

Spring 2025



EAPR Newsletter

HEADLINES

Dear all,

Welcome to the Spring 2025 newsletter of the European Association for Potato Research (EAPR).

The EAPR Council meeting took place on 20th/21st January 2025 (see page 3). A full complement of the current EAPR Officers and Councillors is listed on page 4.

News about Potato Research is provided on page 5.

Ten students were supported to join the EAPR Triennial Conference in July 2024 in Oslo. The reports of the first three students can be found on page 6 and 7.

Two Section Meetings will take place in 2025 and three more in 2026 (see page 8).

Finally, we wish to remind those who have not yet joined or renewed their membership to please do so as soon as possible (it's easy to do on the website). We also encourage you to continue to submit articles to Potato Research and would encourage those with an interest in becoming an editor to contact the Chief Editor **Paul Struik**: paul.struik@wur.nl

We look forward to working with you in 2025 and beyond.

For more information on EAPR and to renew membership go to:

<https://www.eapr.net>

Image: Potatoes. Credit — Wang Dong from Pixabay.



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23RD EAPR TRIENNIAL CONFERENCE

It is a pleasure to host the 23rd EAPR Triennial Conference in Edinburgh, Scotland 6th-11th June 2027 and we look forward to seeing you there for an exciting week of knowledge-sharing and friendship.

The conference will be held in the University of Edinburgh's historic McEwan Hall (<https://tinyurl.com/yv926jm>) in the centre of one of Europe's most beautiful cities.

We are expecting over 300 delegates at the conference from the UK, Europe and internationally, with over 5 days of keynote presentations, parallel sessions, social gatherings and excursions - where we will visit Scotland's potato growing regions and enjoy time at some of its best-known beauty spots.

More information on our website, registration and abstracts will follow in the coming year.

We hope to see you in Edinburgh in June 2027!

Ian Toth

(President of EAPR)



Image: Edinburgh. Credit — Kate Bielinski

“The 23rd EAPR Triennial Conference will be held in Edinburgh, Scotland on 6th–11th June 2027”

2025 EAPR COUNCIL MEETING

The 2025 Council meeting took place at the University of Edinburgh Old Campus, the site of the 2027 Triennial Conference. The meeting began by Ian (President) welcoming the new Councillors Fadia Chairi, Pia Heltoft and Guus Heselmans to the meeting. We were then delighted to have a discussion of the 22nd EAPR Triennial meeting in Oslo by Arne Hermansen (Previous President) to help in the development of the next Triennial to take place in Scotland 6-11th June 2027. Kürt (Vice President) then discussed operational matters including a full complement of councillors and the published minutes of the General Assembly from the Oslo Triennial Conference. Our accountancy firm (SBB) offered to do the same service, which was accepted by the Council, while details of the relevant Council members have now been sent to the bank. Kürt told everyone that the next General Assembly was on 22nd May 2025 and members would be informed.

Fadia (Treasurer) went through the EAPR finances, which showed that we have a healthy balance. Total costs by the Association were higher than in 2023 due to the need for additional costs on Lawyers and Notaries in 2024, but with membership subscriptions, royalties from the journal etc providing an overall profit of

ca €12,000. Paying and pending members stand at 217. Country representatives were asked to promote the society to their members.

Benjamin (Newsletter and website) requested items for the newsletter from the other councillors.

Paul (Chief Editor for Potato Research) gave a detailed overview of the journal, which is going from strength to strength (further details can be found on page 5), with ideas for special topics being requested.

Pia (Councillor in charge of the relations with the Sections) described the upcoming Section meetings, most notably those taking place this year: Breeding and Varietal Assessment (June 15-18th 2025) in St Andrews, Scotland; Virology (1-5 June 2025) in Nyon, Switzerland. There was a reminder that Section chairs could claim €2000 towards student support.

Ian and Guus gave an overview of preparations for the 23rd and 24th Triennial Conferences in Scotland (2027) and the Netherlands (2030). All Council members agreed to be part of the science committee for the 2027 conference.

During the Council meeting a visit was made to the venue for the 2027 Triennial Conference (see image). Ian, as President, thanked everyone for attending the Council meeting.



