

**AC21 Special Project Fund
Final Report**

Please submit AC21 Special Project Fund Final Report in **400-600 words**. Applicants should submit this report **along with your final budget summary** to the **AC21 Communicator** at their institution.

Final Report: DUE July 31, 2022

Full name and title of applicant (Project Lead)	Burkhard Bechinger, PhD Professor (initial submission by Sven Ulrik Gorr, PhD Professor)
Department	Membrane Biophysics and NMR Chemistry Institute UMR 7177
University	University of Strasbourg
AC21 Communicator's name	Rachel Blessig, Director International Relations

Achievement(s) made beyond AC21 SPF 2021:

Item	Please check the appropriate box
1.Type	<input type="checkbox"/> Launched a new project proposal for a third-party funding <input type="checkbox"/> Joint publication <input checked="" type="checkbox"/> Others, please specify: collaborations developed and started_
2.Status	<input checked="" type="checkbox"/> in preparation - ongoing <input type="checkbox"/> submitted/launched (date: _____) <input type="checkbox"/> approved (date: _____) <input type="checkbox"/> rejected -will be re-submitted
3.Project title/Publication	International collaborative research projects on Pre-clinical development of antimicrobial peptides --> First scientific experiments need to be performed for future common publications.
4. Project leads, Affiliation	Prof. Marina Rautenbach, U. Stellenbosch, Prof. Heiko Heerklotz, U. Freiburg, Prof. Sven Ulrik Gorr, U. Minnesota, Prof. Burkhard Bechinger, U. Strasbourg
5. Name of Funding Agency/ Name of journal/others	Possible publications in ACS Journals or BBA

Please include the following information in the Final Report:**Pre-clinical development of antimicrobial peptides**

Burkhard Bechinger, PhD professor

University of
Stellenbosch,
South Africa



University of
Minnesota, USA

UNIVERSITY OF MINNESOTA

University of
Freiburg,
Germany



University of
Strasbourg,
France



10. – 20. 5. 2022

Partners at four AC21 member institutions in four countries came together to continue, revive and start new collaborations on antimicrobial peptides. Successful pre-existing bilateral collaborations between some members include the Universities of Minnesota and Strasbourg with two common papers and two publications between the French team and the group at Stellenbosch. Based on these successful, but geographically limited, interactions as well as to overcome the restrictions imposed by the covid 19 pandemic, the workshop was initiated. The aim was to further increase collaboration and to enlarge the network of collaborators. Notably, investigators in Minnesota and Strasbourg have close contacts to their Medical faculties and Dental School thus the goal to translate fundamental research into clinical applications is within reach.

The workshop was broadly advertised at the member institutions, through the AC21 website, antibiotic newsletters, the French network on antimicrobial peptides (MuFoPam) and by direct email and social media campaigns in early 2022. Thus, additional participants from afar participated at the meeting indicating that the network can be extended, making available additional techniques. The strong interest in the topic stimulated us to extend the workshop by an additional evening to include more presentations. The excellent response reflects the need of such a meeting and the successful choice of such a research topic. Notably, the participation of many students and post-docs assures that the collaborations will include and continue with the next generation of scientists.

During the workshop 15 talks were presented including PhD students, junior and established scientists (cf. program) which allowed participants to get a comprehensive

view of the ongoing research in different departments of the four AC21 member institutions. Talks were broadly dedicated to

I : Biomaterials based on Coatings with Antimicrobial Peptides,

II. The Mechanisms of Action of Antimicrobial Peptides in Different Environments,

III. New Strategies to use Antimicrobial Peptides

IV. Biophysical Techniques to Prepare and Investigate Antimicrobial Peptides and Biomaterials.

The program also included several sessions that allowed for the exchange and discussion around 17 posters which were presented by students and senior scientists.

The feed-back was exclusively extremely positive and enthusiasm was pronounced; thus plans were already made for another edition of the meeting.

