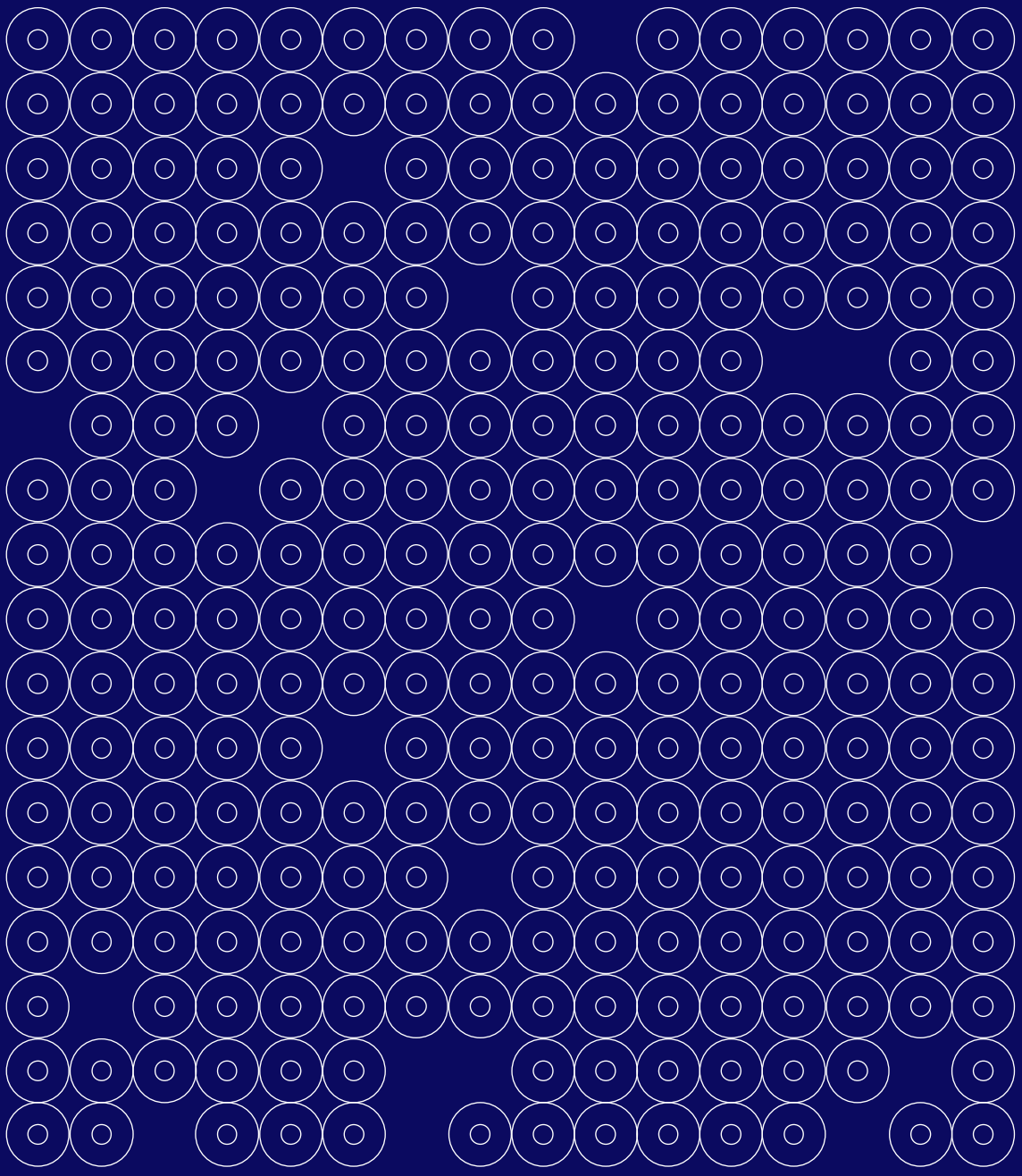
# JPIAMR Online Workshop for Junior Researchers

**June 29-30, 2021**



JPIAMR Secretariat
Swedish Research Council
Box 1035
SE-101 38 Stockholm

+46 8 546 44 000
www.jpiamr.eu
twitter.com/JPIAMR
facebook.com/JPIAMR

jpiamr
Joint Programming Initiative on Antimicrobial Resistance

# Contents

# Introduction

## Background and objectives

As part of the JPIAMR portfolio to support antimicrobial resistance (AMR) research to decrease the AMR burden, the JPIAMR plans to develop the Early Researcher Programme to strengthen the career path of early stage AMR researchers and support their engagement into the AMR community. This programme will support education and capacity building on AMR in JPIAMR member countries as indicated in the JPIAMR Strategic Plan 2020-2025 and provide necessary tools for early stage researchers involved in JPIAMR projects, to develop a long-term career in the AMR field.

The vision of the JPIAMR Early Researcher Programme is to enhance the potential, capabilities and competitiveness of JPIAMR member countries by increasing the exchange of ideas and contacts at the junior researcher level. The mission is to create opportunities to support the development of young researchers' career by helping them to extend their professional network and gain new skills in an international context. The target group of the JPIAMR Early Researcher Programme is junior researchers engaged in JPIAMR-funded projects, who are in the last year of their PhD, or within the first two years of their postdoctoral positions.

The JPIAMR Junior Researchers Workshop was the start-up event for the JPIAMR Early Researcher Programme. Originally planned to be held in Kraków in October 2020, the JPIAMR Junior Researchers Workshop was finally organized as an online event on June 29-30, 2021 due to the COVID19 pandemic.

The event was organised by the Polish National Science Centre (NCN), with the support of the German Aerospace Center (DLR), the Spanish State Research Agency (AEI), and the JPIAMR Secretariat.

The workshop promoted international collaboration and globalisation for the early career researchers by building awareness of JPIAMR goals and activities as well as engaging junior researchers in discussion about their capacity building needs and preferences.

The aims were to:

- showcase JPIAMR SRIA, funded projects and activities
- share ideas and collect input from Early Stage Researchers for the scope of a capacity building programme
- focus on AMR careers and collaboration between academia and industry
- carry out an in-depth analysis of junior researchers' capacity building needs based on a dedicated survey.

**Idea**

The event was addressed to researchers, MDs and VDs working in the field of antimicrobial resistance, who were in the last years of their PhD, or within the first five years of their postdoctoral positions. The Organizing Committee sought to attract a geographically balanced international audience from JPIAMR member countries, with and without funded projects as well as non-member countries involved in JPI-EC-AMR and JPIAMR-ACTION (Hungary, Latvia, Lithuania, Portugal).

In addition to the early career scientists, experts from the JPIAMR Scientific Advisory Board, JPIAMR funding agencies and AMR professionals were invited to provide experience, mentor and drive discussions on specified topics.

In addition to standard presentations followed by Q&A sessions the Organizing Committee was looking for a formula which would allow for a more personal contact and help the participants to engage with their peers. At the centre of the event was an Ideathon – a brainstorming activity where the participants worked in small groups to define their capacity building needs and preferences and were able to express their opinions on future JPIAMR activities.

The workshop sessions were spread over 2 consecutive days to decrease fatigue resulting from prolonged virtual interaction. For the complete agenda see Annex 1.

# Keynote Speakers

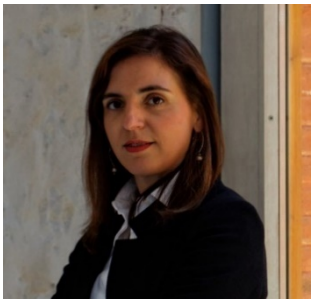
**Till Bachmann** is the Chair of Molecular Diagnostics and Infection and the Deputy Head of Infection Medicine at the Deanery of Biomedical Sciences at Edinburgh Medical School, University of Edinburgh. Till is the AMR Strategy Lead for Edinburgh Infectious Diseases, the network of infectious disease researchers and clinicians in Edinburgh. Building on his PhD on biosensors from research at University of Stuttgart and the University of Tokyo and a German Habilitation in Analytical Biotechnology, he is an expert in point of care detection of infectious diseases and antimicrobial resistance, conducting research at the interface of biomarkers and rapid diagnostics including for COVID-19. Till is the coordinator of the UK-India project 'DOSA - Diagnostics for One Health and User Driven Solutions for AMR', and the JPIAMR-VRI Network AMR Dx Global, succeeding the JPIAMR Transnational Working Group on Rapid Diagnostic Tests. Till fulfils a range of industrial and institutional advisory roles worldwide. As such he is Vice-Chair of the Scientific Advisory Board of the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR), panel member for the Longitude Prize on Antibiotics, Scientific Advisory Board member of CARB-X, BIRAC (Biotechnology Industry Research Assistance Council) for Devices & Diagnostics under National Biopharma Mission of the Department of Biotechnology of the Government of India, and the German Institute for Bioprocessing and Analytical Measurement Techniques.