2024 EAPR OFFICERS AND COUNCILLORS



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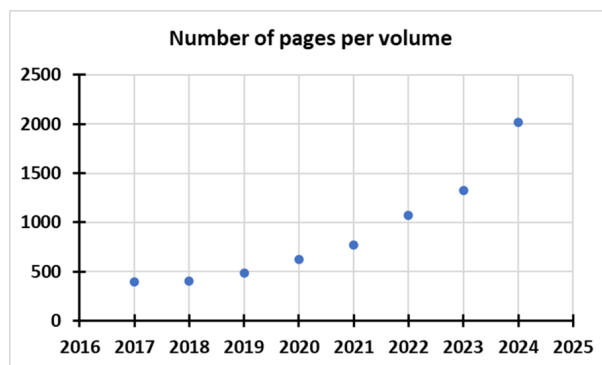


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POTATO RESEARCH

The number of submissions to Potato Research is increasingly rapidly, especially from Asian countries. With an acceptance rate between 30 and 40%, the number of papers that appear online is also increasing. Because we arrived at the undesirable situation that the period between publishing online and assigning to an issue could reach a full year, it was decided to publish two issues with

double the normal number of papers. Meanwhile, members have received the first one of these two issues, the December 2024 67(4) issue with 869 pages. It did not fit in my mailbox and the postman left it on the doorstep of my front door. The March 2025 68(1) issue will also be that thick. For the development of the number of pages per volume of Potato Research over time see the figure



It is also time for a new 5-year contract with the publisher of Potato Research, Springer-Nature, which will come in effect in 2026. The Council has deliberated over the future of Potato Research in several Council meetings and in a meeting with Springer-Nature representatives taken the development of the journal into account. It is not easy to predict the future. Nevertheless, three important decisions have been made that will be implemented as of 2026:

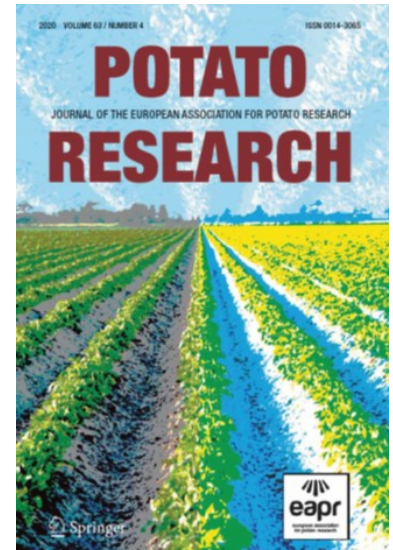
- Potato Research will follow the model of continuous publishing, meaning that a paper will be assigned an issue and a paper number once it is published online. Authors will no longer have to wait for the paper to be assigned to an issue and get paginated.

- Potato Research will be published in six issues per year instead of the current four issues per year to reduce the number of pages per issue.
- As was suggested by members several times, sustaining and ordinary members will have the option of not receiving hard copies of the journal in an attempt to reduce paper usage.

There will be an evaluation half-way through the new contract.

These are significant steps for our journal and for the EAPR.

Paul C. Struik
Editor-in-Chief



“The number of submissions to Potato Research is increasingly rapidly”

REPORTS OF STUDENTS SUPPORTED TO JOIN EAPR'S 22ND TRIENNIAL MEETING

Nick Schimpf (University of Lethbridge, Canada)

The title of the research poster I presented was “*In vitro* evaluation of host defense peptides for antimicrobial activity and successful introduction in *Solanum Tuberosum* for disease resistance engineering”. The motivation behind my work was the need to reduce crop loss to disease. Although pesticides can be effective, pathogen resistance and deleterious effects on non-target organisms are serious problems. The ectopic expression of host defense peptides (HDPs), which are short antimicrobial peptides, in susceptible plants could stand as an effective alternative for controlling diseases. My research focused on the *in vitro* evaluation of five HDPs for antimicrobial and cytotoxic activities and the introduction of the most promising candidates in *S. tuberosum* for disease resistance engineering. HDPs were incubated, either singly or in combinations at various concentrations, with fungal and bacterial pathogens to assess antimicrobial activity. HDPs were also incubated with leaf protoplasts and mammalian kidney cells to investigate cytotoxicity. Singly, HDPs SM-985, Ib-AMP 1Q, and shepherin 1 were active against fungal and/or bacterial pathogens. Strong synergy was observed between peptides in combinations, increasing the spectrum of susceptible pathogens and decreasing concentrations necessary for pathogen inhibition by as much as 83%. No toxicity was observed against mammalian cells and only low toxicity to plant cells. A combination consisting of HDPs SM-985, Ib-AMP 1Q, and shepherin 1 was selected for introduction into *Solanum tuberosum* by agrobacterium-mediated transformation for its high antimicrobial activity and complete lack of cytotoxicity. Additionally, each constituent HDP and combination of two HDPs were also introduced into plants to investigate the effects of gene stacking. Molecular analysis has revealed hundreds of gene integration events, and over 60 uniformly transformed plant lines. RT-QPCR analysis also revealed high transgene transcription, often tens or hundreds of times higher than that of actin. In the coming months, transgene translation will be investigated by Western analysis and the most promising plant lines will be infected with various diseases to evaluate disease resistance in a field setting.

