3 of us (Fola, Wilma and myself) participated in one of the Young Scientists Networking conferences sponsored by the German Research Foundation (DFG), ICSU, ISSC, and Belmont Forum.
  + Grateful to DFG for sponsoring our participation at this GA.
  + 3 of us have been sponsored by our national academies:
    - Yvonne by Royal Society in the UK,
    - Christine by the Royal Society of NZ,
    - Jianzhong by the China Association for Science and Technology.

## Format for our panel?

* + We want a constructive session with some concrete outcomes, we have some specific suggestions we’ll share and get your feedback on, and hope we will inspire some of you to join us in taking forward.
  + I’ll be moderating today, first I’ll pose a few questions to our panel, and then open to the floor for questions.
  + I’m aware of how quickly these 45 minutes will go, I will use chair’s privilege to keep us moving forward, ask you to keep questions and comments extremely focused and succinct.
  + So, let’s start with **very short introductions** to our diverse, international, interdisciplinary group, and dive quickly into substance.

# Intros- All

* + [Fola Babalola](http://web.up.ac.za/default.asp?ipkCategoryID=12008&articleID=17634" \o "" \t "_blank) is is an academic staff in Department of Forest Resources Management, University of Ilorin, Nigeria. Currently a postdoctoral fellow at the Center for Environmental Economics and Policy in Africa, University of Pretoria, South Africa. His research focus is on forest socio-economics.
  + [Yvonne Grunder](http://www.liv.ac.uk/physics/staff/yvonne-grunder/" \o "" \t "_blank) is a Royal Society Research Fellow in the Department of Physics at Liverpool University, where she works on understanding structure and reactions at electrochemical interfaces.
  + [Christine Jasoni](http://www.otago.ac.nz/genetics/staff/members/jasoni.html" \o "" \t "_blank), a senior lecturer in the Department of Anatomy at the University of Otago in New Zealand, works on how challenges in the womb can affect lifelong disease risk.
  + [Wilma Waterlander](http://nihi.auckland.ac.nz/page/research-fellows/wilma-waterlander" \o "" \t "_blank), a research fellow at the National Institute for Health Innovation at the University of Auckland in New Zealand, works on obesity prevention and food policies to promote healthier eating.
  + [Jianzhong Xu](https://sites.google.com/site/qizhanggroup/pe" \o "" \t "_blank) is a research associate at Chinese Academy of Sciences. Jianzhong works on chemical analyses of atmospheric aerosol and snow/ice in Polar Regions.
  + I’m Kim Nicholas, I have an Interdisciplinary PhD in Environment and Resources. Originally from the US, now working as an Assistant Professor of Sustainability Science at Lund University in Sweden. My research is on how climate change impacts growing food and wine.

**Kim**:

## ECS in the context of the ICSU GA

* We also see **many issues relevant for ECS raised in the ICSU External Review**, including the explicit recommendation to “increase awareness and participation by ECS” throughout ICSU and its unions, academies, and funding agencies.
* It’s been really great for us to have the chance to **speak with many of you** here. Really appreciate that many of the speakers, delegates and participants here are **committed to promoting ECS**, we’ve learned a lot about many great programs you’ve been working on to support and include ECS.
* One reason the people in this room need us is to be relevant in the digital world. We heard from Bruce Alberts yesterday that he went to dusty libraries to access information; now we share information using social media like Twitter, where we’ve already been acting as a key voice to bring this conference to a global audience and raise the profile of ICSU and its mission. (Check out the hashtag #ICSUGA on Twitter, which has reached over 34,000 people in the last few days). I learned to use Twitter from the science communication staff of ICSU and ISSC at the Young Scientists conference last year, and just passed my 1000th Tweet here at this conference. I think Twitter is a really powerful way of sharing science, as well as opening up the process of science and humanizing the people who do science.
* In selecting our themes for today, we wanted to **include a broader perspective** than our own individual views.
* We put out **calls for contributions on social media**, including Twitter and Facebook to link with our colleagues and with networks for ECS, and got **input from a range of voices**. These contributions have shaped our perspective, and I’ve compiled the responses in a Storify story on Twitter as well as links to the resources we received on my website, <http://www.kimnicholas.com/early-career.html>
* We want to make sure that the great sentiments of support we’ve heard throughout the conference translate into genuine engagement and visible changes. We’re happy to share some ideas we have on how that could go forward, and we’re eager to engage more and find ways to work together productively.