**Orsolya Barabas** was born in Romania and raised in Hungary. She studied Chemistry at the Eötvös Loránd University in Budapest. Fascinated by the power of molecular structure analysis for understanding the inner workings of living systems, she switched her focus to biology and went on to pursue her PhD at the Institute of Enzymology, Hungarian Academy of Sciences in Budapest. Thereafter, she joined the National Institutes of Health in the USA as a postdoctoral fellow with Dr. Fred Dyda for four years. She started her own research group in 2009 in the Structural and Computational Biology Unit at the European Molecular Biology Laboratory. In 2021, she joined the Department of Molecular Biology at the University of Geneva as Full Professor. Her research focuses on understanding the mechanisms of DNA rearrangements and their roles in disease, with the ultimate goal to develop new strategies for biotechnology and medicine. Orsolya acts on diverse review boards and her work was recognized by the Hungary's Prima Primissima Award, NIH's Nossal Fellowship, the L'Oreal – UNESCO "Women in Science" Award and she recently received an ERC Consolidator Award.

**Natacha Couto** is an Associate Researcher at the University of Bath in the United Kingdom where she currently develops work in the group of Prof. dr. Ed Feil. Her PhD research focused on the pathogenesis of bacterial infections, by determining the mechanisms involved in infection, and on the molecular mechanisms of antimicrobial-resistance. Her PhD results were pioneering in the field of vaccine development against S. pseudintermedius infection in dogs and also on characterizing the molecular mechanisms involved in antimicrobial resistance in animals, humans and the environment (One Health). Her first Post-doc was at the University Medical Center Groningen, University of Groningen, the Netherlands, where she was involved in the optimization (both wetlab and elab) of shotgun metagenomics, transcriptomics and long-read sequencing. At the University of Bath, she has been involved in the characterization of Klebsiella spp. from clinical and non-clinical settings. She was co-Project Leader of SOLIDNESS, a project funded by the 7th JPIAMR, aiming to establish a network of excellence for surveillance of mobile genetic elements. This ongoing network will result in the production of standard operating procedures (SOPs) detailing wetlab and elab protocols for the characterization of mobile genetic elements. Natacha is currently the secretary of the ESCMID Study Group for Epidemiological Markers (ESGEM) and is an Editorial Board Member for Nature Scientific Reports.

**Shawon Lahiri** is presently working as a Senior Analyst at the secretariat of the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) hosted by the Swedish Research Council, Stockholm, Sweden with focus on research evaluation and science policies. She has a research background in the field of gut microbiome and host physiology. After finishing her doctoral studies at the Central Drug Research Institute, India, she pursued her research interests in the field of gut microbiome and host interactions in the University of Lausanne, Switzerland. She further continued her research on how perturbed microbiome alters host metabolism in the Karolinska Institute, Sweden and few years back she joined the international initiative of JPIAMR that is committed to the fight against AMR through supporting science and policy.

**Marc Lemonnier** is the founding CEO of Antabio, a private European biopharmaceutical company developing novel antibacterials targeting drug-resistant infections caused by WHO's critical priority pathogens. He is a molecular and cellular microbiologist with over 25 years' experience in academia and biotech. Prior to founding Antabio, Marc held different research positions at various institutions globally such as CNRS and Inserm (France), CSIC (Spain) and Emory University (USA), authoring over 25 peer-reviewed articles and patents in the field of bacterial pathogenesis and antibiotic resistance. Under Marc's leadership, Antabio has raised double-digit million funding and received numerous awards including a CARB-X award (2017) and two Seeding Drug Discovery Awards from the Wellcome Trust (2013 and 2015). Marc is also a member of the Board of the BEAM Alliance (European Alliance of Biopharmaceutical companies combating Anti-Microbial resistance), and a member of the SAB of JPIAMR (the Joint Programming Initiative on Antimicrobial Resistance).



**Laura Marin** heads the Secretariat of the Joint Programming Initiative on Antimicrobial Resistance hosted by the Swedish Research Council. Previously she was responsible for Science Policy and Member Relations at the European Science Foundation. Earlier on she was also team leader of the European Science Open Forum in 2008 in Barcelona (ESOF2008) and Director of Operations at the Catalan Foundation for Research and Innovation. She has several years of experience in Brussels and Germany managing research and innovation projects and facilitating numerous fora on science policy and governance issues. She holds a MSc on Political Science by the Universitat Autonoma de Barcelona and a M.Litt in Management, Economics and International Relations by St. Andrews University.

**Laura Plant** has a PhD in Microbiology from the University of New South Wales in Australia. She has a research background in the field of bacterial pathogenesis and immunity from the Nestlé Research Centre, University of Melbourne, and Karolinska Institute. Since 2013, Laura has worked in research administration with specialisation in research funding as a Grants Specialist at Karolinska Institute and as a Senior Research Officer at the secretariat of the Joint Programming Initiative on Antimicrobial Resistance at the Swedish Research Council. Laura is engaged in management of projects funded by the European Commission, is a national Programme Committee Expert for Widening and ERA in the Horizon Europe framework programme, and is the Swedish delegate in the Global AMR R&D Hub.

Professor **Magdalena Popowska**, for the last 30 years employed in the Institute of Microbiology (IM) at the Faculty of Biology of the University of Warsaw (UW). In 2016-2020, the Head of the Institute of Microbiology, presently the Head of the Department of Bacterial Physiology in IM UW (https://im.biol.uw.edu.pl/struktura/zfb/) and, for the second term (2021-2024), the Chair of the Academic Council for Biological Sciences. Active in research in biotechnology, microbiology, physiology and bacterial genetics within several national and international projects, e.g. INART (JPIAMR, Call 2017) and ANTIVERSA (BiodivERsA, Call 2018). Author of more than 50 publications in journals from JCR list (h-index – 19, number of citations – over 1300) and many conference reports and lectures, as well as patent inventor. Initiator, coordinator and leader for two courses offered by the Faculty of Biology, supervisor of bachelor, master and doctoral theses. Received several prizes and commendations for her scientific achievements, publications and patents. Official Polish representative in international COST Actions concerning antibiotic resistance: NEREUS – ES1403 and DARE – TD0803, and Network – JPIAMR – WAWES concerning biodiversity. Award winner in the 10$^{th}$ edition of Businesswoman of the Year competition in the category "Leader of New Technologies" (2019); winner of the Polish Award for Intelligent Development as a Scientist of the Future (2020). Since 2016 the President of an award-winning biotechnology company BACTrem (UW spin-out) (http://www.bactrem.pl/firma).

**Andreas Sandgren** is Director of ReAct Europe, hosted by Uppsala University, and he is part of ReAct's Global Leadership Group. Dr. Sandgren follows the international policy debate on antibiotic resistance and contributes to evidence-based policy development towards sustainable access of effective antibiotics.

Before joining ReAct he has worked as a freelance consultant in public health, served as tuberculosis expert at the European Centre for Disease Prevention and Control (ECDC), has been a postdoctoral research fellow at Harvard School of Public Health and the Swedish Institute for Infectious Disease Control. Andreas received his PhD in infection biology from Karolinska Institutet and his MSc in medical sciences from Uppsala University.

**Constance Schultsz** is a medical microbiologist at the Amsterdam UMC, University of Amsterdam, which she joined in 2008. Since 2016, she has been a Professor of Global Health and Deputy Head of the Department of Global Health, and Executive Board Member of the Amsterdam Institute for Global Health and Development (AIGHD). From 2003 to 2008, she headed the Microbiology Department at the Oxford University Clinical Research Unit in Ho Chi Minh City, Vietnam. Her research interests include antimicrobial drug resistance and emerging infectious diseases, which she studies in an international context using interdisciplinary approaches, ranging from molecular biology studies to implementation research. She carries out her research in collaboration with

epidemiologists, clinicians, biologists, social scientists such as anthropologists and economists, and computational scientists.