I wanted to participate at the conference to expand my knowledge in the field of plant science and to gain valuable presentation skills. I desired to make myself known amongst my colleagues and foster valuable connections. I was hoping that meeting others engaged in research similar to my own will allow me to build important connections with established researchers, built on my current knowledge, and reach new ideas and receive input from professionals for the improvement of my own research. I also wanted to gain valuable experience in effectively presenting and discussing my research with a larger community. Furthermore, I was excited to share the results of my own research with others as I have worked tirelessly to accomplish my research objectives and I am proud of what I have accomplished so far.

I have received valuable insight from colleagues I engaged with at the conference. I was planning on using Western analysis to investigate transgene translation. However, there is a possibility that the primary antibodies that were ordered for this purpose will not be specific or sensitive enough to detect the target HDPs. A fellow researcher at the conference suggested to use mass spectrometry as an alternative for the detection of HDPs. This technique is highly specific, highly sensitive even at low HDP concentrations, and can analyze multiple HDPs simultaneously. I have also built a connection with a researcher in France who has extensive experience using CRISPR/ Cas9 as a tool to enhance disease resistance in crops. This connection will be highly valuable as I would like to use this technique in the future. I have also learned much in the area of plant breeding by attending the oral presentations and gained valuable experience presenting and discussing my research with others.

I gained knowledge in areas previously foreign to me by talking with several of the other attendees to the conference about their work in potato research. Dorothea Niemann is a graduate student at the University of Goettingen in Germany. She talked about her research on nitrogen emissions and nutrient efficiency. The aim was to investigate factors that influence nitrogen emission in potato fields. It was found that manure fertilizer has the highest rate of nitrogen emission in potato fields and that higher temperatures have a negative effect on emissions. Dorothea elaborated that these results are difficult to act upon as farmers will only begrudgingly halt the use of organic fertilizer due to its relative low price compared to other alternatives.

I talked to several individuals about my research during my poster presentation on Thursday. There was high interest in the molecular aspects of my work. Great discussions were had regarding my use of quantitative PCR (QPCR) to elucidate gene copy numbers in my transgenic potato plants, as well as Reverse Transcriptase QPCR to investigate gene transcription. Johan Hunziker and I talked for an extended period of time about the similarities and differences of our research. His lab using CRISPR/ Cas9 to enhance disease resistance in potato plants. As my work also involves genetic manipulation to enhance disease resistance, we had much to discuss.

On Monday, Tuesday, and Thursday, I attended oral presentations on breeding robust cultivars in the Atlantis 1 conference hall. One of the oral presentations that really caught my attention was the presentation by Karin Gozolka on the identification of new bioactive metabolites upon breeding wild and cultivated lines. The resulting lines contained new compounds that were not detected in either parent species and hold potential in resistance breeding. As I was expecting the progeny to have a metabolite profile comprised of compounds found only in the parents, it was surprising to see that entirely new compounds were detected by the crossing. I had no idea that this might be possible and I was very interested.

Beiyu Tu (Wageningen University and Research, The Netherlands)

Attending EAPR in Oslo was a truly unique experience for me. It provided a fantastic opportunity to engage with numerous potato researchers, breeders, and farmers.

Growing potatoes in Norway is quite challenging compared to central Europe. Due to the short growing season, Norwegians have always focused on early varieties. Since maturity is a trait highly influenced by photoperiod, the midnight sun in Norway can cause different responses in some varieties. A lot of effort has been devoted to finding the best varieties for local climatic conditions, including importing, testing, and breeding. I was amazed to learn that potatoes can be successfully cultivated under constant light conditions up to 69 degrees in the Arctic region.

One of the highlights was the excursion on Wednesday. Despite the all-day rain, we visited many sites and learned a lot. I joined the excursion 3 Hedmark 1. At the first stop, we went to an aquavit distillery where potatoes are weighed, cleaned, boiled, fermented, and made into spirit. We were fortunate to taste the Norwegian aquavit at the second stop, Graminor, the only Norwegian breeding company. There, I learned that the primary breeding focus in Norway is on resistance to viruses. This was particularly fascinating given my studies in the Netherlands, where the focus is on abiotic stress, while many of my colleagues concentrate on resistance to fungal diseases. The differing climates between our regions likely play a significant role in shaping these breeding priorities. Then, the bus took us to a family seed potato farm where we consulted a lot about seed tuber production and Maarud potato warehouse for crisps where we had great crisps and learnt the varieties for crisp production.

During the conference, I connected with a researcher working on a topic very similar to mine, which was a valuable networking opportunity. Additionally, I presented my poster and received interest and feedback from other researchers in attendance.

Overall, the conference was exceptionally well-organized, with thoughtfully designed sessions that facilitated meaningful discussions and exchanges of ideas. The great seafood and the hotel, situated on the seashore, provided a beautiful setting that enhanced the experience.

Christina Meyers (Max Rubner-Institute, Germany)

Almost 300 scientists and experts working in potato-related topics travelled to the Norwegian capital Oslo in July. The occasion was the triennial conference of the European Association for Potato Research (EAPR). I was one of the participants and travelled with anticipation and a prepared presentation on my PhD topic to the conference.