## Themes for today

* Today we will focus on aspects of these issues that the people in this room have some direct power to address within the organizations you’re here to represent.
* We want to focus on the intersection of issues that we as ECS care about, with issues to science, to ICSU and its members, and how we can help each other, and we’ll conclude with some concrete suggestions for action.
* We’ve identified **three priorities for supporting ECS that link with ICSU’s strategic priorities**. In terms of international research collaborations, we focus on **ECS networks for career support and mentoring**; in terms of science for policy, we focus on **opportunities and incentives for ECS to engage** with science for the benefit of society; and for universality of science, we focus on integrating **ECS into all levels of leadership**.

# Panel Discussion – All

## Kim: What value do you see for ECS to science, and to scientific organizations like ICSU and its national and union members?

### in terms of International research collaborations

**YVONNE**

* ICSU is building the **scientific agenda** to implement over the next 30+ years.

We are the ones

* who will be living in this world,
* Who will be implementing the science in the future
* but also the most affected by the decision (at the bottom of the food chain e.g changes in research assessment).

Building a relationship with ECS to get their ideas is a crucial input for you. be crucial.

**WILMA**

* + During the conference there was much discussion of big challenges facing science. In order to achieve sustainable solutions, we might need very drastic changes to the system (metrics etc) – such changes always seem very difficult, and sometimes we don’t even get started because it is argued that it will be too hard to change certain things. Young scientists can bring the vision and new ideas for real constructive change. We are the ones (still) believing we can change the world and we need that optimism. If the young scientists don't believe in what we’re doing and that we can achieve big changes, we’re lost. We believe we can build on what’s good in science and make positive changes to make it better. And, as was beautifully addressed by Bruce Alberts yesterday, this is not just about what early career scientists need from science. Science needs early career scientists.  We can bring the **blue sky perspective.**

### In terms of ICSU’s second priority, Science for policy

**CHRISTINE**:   
We are savvy in communicating science in a much more broad sense than ever before. And we see this as a fantastic mechanism to increase the strength

and effectiveness of ICSU and its members. We can share results with our

peers and colleagues, with scientists outside our discipline. But

increasingly, we also communicate with Social scientists, with policy

makers, with teachers, kids and other members of our communities. And we

even communicate beyond. With the use of social media, we have the ability

to reach audiences of like-minded and not so like-minded people with whom

we never would have had any contact even 5 years ago. This reach give us

the opportunity to touch people, stakeholders, with science all over the

globe as never before in history; to reach communities with whom we do not

currently engage; and to unlock new opportunities to move beyond merely

preaching to the choir.

### ICSU’s 3rd priority, Universality of science

**JIANZHONG:**

* Many scientists unfortunately haven’t attended and heard of ICSU. The young early-career scientists can be **ambassadors** to promote ICSU and share our experiences here to our fellow scientists and early-career networks.
* **FOLA**:  
     
  Involving ECS in the agenda of ICSU has a lot to contribute in terms of **the diversity** of people, gender, and culture within the pool of 21st century, new generation of scientists. ICSU stands to benefit from these varieties of skills and expertise especially from global young and talented ECS. We are still lacking diverse gender, national, and EC perspectives at the highest levels of **leadership** in science and science policy. This matters for making the system of science more open and transparent, and making sure the best ideas reach the top.

## How do you as an ECS need to be better supported, and how could ICSU and its members help ECS?

### Opportunities and incentives to engage

**WILMA:**

During the GA and the SciAdvice meeting it was frequently mentioned that we need better integration with policy and also more knowledge on how policy systems work. This is hugely important and i am an early career scientist who would love to do that.  However, the problem is that it is difficult to integrate this into your scientific career.  For example, when I was doing my phd, I was also an active member of a national political party and received much political training. However there is no place on my academic cv to list these things. Also, I would love to do an internship at a government or international body such as WHO (did talk to minister of health from New Zealand while I was here) but this is currently not really supported in my academic career. I think it is very important to do something about that. We want real opportunities that really enable us to go and do it.