**Pawel Stefanoff** is a medical epidemiologist. He obtained his Medical Degree in 1998 (Warsaw Medical University), a PhD degree in 2003 and a Master of Science in epidemiology in 2004 (State University of New York at Albany). Pawel is currently employed at the Department of Infection Control and Preparedness of the Norwegian Institute of Public Health. During 2000-2012, he worked in the National Institute of Public Health in Poland, where he was involved in the surveillance and research on vaccine-preventable disease. He also worked part-time as head of infection prevention and control team in a regional hospital. During 2012-2015 and 2018-2021 he worked in the Norwegian Institute of Public Health, mostly in international projects related to field epidemiology training, surveillance, and preparedness. His main areas of expertise are surveillance, Public Health research and teaching. He is co-author of more than 70 peer-reviewed publications in international scientific journals.

# Participants

### Pre-registration

An invitation e-mail was sent to coordinators of JPIAMR-funded projects and networks to disseminate especially within their projects, specifically to the target group of junior scientists, who could have then applied to participate in the workshop.

Invajo platform was used to set up registration of participants (see Annex 2). The registration started in May 2021 and ended on 9.06.2021. The registration form defined the following entry criteria for participants:

1. Career stage: PhD student - up to 5 years after PhD
2. Country: JPIAMR countries and associated countries
3. Up to 3 participants from one country
4. Consent on inclusion personal data in the event booklet

114 participants registered for the event: 86 from countries belonging to JPI AMR consortium, and 28 from other countries. After checking all the entries, the members of the organizing committee decided to exclude registrants who failed to comply with criteria 1 and 4. The final number of eligible participants was 72, of which over 60 participated actively on both days of the event.

The statistics below (Figures 1-4) demonstrate that the final group of registered participants was well balanced in respect to participants' career stages, gender balance, and representation of countries from and outside JPIAMR network. The Human Health setting was represented more frequently in the group than other aspects of One Health.

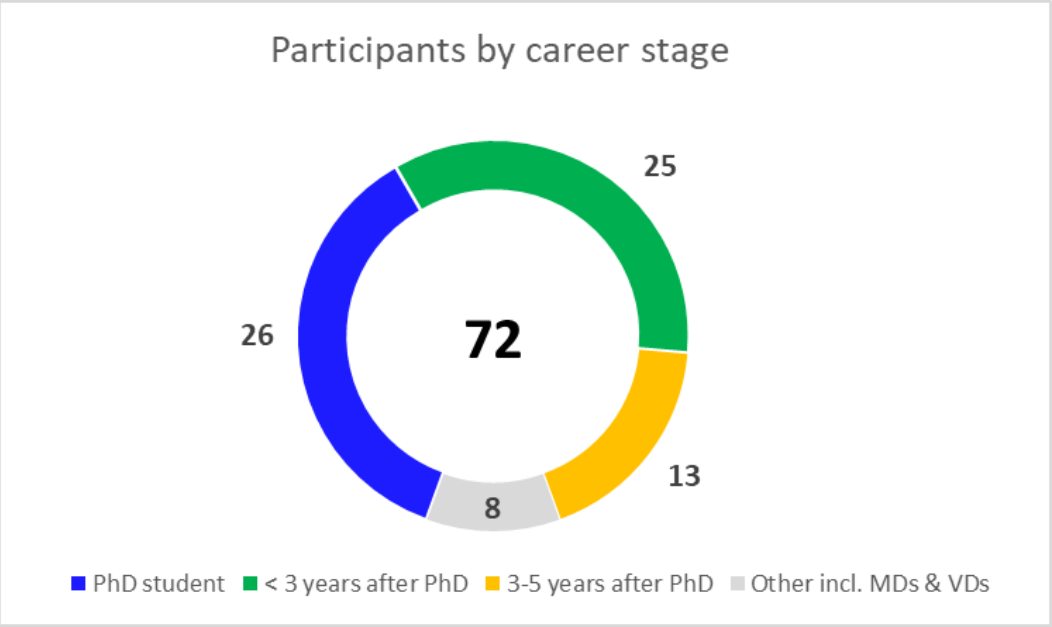



**Figure 1.** Participants by career stage. Based on declarations in the pre-registration questionnaire.

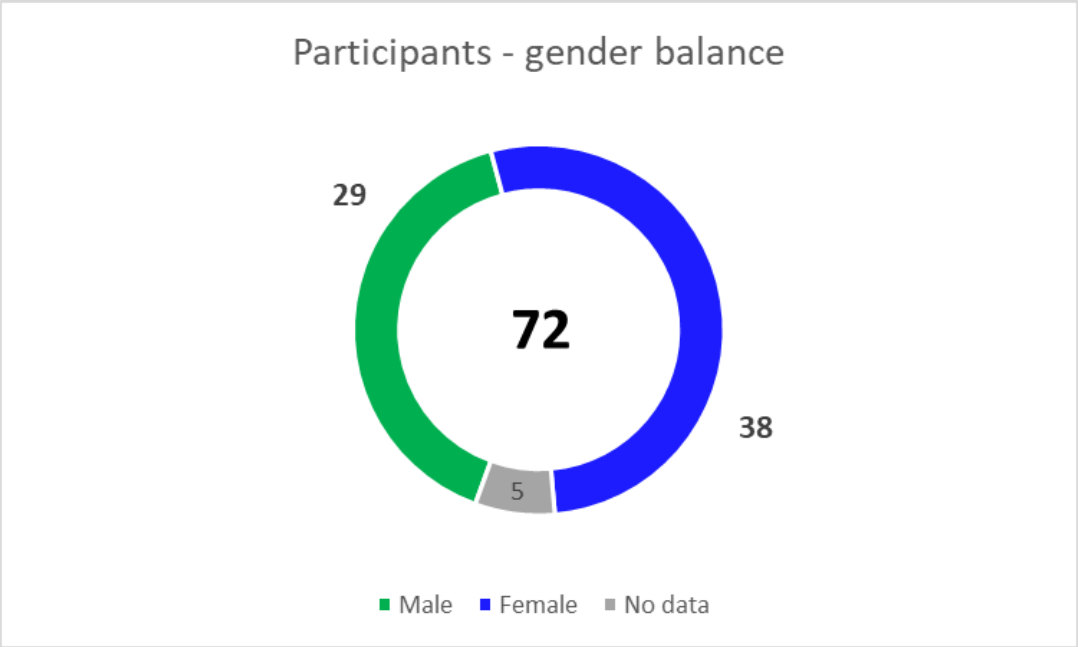



**Figure 2**. Participants – gender balance. Based on declarations in the pre-registration questionnaire.

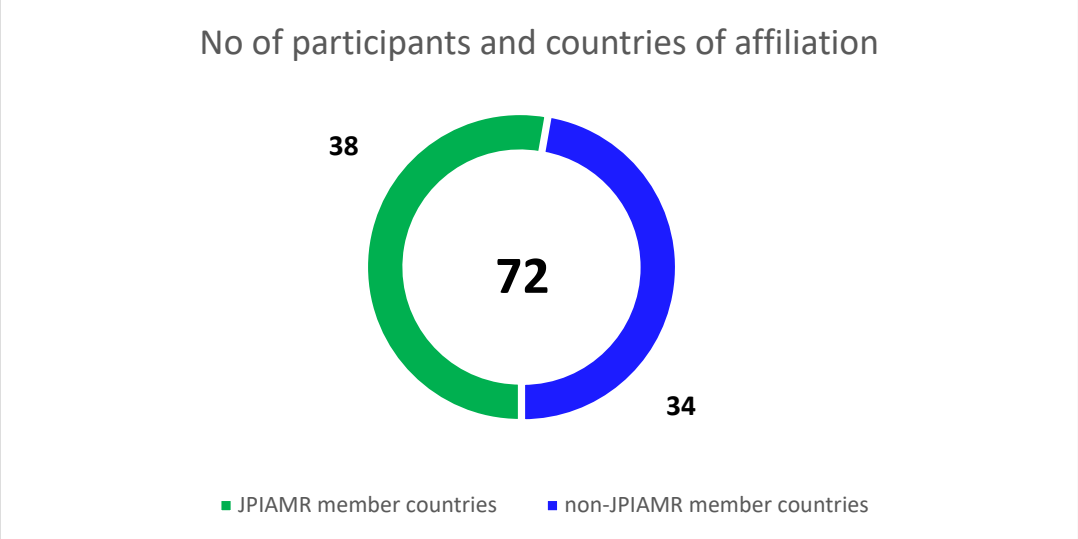



**Figure 3**. Participants and their countries of affiliation. Based on declarations in the pre-registration questionnaire.