After a musical opening by the Norwegian hosts, the conference, which was held under the headline of sustainable potato production, started. In numerous lectures and poster presentations, new research findings on topics ranging from breeding, potato and soil health to storage and processing were covered. The scientific exchange was very valuable for me and enabled me to look beyond my own subject area and to gain a broader picture of research fields related to the potato. I am working as a PhD student at the Max Rubner-Institut in Germany in cooperation with the Technical University in Berlin on a project on glycoalkaloids in potatoes and potato products, which I was able to present at the conference. The following discussions provided helpful feedback which I will gladly take into account in my future work. At the conference I was able to meet members who are involved in our project and also to make new contacts, which will certainly be helpful for future work and projects. The excursion day was very informative and a highlight of the conference week. We gained an insight into agriculture in Norway and the NIBIO research institute. As I work with potato crisps and French fries as well as potatoes, the visit to the processing company Hoff was very interesting for me.

I am grateful for the student support that made my participation possible, as it covers part of the costs. Overall, the conference and the exchange with the participants made me even more enthusiastic about the research field and is certainly a helpful step for a possible future in potato research.

UPCOMMING SECTION MEETINGS

Agronomy and Physiology:

When: June 16-19, 2026

Where: Warsaw

Breeding & Varietal Assessment (together with EUCARPIA “Potatoes”):

When: June 15 to 18th 2025

Where: Saint Andrews, Scotland

The website <https://tinyurl.com/eapr-breeding-variatal> is open for registration and abstract submission until 15th April.

Pathology & Pests:

When: June 2026

Where: Oulu, Finland

Post Harvest:

When: June 16-19, 2026

Where: Warsaw

Virology:

When: June 1-5, 2025

Where: Nyon, Switzerland

The website <https://eapr-virology.sciencesconf.org/> will be open for registration and abstract submission from February 2 through April 27.

FIELD DAYS IN 2025

Field Day 2025

May 15, 2025, Linnich, Germany

At Field Day 2025, organized by the Agricultural Chamber of North Rhine-Westphalia, innovative technology demonstrations for modern potato and sugar beet cultivation will take center stage.

Aardappeldemodag 2025

August 2, 2025, Westmaas, The Netherlands

A gathering for professionals in the potato industry to explore new cultivation methods, machinery, and innovative technologies, aiming for more sustainable and efficient potato production.

Potatoes in Practice 2025

August 7, 2025, Dundee, Scotland

The event brings together variety demonstrations, research and trade exhibits in one place making it an essential date in the potato industry calendar.

Potato Scandinavia 2025

August 21, 2025, Grinder Gård, Norway

A gathering to explore new machinery and potato varieties.

Weuthen Kartoffeltag 2025

August 28, 2025, Schwalmatal, Germany

An international potato day showcasing the latest potato technology, variety demonstrations from leading European breeders, and expert information on crop protection, fertilization, storage, ventilation, and quality assurance.

Potato Europe 2025

September 3-4, 2025, Lelystad, The Netherlands

An international event dedicated to the entire potato value chain, featuring over 350 exhibitors and attracting around 15,000 visitors.

British Potato 2025

November 19-20, 2025, Yorkshire Event Centre, Harrogate, England.

A biennial event bringing together the potato industry to showcase the latest in potato varieties, technology, and processing, offering networking opportunities across the sector.

MEMBERSHIP—JOIN NOW!

The Association has three membership categories: Ordinary, Sustaining and Honorary membership. At present the Association has over 225 Ordinary members, 14 Sustaining members and 11 Honorary members. Membership is drawn from many countries in all five continents.

For existing members: don't forget to renew your membership in time, to profit of the membership advantages, for example the reduced rates on the upcoming section meetings.



“Our next EAPR General Assembly is on 22nd May 2025”

CONTACT US

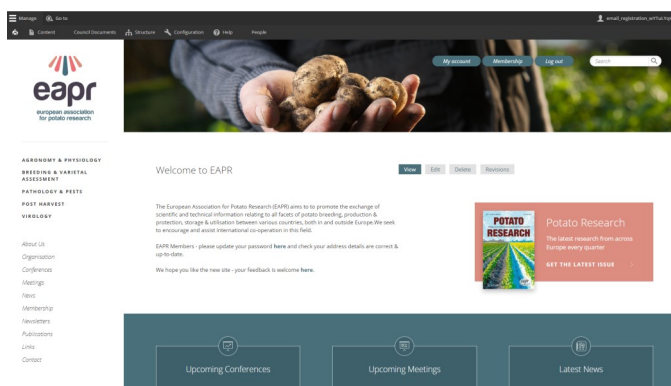
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WEBSITE



There is only so much we can put in a newsletter so for more information on our activities