**KIM:**Need to value education as an essential part of the research enterprise. Christine is teaching tomorrow, I go back to Sweden and meet my 51 new MSc students in class on Monday. This is where we bring the latest research results to new generation of scientists and citizens. Taking a scholarly approach to teaching, valuing publications on teaching and on training students. I wrote a guide for ECS on how to write a good peer review for journals, lucky to be at an institution that values this. I mentioned yesterday, I would like to see academies and panels that produce report go the last mile in translating these scientific consensus reports from IPCC and others into innovative policy, outreach, and education materials, including making university curricula that are based on the latest science and can be used for teaching. Bruce Alberts emphasized yesterday that democracies rely on well-informed citizens, and that the best learning takes place with active learning, not only lectures. Based on models in healthcare delivery innovation, we could use small teams of ECS to designed curricula that teach the latest science, using the latest evidence on how people learn best. This would be a tremendous value of science in society.

**CHRISTINE**:   
  
Sir Peter Gluckman articulated very elegantly that the way we do science and the character of what a scientist is in the 21st century is dramatically different from those of the past. There are many ways in which things have changed, and the point I’d like to address is how non-research-related activities impact the careers of ECRs. There are many and varied activities now that fall onto the plate of early career academics that traditionally were taken on by tenured, established, even

renowned professors of science; people who have far less to lose by broadening their focus to include the world outside of getting grants and worrying about publishing or perishing.

The changing landscape of modern science, and the attendant non-traditional demands this places on ECRs, is welcomed, indeed embraced, by most. But it is not without cost, because despite the modernisation of demands, the metrics by which we are judged for promotion, for getting grants, for performance in general are still very much traditional. Many of us take on these new demands enthusiastically, we want to be at the front of making a difference, but there is a tacit acceptance that by taking on these extra roles, we are putting our careers in jeopardy. These efforts are seen as a waste of time, a career killer; theres barely a place on my university CV to include these activities, my performance-based research assessment portfolio does not even include them, and I have no evidence that my activities make any difference to whether or not my grants are scored favourably.

To sum up: if our efforts are to succeed, without killing our careers or

forcing us to make a choice between research or engagement, they will need

to be recognised in manner that is commensurate with their importance to

the future of science.

### RESEARCH: CAREER SUPPORT for networking and mentoring

**JIANZHONG**

* ICSU can be an excellent international platform for young scientists to know each other, conduct collaborations, and increase chance of communication with other scientific communities.

**FOLA**:   
  
Promote **mentoring and mobility** programs  
  
I want to quickly mention two areas in which ICSU and its members can help ECS.

* + **Facilitate mentorship programme for ECS** – As indicated in the recent report of Global Young Academy (GYA) released this year 2014, mentorship was identified among the top 4 challenges facing ECS around the world. Highest figures of 58% and 52% of the ECS from Europe indicated that they lack mentorship and Lack support from their supervisors. Africa and Americas reported 45% and 47% with respect to lack of mentorship respectively in the same survey. Mentorship here should be seen in two 2-way affairs between the ECS and senior scientists within the scientific world. As the ECS are learning from the pool of experiences of the established and senior scientists on building of their future career, the ECS too can contribute their knowledge of the 21st century social media and IT to their mentor. What ICSU could do in respect of this mentorship programme is to serve as the coordinating body bringing together around the world the mentors and mentees in virtual platform thereby facilitating the meeting point.
  + **Student Exchange Programs** (Mobility): In the same report of the survey conducted by GYA, about 64% of ECS from Asia indicated that they lack resources such as personnel, equipment, etc. while 61% from 51% from Europe and Africa also indicated lack of resources. I want to also explain this point as 2-way benefits for the ECS. First, ECS from the developing world could be linked to institutions or organisations with infrastructures such as well equipped labs, etc in the developed world for short internships, and to use equipment and other facilities not available or accessible to them in their home countries. On the other hand, students in the developed world too could be linked with the developing countries to learn about the rich diversity of their indigenous knowledge system, cultural practices, and biological diversity.

E.g. Field Station of University of Canterbury in Nigeria, etc.

I want to leave us with this message we learnt on Saturday:

* + We are all indigenous to this planet; and
  + There is no other planet currently available for colonization.
  + It is high time that all of us to recognize how precious and fragile our planet is and treat it accordingly.