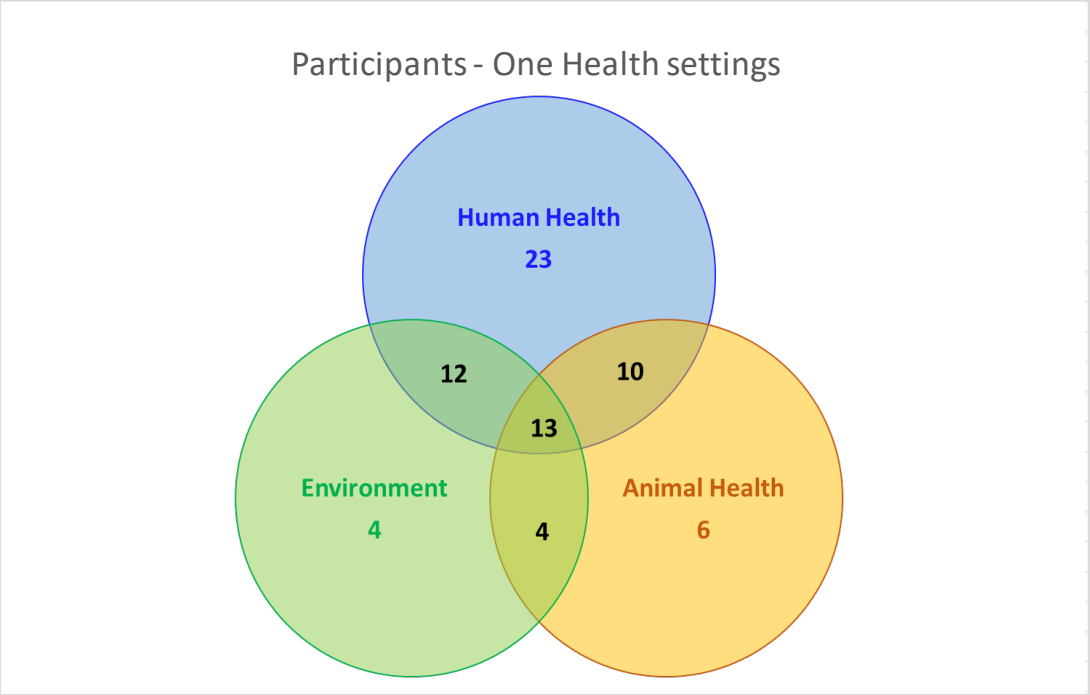



**Figure 4**. Participants and One Health settings. Based on declarations in the pre-registration questionnaire.

### Ideathon Groups

The participants were assigned into groups by the Organizing Committee (see Annex 3) on the basis of their career stage but mixed in terms of geographical spread, gender, participation in previous JPI projects, One Health Approach and previous participation in capacity building activities.

The group work was facilitated by representatives of funders (see Annex 3). Facilitators received a short brief before the workshop to better understand their role and were given a copy of the reporting template to make back-up notes.

# Ideathon tasks

## Method

Groups worked in separate virtual rooms. The activity was divided into two parts:

*Part 1. Tell us what you think.*

Discussing pros and cons of different capacity building activities and ranking them. Participants were bound to answer questions connected to appropriateness of this activity for career stage, invited speakers, preferred arrangements, funding scheme etc.

*Part 2. Pitch your own capacity building idea.*

Proposing a novel capacity building activity. Group members brain-stormed to propose at least 1 novel, capacity building activity, ideal for their career stage and described its pros and cons.

## Results – part 1: Pros & cons, recommendations

The slides below show pros and cons of each of the 4 capacity building activities discussed, in the order of preference ranking expressed by junior researchers. All responses have been aggregated from all 8 groups of participants.


**Thematic conferences or workshops (in person or online)– Pros and Cons**

a platform for exchanging knowledge, engaging both senior and junior researchers, PhD students, stakeholders and policy makers. A venue to discuss AMR on all levels – from research to policy, and beyond.

**How much would you like to take part in this activity?** 5

**Pros**

- build a professional network
- help find collaborations
- bring junior researchers closer to cutting edge research and to policy makers
- allow interaction with stakeholders
- cover both basic and applied research

**Cons**

- virtual format not practical
- difficult to find excellent speakers
- difficult to find balance between too general and too specific sessions
- conferences do not cover soft skills

**Recommendations**

- in person
- if virtual – make sure there are activities in breakout rooms
- practical content with hands-on experience
- "bench to public" format to reinforce the link between research and real world
- organize separate sessions for PhD students and post-docs, followed by a joint one
- should incorporate a mentoring scheme
- invite mixed career stage speakers, keynotes as experts in each field of JPIAMR
- cover a variety of JPIAMR aspects: transmission, environment, human health, surveillance
- follow a conference with a workshop (to cut costs)

*Suggested conference/workshop topics*

- Statistic tools workshop
- One Health perspective to get new ideas for a given research field

- Consensus workshop (goal to get as much experts as possible in specific topic and end up on consensus on that topic e.g. protocols for animal research, policy). Does not fit for all topics, but great help for certain topics.


**Summer school – Pros and Cons**

1–2-week course engaging international faculty on different aspects of AMR. Attendees could undergo rotations based on the JPIAMR priority areas: Therapeutics, Diagnostics, Surveillance, Transmission, Environment and Interventions.

**How much would you like to take part in this activity?** **4,5**

**Pros**

- networking and knowledge exchange
- relevant to Master or PhD students
- useful for newbies on AMR
- lecturing/teaching experience for post-docs

**Cons**

- potential information overload
- topics often too theoretical or too general
- big time committment
- lack of funding for LMIC attendees
- may overlap with existing summer schools, e.g. McGill Summer Institute summer school, Mérieux Foundation summer school

**Recommendations**

- no more than 5 days long
- in person, optimal size – up to 50 people
- focused enough to be useful (AMR is a vast area)
- interactive with hands-on experience
- with a clear take-home message
- organized in the fall or spring
- organized back-to-back with other international event conference in Europe to facilitate travelling/costs
- participation free for LMIC attendees
- interesting to organize outside Europe, fair to organize in all continents
- complemented by an online platform to stay in touch

*Suggested summer school topics:*

- LMIC issues such as communicating about AMR to educate and raise awareness, and how to deal with mis-prescription of antibiotics; and
- what's new, what are the gaps in current research, and what have been the recent failures (so we don't repeat mistakes);
- research skills such as best use of statistics and data visualisation with R for publications
- Diagnostics and surveillance (prevalence in the world)
- Novel molecules, how can we find therapies from organisms and natural products
- Transmission (HGT), mathematical modelling
- Environment (study wastewater, contributions to transmission of AMR bacteria to community)
- Antimicrobial stewardship (intervention)
- Explain why AMR is important (talk to people that are not scientists and make them aware)


## Cross-sectoral study visits – Pros and Cons

1–2-week visits at various organisations involved in AMR. Scientists affiliated in academic institutions would go outside of the academia and vice versa to experience working and thinking outside of the box.

**How much would you like to take part in this activity?** **4**

**Pros**

- put own work in a bigger picture
- good to go into the field to learn about context, laws, logistics and admin requirements
- give meaning to what we are doing, e.g. in the veterinary context going to visit farms and see the animals, in the science policy context going to work with research funders

**Cons**

- difficult to establish the optimal duration of a study visit
- difficult to find host organisations
- lack of funding

**Recommendations**

- researcher should have freedom in selection of study visit destination
- match the duration of the study visit with its purpose:
- could be in the form of exchange, not just one way
- internship in industry after PhD period
- experience in clinical setting (for ex. Hospital)
- incorporation in active project teams – create a pool of 'offers' by PIs
- advise about Intellectual Property Rights
- take a multi-stakeholder approach and do fundraising, e.g. Wellcome Trust, ECMID, ReAct, Gates Foundation, USAID, etc.


## PhD Forum – Pros and Cons

an exchange platform for junior researchers participating in JPIAMR transnational research projects. PhD students would meet regularly to exchange information on their research, learn about the EU research landscape and the JPIAMR.

**How much would you like to take part in this activity?** **3,5**

**Pros**

- networking and knowledge exchange
- good to discuss PhD challenges incl. mental health
- flexible for different time zones
- no need to allocate specific time
- encouraging environment for questions from researchers at any career stage
- limitless variety of sections possible: future career, networking, info for grants/positions available.

**Cons**

- another digital forum may not sustain momentum

**Recommendations**

- informal
- a social media platform or a series of virtual meetings
- could be a LinkedIn group or forum on existing social media, e.g. Twitter
- have professional facilitators to guide topics and maintain visibility over time
- promote interdisciplinarity, include researchers with different backgrounds (chemistry, microbiology, molecular biology, etc.)

**Results – part 2: novel ideas**

The slides below present the novel ideas generated by each group.

*Group 1. PhD Students*


**Capacity Building Activities – Now pitch this!**

**Out of the bugs !** Each 2-3 years in person and online on demand
PhD coordinated project (4-5 days)
The first part (Day 1 and 2) will be a theme workshop, with presentations from PhD students working on different AMR area. The presentations should not be too specific in order to be comprehensive to everybody. For the second part, meetings with senior professional. Social meeting groups

How would you convince JPIAMR to fund your Capacity Building Idea?

- Development of future collaborations (networking)
- Interdisciplinary exchange of ideas (future collaborations)
- Strengthen JPIAMR objectives for research quality
- In parallel, an app (or a website) will be available for participants to keep in touch after the event to continue exchanging and scheduling meetings if needed

*Group 2. PhD Students*


**Capacity Building Activities – Now pitch this!**

**Five step pathway**
A comprehensive pathway for young researchers to gain knowledge and skills on AMR; to build their network; and to develop high quality, novel studies related to AMR with a particular focus on LMIC issues and interdisciplinarity.

How would you convince JPIAMR to fund your Capacity Building Idea?

1. Complete LSHTM Massive Open Online Course (MOOC) on AMR
2. Complete JPIAMR MOOC on best practice study development related to AMR (e.g. protocols and procedures, which exist for many study types, but many institutes are not aware of them)
3. Attend JPIAMR summer school to learn about what's new in the research landscape, what the gaps are in current research, what have been the recent failures (so we don't repeat mistakes), LMIC issues, and interdisciplinarity
4. Attend JPIAMR networking event to find partners to collaborate with (including from LMICs and including from different disciplines)
5. Attend 10 day workshop to collaboratively develop best practice proposals to submit to JPIAMR

*Group 3. PhD Students*


**Capacity Building Activities – Now pitch this!**

**Idea – Group 3**

How would you convince JPIAMR to fund your Capacity Building Idea?

- AMR is a real important One Health problem from different point of view (sanitary and economic)
- Innovative vs solving fundamental problems (for ex. using old drugs to tackle AMR bacteria, renovate old drugs)
- Identification of AMR and screening of MDR bacteria
- Genomics (large datasets) at multinational level (Africa and Asia..) in different settings (human and veterinary)
- Molecular mechanisms (understand the real target to tackle a new AMR bacterium, theory is important)

*Group 4. Up to 3 years after PhD*


**Capacity Building Activities – Now pitch this!**

**[DreAMR conference + pre-conference]**
[A hybrid conference involving all topics from "bench to policy making" and connecting academic and public institutions to all career stage people.]

How would you convince JPIAMR to fund your Capacity Building Idea? **.. We did not really reply to this!! We instead imagined our "dream" conference!**

- Hybrid conference with broad AMR topics + in depth focus groups meetings organized on the side.
- Pre-conference workshop for early careers, students, young people networking
- Take home message at each session done by someone with a more practical point of view (stakeholder, policy) … to facilitate the reciprocal understanding.
- Coupling juniors and professors/lecturers chairing a panel, at least 1 younger person is part of the panel selecting talks, and at least one young presenter
- The core of the event is not just academic information circulation but also networking and reciprocal understanding with outside of academia entities.
- Session/workshop: mentoring on grant funding application in AMR
- Session: Presentations about projects who received funding of different kind
- Editors presentations event, for guidance on paper writing and /or editor career
- Session: JPIAMR funded projects history, how international collaborations were started and succeded, focusing on the process rather than on scientific results.

## *Group 5. Up to 3 years after PhD*


**Capacity Building Activities – Now pitch this!**

**Junior researcher career development program**
Combining mentorship with resources to develop transferable skills.

How would you convince JPIAMR to fund your Capacity Building Idea?

- Mentorship program
  - ➢Different options, fellowships, grants
  - ➢Guide how to continue your career
  - ➢Diversify mentorship – one health perspective
  - ➢National and international opportunities
  - ➢Postdocs with seniors and PhD with postdocs – layered system
- Leadership program within AMR (annual course or twice a year)
- Open video platform/booklets/material to study – bank with resources (exist already https://www.jpiamr.eu/resources/ , should be extended)
  - ➢JPIAMR journal?
    - —Low-income countries belonging to JPIAMR network publish with less fee.
    - —Could also be interesting to publish "negative results" which could benefit the AMR field immensely as long as the experiment is well done (e.g. drug development).
    - —Using the resource builds your capacity

## *Group 6. Up to 3 years after PhD*


**Capacity Building Activities – Now pitch this!**

**[Mentoring and knowledge sharing ladder]**
[A one-to-one international mentoring program facilitating downstream mentoring and upstream knowledge skill sharing across sectors involved in AMR for early career researchers]

How would you convince JPIAMR to fund your Capacity Building Idea?

- Practically: 2 meetings between a junior and a senior per year.
- New in the field of AMR(research) and serves a need of early stage career researchers
- Special: One to one activity (instead of the more general / group activities)
- Could be extended with
  - Short or long term study visits to each others lab/workplace
- What does the junior get out of this? – an involved, but not in their own institute (country), mentor to give advise, share, inspire
- What does the senior get out of this? – fresh inspiring meetings, a skill of the junior, network growth, improve relations between groups/labs (possible publications (?))

- Role of JPIAMR: set the ground rules and facilitate the mentoring pairs
  - be the platform, reserve money for the travels/labwork/etc.
- Additional ideas:
  - First organize a pilot to test in selected number of countries in selected time
  - Senior researchers/workers need to be approached differently than junior (probably)
  - There is a selection process needed (probably)
  - Being a mentor as a senior could be taken into account in future proposals/calls

*Group 7. 3 to 5 years after PhD*

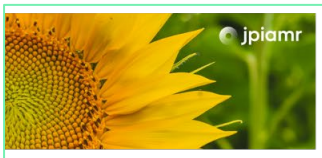

**Capacity Building Activities – Now pitch this!**

**Hackatons**

How would you convince JPIAMR to fund your Capacity Building Idea?

- Hackathons

*Group 8. 3 to 5 years after PhD*




**Capacity Building Activities – Now pitch this!**

**Two programs:**

1. **Funding for early career researchers**
2. **Mentorship program for early career researchers**

**1. Funding program (pilot study)**

- Early career researchers (2 - 7 y after PhD)
- Framework: ~12 months (~20k in the UK) with extension
- Consumables + personal (student) + travel + publication
- Collaborations/interdisciplinary

**2. Mentorship**

- Assistance from different professionals, ex. from clinicians to lab-based researchers

**Why we think this is important?**

- Professional development within JPIAMR priorities
- Science communication/public communication and engagement
- Training next gen of scientists

# Conclusions

The Workshop created an opportunity for early stage researchers to connect across different backgrounds, career stages or countries. For a number of participants the workshop was the first ever capacity building activity.

The Ideathon provided an inspiration for what is possible and a collaborative context in which to learn from peers. The participants ranked the different capacity building activities in the order of their prospective interest:

1. Thematic conferences/workshops;
2. summer school,
3. cross-sectoral study visits,
4. PhD forum/platform.

The activity also generated 8 novel ideas for capacity building potentially to be incorporated in JPIAMR Early Researcher Programme. It is especially important to note that a strong JPIAMR mentoring programme was identified as important to both PhD students and post-docs. Post-docs also expressed interest in getting involved in activities addressed to PhD students – as mentors, speakers at conferences, facilitators at workshops, etc.

# Participants Questionnaire

## Introduction

The goal of the survey was to collect additional information on the needs of junior researchers regarding capacity building activities, as well as receiving feedback on the organisation of the workshop.

The online questionnaire, prepared with the online survey system supported by the European Commission EUSurvey, has been answered by 29 out of approximately 60 participants. The complete questionnaire is available in Annex 1.

It is important to highlight that all the respondents found the workshop useful, while 72.5% considered the networking activities helpful, out of which a 90.5% expect to continue with the contacts made during the workshop.