### LEADERSHIP

**YVONNE:**

here as part of Royal Society UK delegation, other members could do this, great opportunity (two way exchange). Brought knowledge of process to our ECS panel and educated other panelists, strengthened the value of the panel. But also invaluable experience for the delegation, as can be concluded from this weeks experience.

We therefore ask you to:

Integrate ECS in your delegation, discuss these issues with them. If funding does not permit this seek feedback from your network of ECS beforehand.

Need to integrate ECS within the system.

ICSU and its members should integrate ECS in their next external reviews, other conference delegations and also as reviewers for conference reports (e.g. recent conference by Sir Peter Gluckman on scientific advice to governments where many of us participated) to have our voice in the conversation.

If not established yet build and maintain own early-career networks and use these to communicate.

# What can we do?

**KIM**:   
So, now that we’ve hopefully convinced you of why ECS belong at the table and how we could contribute, we have a request for everyone in this room to participate in supporting ECS, and you all have a role to play. We mostly ask for continuing good practices and changes in behavior. Specifically, we suggest:

1. Provide networks of career development and mentoring for ECS to participate in international research collaborations.
2. Recognize the value for ECS to engage in science for society by explicitly including broader engagement in policy, outreach, communication, and in evaluation and promotion metrics.
3. Integrate and involve diverse ECS in leadership to promote universality of science.

*(example to go thru very briefly with slide up- slides found here: )*[*http://www.slideshare.net/kimberlynicholas/ecs-icsu3-38628373*](http://www.slideshare.net/kimberlynicholas/ecs-icsu3-38628373)

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| --- | --- | --- |
| Constituent | Strategy | Positive example |
| National and Union Members | Establish or expand ECS Academies – networks & mentoring | Global Young Academy (apps open until Sept 28), National Young Academy (new in Kenya, Raphael Munavu)  Dov Jaron, unions see EC participation as essential.  International Union of Food Science and Technology- Walter Speiss |
|  | Send ECS delegate to future GAs | Royal Society |
| Intergovernmental bodies and scientific committees (Future Earth, IPCC, IPBES…) | Teaching curricula and communication products | Bruce Alberts  Biochemistry union-PhD standards. |
| Funding agencies, tenure and promotion, academy membership, awards | Design incentives to value interdisciplinary science, outreach, communication & policy | Phil Campbell of Nature at SciAdvice, “Enhancing prestige of useful research” |
| Coordinating bodies like ICSU, ISSC, IAP, TWAS | Work together to coordinate ECS networks- in person and online platform | Networking conferences |
|  | Initiate exchange programme (mobility) | TWAS PhD & postdoc training & mobility |
|  | Guidelines for incentives that value science for society | Daya Reddy- IAP working on evaluation metrics |
|  | Guidelines for inclusive recruitment and involvement of diverse leadership | Future Earth |
| **Everyone!!** | Include ECS on executive boards, policy advice, governing committees, conference review boards (e.g. SciAdvice), peer review, journal editorial boards, visioning committees… | South Africa |

So, these are some of our suggestions. Thanks for your attention, and we look forward to the discussion with you, starting with questions from the floor now.

# Questions from audience- All, moderated by Kim

1. Please say your name and affiliation, and one short, focused question for the panel. Please state if it’s a question at large or meant for a particular panelist.
2. To keep the conversation dynamic, as part of my innovative ECS perspective, I will be using this new technology of my mobile phone to let you know when you’ve had 1 minute to speak, when I’ll ask the panel to respond to your points.

Q &A

# Wrap-up: Kim

* Thank you very much for giving all of us the opportunity to be here.
* Thanks to ICSU for inviting us, and to DFG, the Royal Society in the UK, the Royal Society of NZ, and the China Association for Science and Technology for sponsoring us and enabling us to be in this room, we’re really appreciative.

We have our working document on my website, kimnicholas.com for public comment, you can leave them in the comment field so you can see what your colleagues say as well. We hope you are going to take these suggestions forward in your organizations, and invite ECS in to help, we on this panel are just the tip of the iceberg of many who are keen to be involved. We hope that these suggestions result in more fresh faces at the next GA.