The specific results are summarised hereafter.

## Results

The career stage of participants and their previous participation in capacity building activities is shown below:

| **Career stage** | **Total** | **Previous participation in capacity building activities** | | |
|---|---|---|---|---|
| | | YES | NO | Don't Know/Not Applicable |
| **PhD student** | **12 (41,4%)** | 3 | 8 | 1 |
| **Up to 3 years after PhD** | 8 (27,5%) | 5 | 3 | 1 |
| **3-5 years after PhD** | 7 (24%) | 1 | 6 | 0 |
| **Other*** (6 and 15 years after PhD) | 2 (7%) | 1 | 1 | 0 |
| **Total** | 29 (100%) | 10 | 18 | 1 |

**Table 1**. Career stage and capacity building experience

Out of the 18 participants that had not previously participated in capacity building activities, 38% had never applied to a capacity building programme or activity, 38% were not aware of capacity building opportunities, and 22% selected both options.

Regarding the **scope of the capacity building activities** that participants had previously participated in, of the 10 participants that had previous experience, 4 had participated in international activities, while three had participated in national activities and two had participated in both national and international activities. One participant chose not to answer this question. The answers by type of activity are seen in Figure 1.

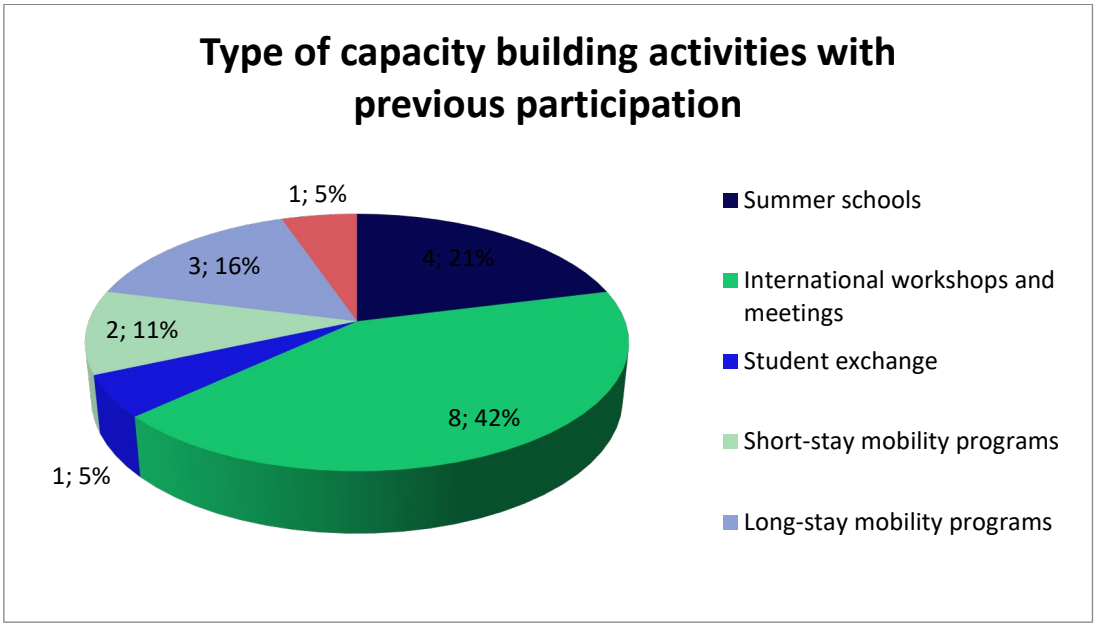



**Figure 5**. Type of capacity building activities with previous participation.

Attendees were asked about the types of capacity building activities they would be interested in participating in the future. Results are shown in Figure 6.

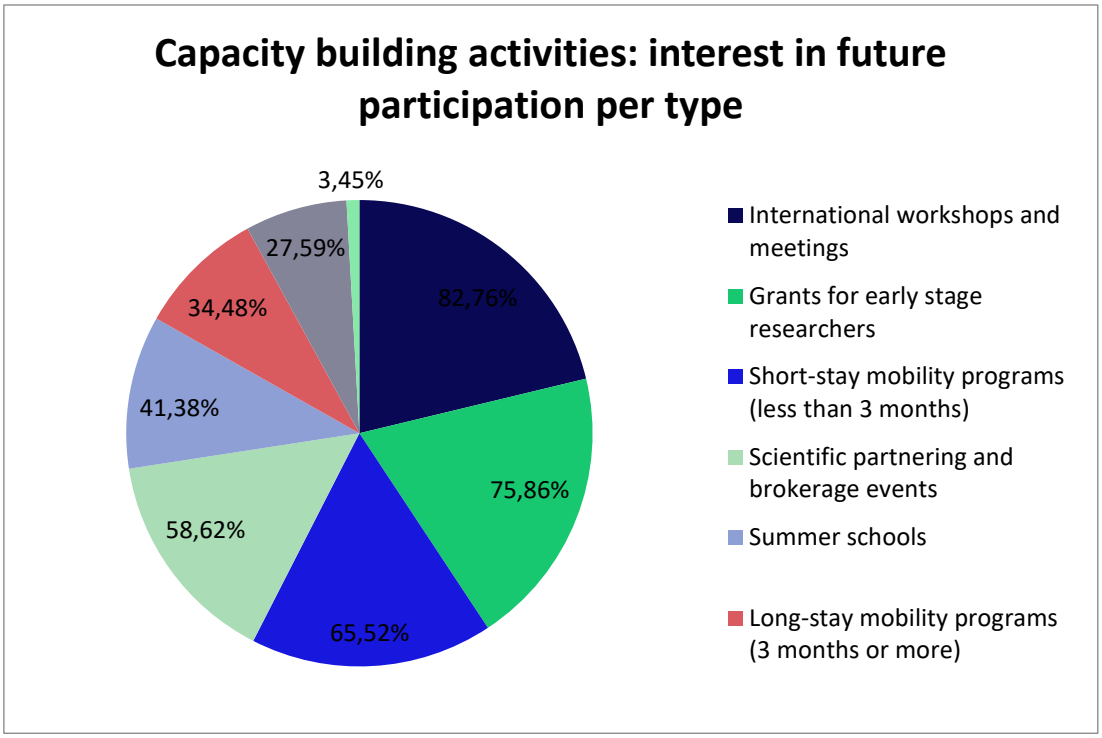



**Figure 6**. Capacity building activities, interest in future participation per type.

When asked about sources of information regarding capacity building activities, participants gave a range of sources, as seen in Figure 7.

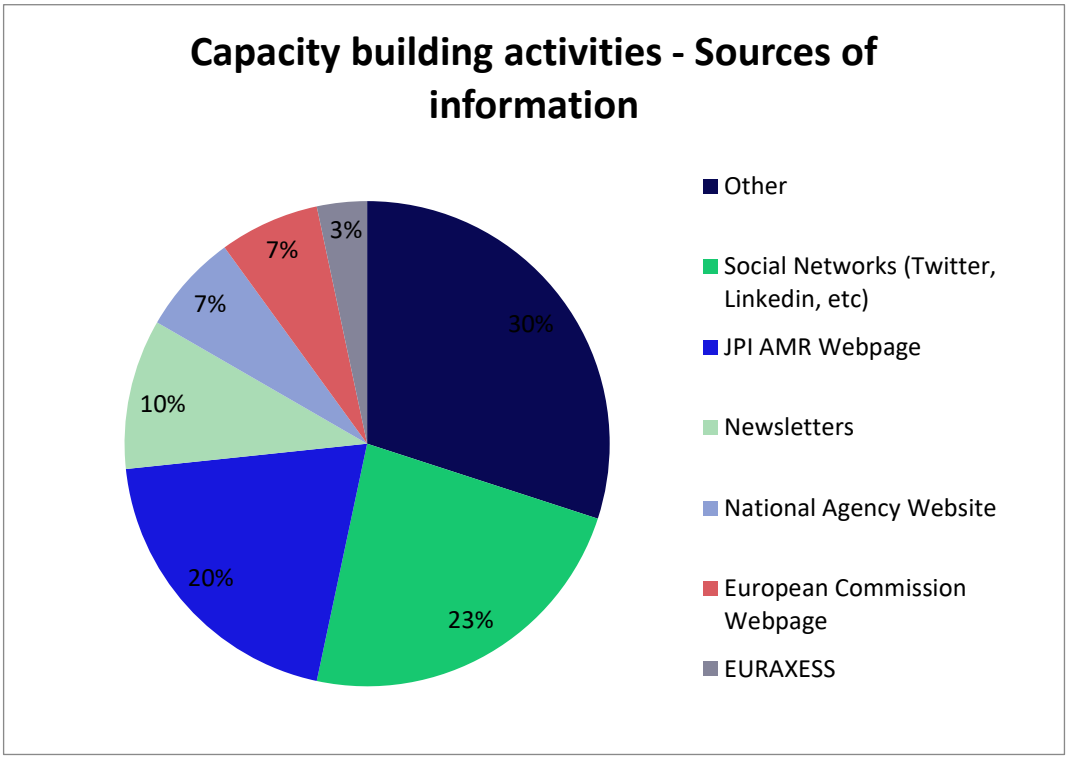



**Figure 7**. Capacity building activities – sources of information

Within the "Other" category, the following sources were listed:

- PI and AMR funded project leaders;
- Email lists: University of Sussex AMR, the French National Research Institute for Agriculture, Food and Environment (INRAE) and others;
- Other distribution lists;
- European College of Veterinary Public Health (ECVPH) meetings and training website.

**Prior knowledge on** the Workshop topics - JPIAMR and current opportunities for researchers' mobility - was considered as interesting information by the organisers, and therefore were the subject of specific questions. The results show that previous knowledge on **JPIAMR** was deemed mostly as "Fair", but "None" prevailed concerning the current opportunities for researcher mobility under the European Commission Framework Programmes. The exact figures of both topics are shown together, for abbreviation purposes, in Table 2.

| | GOOD | FAIR | NONE | Don't Know Not Applicable |
|---|---|---|---|---|
| **Previous knowledge on the JPIAMR** | 5 (17,2%) | **18 (62%)** | 6 (20,7%) | 0 |
| **Knowledge of current opportunities for researcher mobility under the European Commission Framework Programmes** | 7 (24%) | 10 (34%) | **11 (38%)** | 1 (3%) |

**Table 2**. Previous knowledge of the Workshop topics: JPIAMR and current EC mobility programmes.

The participants provided the following suggestions for **improvements to future Junior Researcher workshops** to be conducted by JPIAMR:

- The workshop was well organized to achieve its objectives. The presenters should be given a presentation template (if not done) so as to speak to the objective of the program.
- More structure can be given to the group discussion part where participants may be made aware of the points to be discussed prior to the meeting.

The participants provided **suggestions to the types of activities** that could be included in future Junior Researcher workshops to be conducted by JPIAMR:

- Any opportunity for research collaboration and research exchanges
- Mentorship program for early career researchers
- Specific activities related to metagenomic insights into antibiotic resistance
- A workshop on specifying the capacity building ideas, with practical tips on how to prepare your grant application, how to better structure it etc.
- Training for working with AMR data.

## Conclusions

As shown by the figures of the questionnaire answers, the majority of the participants attending the JPIAMR Junior Researchers Workshop were PhD students, and most participants had not participated previously in capacity building activities. Of those participants that did have previous experience, most had participated in international workshops and meetings. Workshops and meetings are also the preferred type for possible future activities, along with grants for early stage researchers. Short-stay mobility programs were considered to be almost twice as important than long-stay schemes.

The majority of junior researchers had knowledge of JPIAMR (62%), while the awareness on the opportunities for researchers' mobility under the EU Framework Programmes was substantially lower (34%). This figure is not surprising considering that JPIAMR has only recently conducted activities purposedly aimed towards junior researchers.

Most of the participants found information on capacity building programmes via social networking, the JPIAMR webpage (but not EC or national agencies websites) and via email subscription lists. This suggests that JPIAMR has a considerable horizon to channel and disseminate capacity building opportunities using social networks, besides its own webpage.

The complete questionnaire is attached as Annex 4.

# Annex 1. JPIAMR Junior Researchers Workshop Agenda

## AGENDA

## JPIAMR Junior Researchers Workshop

29-30 June, 2021

**Day 1 – 29 June 2021, Tuesday**

| Time (CET) | Session |
|---|---|
| 10:00 – 10:15 | **Welcome and introduction to the capacity building workshop**<br>*Laura Marin, JPIAMR Secretariat*<br>*Monika Pobiega, Polish National Science Centre* |
| 10:15 – 10:45 | **Keynote speech: Why we need you to combat AMR**<br>*Constance Schultsz, JPIAMR Scientific Advisory Board* |
| 10:45 – 11:15 | **JPIAMR – who we are and what we do**<br>• Global AMR research coordination – concept, membership, main achievements, SRIA<br>*Laura Marin, JPIAMR Secretariat*<br>• Introduction the JPIAMR-Virtual Research Institute digital platform<br>*Shawon Lahiri, JPIAMR Secretariat* |
| 11:15 – 11:45 | **JPIAMR showcase**<br>• **JumpAR** A multi-scale approach to understanding the mechanisms of mobile DNA driven antimicrobial resistance transmission<br>*Orsola Barabas, European Molecular Biology Laboratory, Germany*<br>• **INART** Intervention of antimicrobial resistance transfer into the food chain *Magdalena Popowska, University of Warsaw, Poland*<br>• **AMR Dx Global**, **AMR Rapid Diagnostic Tests** Networks<br>*Till Bachmann, University of Edinburgh, Vice-Chair of the JPIAMR Scientific Advisory Board* |
| 11:45 – 12:15 | **Virtual Lunch and networking** |
| 12:15 -15:45 | **Ideathon**<br>• Introducing the concept and survey<br>*Jolanta Palowska, Polish National Science Centre*<br>*Almudena Carrero Escribano, Spanish State Research Agency* |

| | |
|---|---|
| | • Let's meet in breakout rooms and share ideas!<br>*Virtual networking space available throughout, groups plan their own breaks.* |
| 15:45 – 16:00 | **Day 1 wrap-up** |
| 16:00 – 17:00 | **Optional virtual networking** |

**Day 2 – 30 June 2021, Wednesday**

| **Time (CET)** | **Session** |
|---|---|
| 10:00 – 10:30 | **Virtual coffee and networking** |
| 10:30 – 10:35 | Presentation of the agenda for the day |
| 10:35 – 11:45 | **Building JPIAMR careers**<br>• Marc Lemonnier, CEO Antabio, JPIAMR Scientific Advisory Board<br>• Andreas Sandgren, Director ReAct Europé<br>• Natacha Couto, Associate Researcher at the University of Bath<br>• Pawel Stefanoff, Norwegian Institute of Public Health |
| 11:45 – 12:45 | **Virtual lunch and networking** |
| 12:45 – 14:15 | **Ideathon results**<br>• Presentations by group rapporteurs<br>• Discussion |
| 14:15 – 14:30 | **Take-away message**<br><br>*Laura Plant, JPIAMR Secretariat* |
| 14:30 – 15:30 | **Optional virtual networking** |
| **Survey link** | https://ec.europa.eu/eusurvey/runner/9efba984-1552-cb84-be33-bee84784b8c0 |

# Annex 2. Invajo pre-registration form and questionnaire


## JPIAMR Junior Researchers Online Workshop

**29-30 June 2021**

*Are you a PhD student or an early stage researcher in the area of antimicrobial resistance (AMR)? Are you a doctor or a veterinarian working with infectious diseases? Would you like to meet your international peers and co-design a new capacity building programme for professionals just like you?*

Apply to the first **JPIAMR** workshop addressed to junior researchers, medical and veterinary doctors working in the area of AMR!

During the event we will share with you information on AMR goals and activities, present the Virtual Research Institute and showcase our research projects and networks. There will be time for Q&A sessions and virtual networking. At the centre of the event is an Ideathon – a brainstorming activity where you will be able to engage with your peers to define your capacity building needs and preferences and have a real impact on shaping future JPIAMR activities.

The full program can be found in the right side menu.

This event is organised by the Polish National Science Centre (NCN), with the support of the German Aerospace Center (DLR), the Spanish Ministry of Science and Innovation (AEI), and the JPIAMR Secretariat.

### Contact information

For any questions please contact the JPIAMR secretariat, **secretariat.jpiamr@vr.se**

### Pre-registration and selection

The pre-registration is open to all early stage researchers (ESR) fulfilling the following criteria:

1. Career stage: last year of the doctoral programme up to 5 years after PhD.
2. Geographical reach: **JPIAMR member countries*** with and without funded projects as well as non-member countries involved in JPI-EC-AMR and JPIAMR-ACTION (Hungary, Latvia, Lithuania, Portugal).

Up to five pre-registered ESRs from each country will be selected to attend the workshop on the first-come, first-served basis. We particularly welcome participation of ESRs from Eastern European countries. There will be a waiting list in case of no-shows.

Applicants will be notified regarding their participation two weeks before the workshop.

To pre-register please fill in the form below.

* Argentina, Belgium, Canada, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, India, Ireland, Israel, Italy, Japan, Moldova, Norway, Poland, Romania, South Africa, South Korea, Spain, Sweden, Switzerland, The Netherlands, Turkey, United Kingdom

**Booking**

Program - Day 1

Program - Day 2

**Organizer**
NCN, DLR, AEI & JPIAMR

**Place**
Online

**Date**
June 29 - 30, 2021

**Time**
10:00 - 14:30

**Enclosed documents (1)**
**JPIAMR Junior Researchers WS final agenda.pdf**

**Contact and questions**
**JPIAMR Secretariat**

**Technical support**
**Click here**

**Registration questionnaire**

1. Name, surname:
2. e-mail address:
3. Gender: F/M/I'd rather not say
4. Country:
5. What is your current career stage?
   - PhD student,
   - up to 3 years after PhD,
   - 3-5 years after PhD,
   - other – please specify
6. Have you been involved in any JPIAMR projects or networks?
   - No
   - Yes, completed
   - Yes, ongoing
   - If YES – please provide project/network acronym
7. What type of institution are you currently affiliated with? – choose as many as appropriate:
   - Higher Education Institution
   - Research organisation
   - Health care
   - Public
   - Private
   - Other – please specify
8. Which One Health setting do you work in? – choose as many as appropriate:
   - Human Health
   - Animal Health
   - Environment
9. Provide a short professional background
10. What are your expectations regarding the workshop?
11. Have you taken part in capacity building activities before?
    - Yes
    - No
    - If YES – what type?
12. During the Ideathon on day 1 participants will be working in smaller groups and the results of their work will be presented during a plenary session on day 2. Would like to be considered as a group rapporteur?
    - Yes (*Please note that you will be notified in advance if you are selected as a rapporteur*)
    - No
13. For the purposes of this workshop, if you are selected to participate, your answers to the above questions will be included in an event booklet and shared ONLY with the other participants of the event. Do you consent?

    - Yes
    - No

# Annex 3. Organizing Committee and Facilitators

### Organizing Committee

1. Monika Pobiega, Polish National Science Centre (NCN)
2. Jolanta Palowska, Polish National Science Centre (NCN)
3. Akin Akkoyun, German Aerospace Center (DLR)
4. Laura Plant, JPIAMR Secretariat, Swedish Research Council (SRC)
5. Jesus M. Sanz, Spanish State Research Agency (AEI)
6. Almudena Carrero, Spanish State Research Agency (AEI)

The organizing Committee was also supported by the JPIAMR Communications Team who designed visuals used during the registration period and increased the visibility of the event.

### Ideathon facilitators

1. Monika Pobiega, Scientific Coordinator, Polish National Science Centre (NCN)
2. Anna Wiktor, Scientific Coordinator, Polish National Science Centre (NCN)
3. Anna Fiust, Scientific Coordinator, Polish National Science Centre (NCN)
4. Marta Buchalska, Scientific Coordinator, Polish National Science Centre (NCN)
5. Jolanta Palowska, Polish National Science Centre (NCN)
6. Laura Plant, JPIAMR Secretariat, Swedish Research Council (SRC)
7. Jesus M. Sanz, Spanish State Research Agency (AEI)
8. Almudena Carrero, Spanish State Research Agency (AEI)

## Annex 4. Complete Participants Questionnaire

# JPIAMR Junior Researchers Online Workshop. Questionnaire for Participants.

Fields marked with * are mandatory.

## Introduction

**Objective:** This questionnaire is intended for the participants Joint Programming Initiative on Antimicrobial Resistance Junior Researchers Online Workshop, organised on the 29 and 30 June 2021. The goal is to receive feedback on the contents of the workshop and on the future steps that should be taken for the development of capacity building activities within the JPIAMR context.

**Results:** The results of the questionnaire will be taken into account when organizing future activities in the context of the One Health Antimicrobial Resistance Partnership under the European Commission Framework Programme Horizon Europe.

**Confidentiality:** Your responses to the questionnaire are confidential and will only be used in an aggregated mode.

**Deadline for answering:** The online questionnaire will be open until the **7 July 2021.**

We thank you for your participation in the JPIAMR Junior Researchers Online Workshop and for answering the questionnaire.

## Questions

### Profile

* 1. What is your career stage?

- ○ PhD student
- ○ up to 3 years after PhD
- ○ 3-5 years after PhD
- ○ Other (please specify)

1.1. If "Other", please specify

*Text of 5 to 200 characters will be accepted*

## Previous experience

* 2. Have you previously participated in capacity building activities?

- ○ YES
- ○ NO
- ○ DK/NA

2.1 The scope of your capacity building experience(s) were…?

- ○ National
- ○ International
- ○ Both

2.2. The type of capacity building activities were (please select all that apply):

Multiple choice is possible

- ☐ Summer schools
- ☐ International workshops and meetings
- ☐ Scientific partnering and brokerage events
- ☐ Student exchange
- ☐ Short-stay mobility programs (less than 3 months)
- ☐ Long-stay mobility programs (3 months or more)
- ☐ Grants for early stage researchers
- ☐ Others (please specify)

2.3. If you selected "NO", the reasons were?

Multiple choice possible

- ☐ I wasn't aware of capacity building opportunities.
- ☐ I have never applied to a capacity building programme or activity.
- ☐ I applied to a capacity building programme, but I was not selected.
- ☐ There is no national funding for capacity building in my country.
- ☐ Other (please specify)

2.3.1 If you selected "Other", please specify

*Text of 10 to 200 characters will be accepted*

2.4. If you have selected "Other", please specify

*Text of 5 to 150 characters will be accepted*

3. Where do you find information on capacity building opportunities?

Multiple choice is possible

- ☐ JPIAMR Webpage
- ☐ European Commission Webpage
- ☐ EURAXESS

- [ ] National Agencies Webs
- [ ] Newsletters (please specify)
- [ ] Social Networks (Twitter, Linkedin, etc)
- [ ] Other (please specify)

* 3.1 If you selected "Other", please specify

*Text of 5 to 150 characters will be accepted*

* 4. Before attending the workshop, how was your knowledge on the JPIAMR?

- ( ) Good
- ( ) Fair
- ( ) Null
- ( ) DK/NA

* 5. Before attending the JPIAMR Capacity Building Workshop how would you rank you knowledge of current opportunties for researcher mobility under the European Commission Framework Programmes (including Horizon 2020 and Horizon Europe)?

- ( ) Good
- ( ) Fair
- ( ) Null
- ( ) DK/NA

## Wokshop Organisation

* 6. Did you find the workshop useful?

- ( ) YES
- ( ) NO
- ( ) DK/NA

6.1 if your answer was "NO", could you please provide feedback?

* 7. Do you consider that the time allocated to the group discussions was sufficient?

- ( ) YES
- ( ) NO
- ( ) DK/NA

7.1 If not, do you have any suggestions?

*Text of 5 to 150 characters will be accepted*

8. Have the networking activities been helpful?

- ○ YES (If YES, please answer question 10 as well)
- ○ NO
- ○ DK/NA

## Workshop results and feedback

9. As a consequence of the workshop, would you find it likely to apply to a capacity programme not considered before?

- ☐ Summer schools
- ☐ International workshops and meetings
- ☐ Scientific partnering and brokerage events
- ☐ Student exchange
- ☐ Short-stay mobility programs (less than 3 months)
- ☐ Long-stay mobility programs (3 months or more)
- ☐ Grants for early stage researchers
- ☐ Others (please specify)

9.1 if you have selected "Others", please specify

*Text of 5 to 150 characters will be accepted*

10. Do you expect to follow-up or continue with your networking contacts?

- ○ YES
- ○ NO
- ○ DK/NA

* 11. How would you like to receive feedback on the results of the workshop?

Multiple choice is possible

- ☐ By email
- ☐ Accessing the JPI AMR webpage

12. Do you have suggestions for future workshops?

*Text of 15 to 200 characters will be accepted*