-Achievements made within SPF collaboration

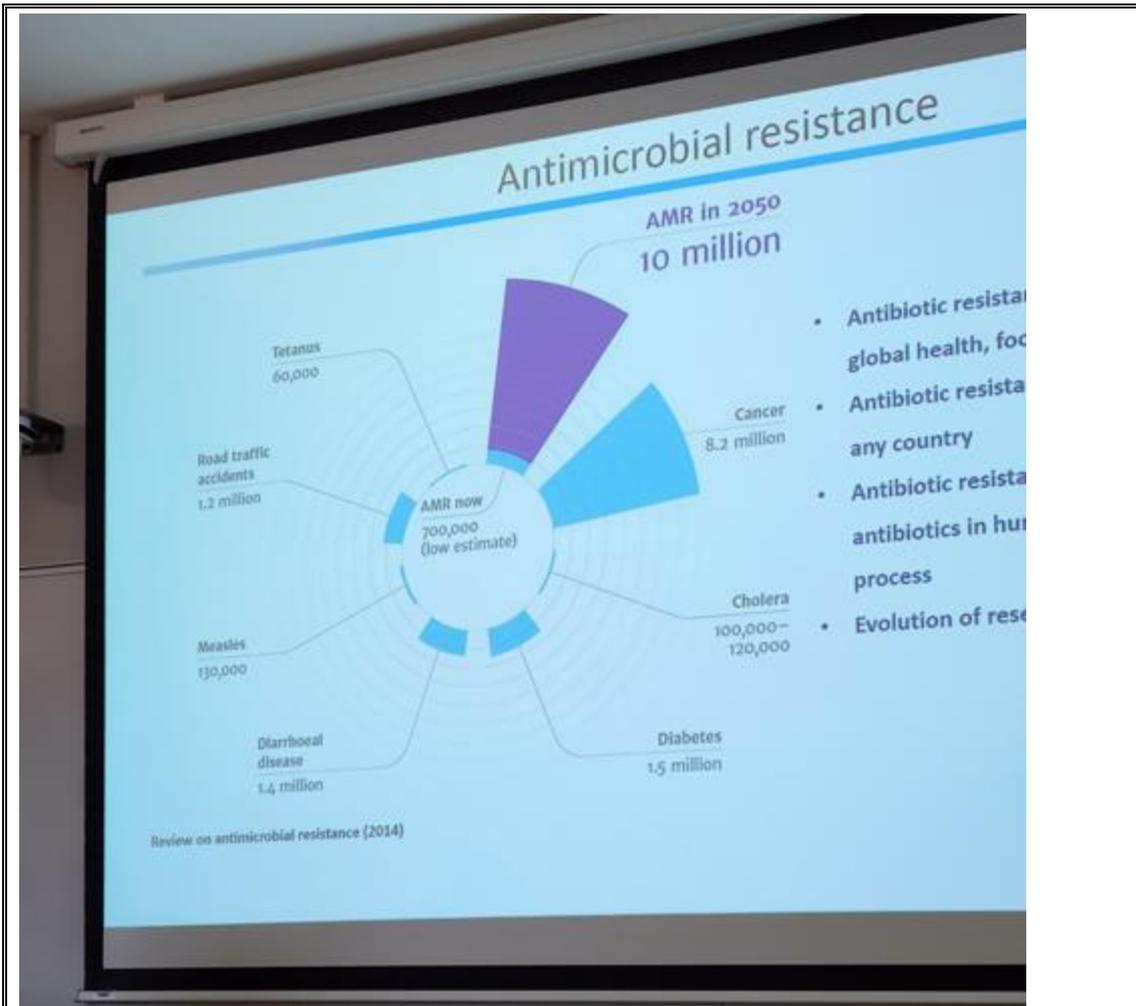
About 80 participants, including many students and junior scientists, registered and participated actively at the workshop, eight of them from overseas institutions. For the first time the data, expertise and instrumental capacities of the participating research teams were presented in a comprehensive manner and links between different teams and research subjects were established. By allowing this global view the program turned out highly interesting. The newly established contacts lead to a great number of planned collaborations that promise to extend well beyond this initial stimulus. As a matter of fact, the momentum of the workshop and the discussions resulted in a proposal at the South African NRF and the French Campus program for scientific exchange which has been submitted to fund extended visits in 2023 and 2024. Importantly, already during the period of the Special Project Fund first NMR experiments on antimicrobial peptides produced in South Africa were performed in France. In a related manner, members from Minneapolis spent several days in Strasbourg which allowed for additional discussion and exchange. Thereby the workshop the AC21 funding has allowed us to go well beyond this two-day event.

In conclusion the workshop and the discussions during the visits stimulated new and revived ongoing collaborations. The momentum of the visit was used to make financial arrangements that allows for the continuation of this important work. New experiments between AC21 member universities are already under way.

-Budget summary (please use Template 4)

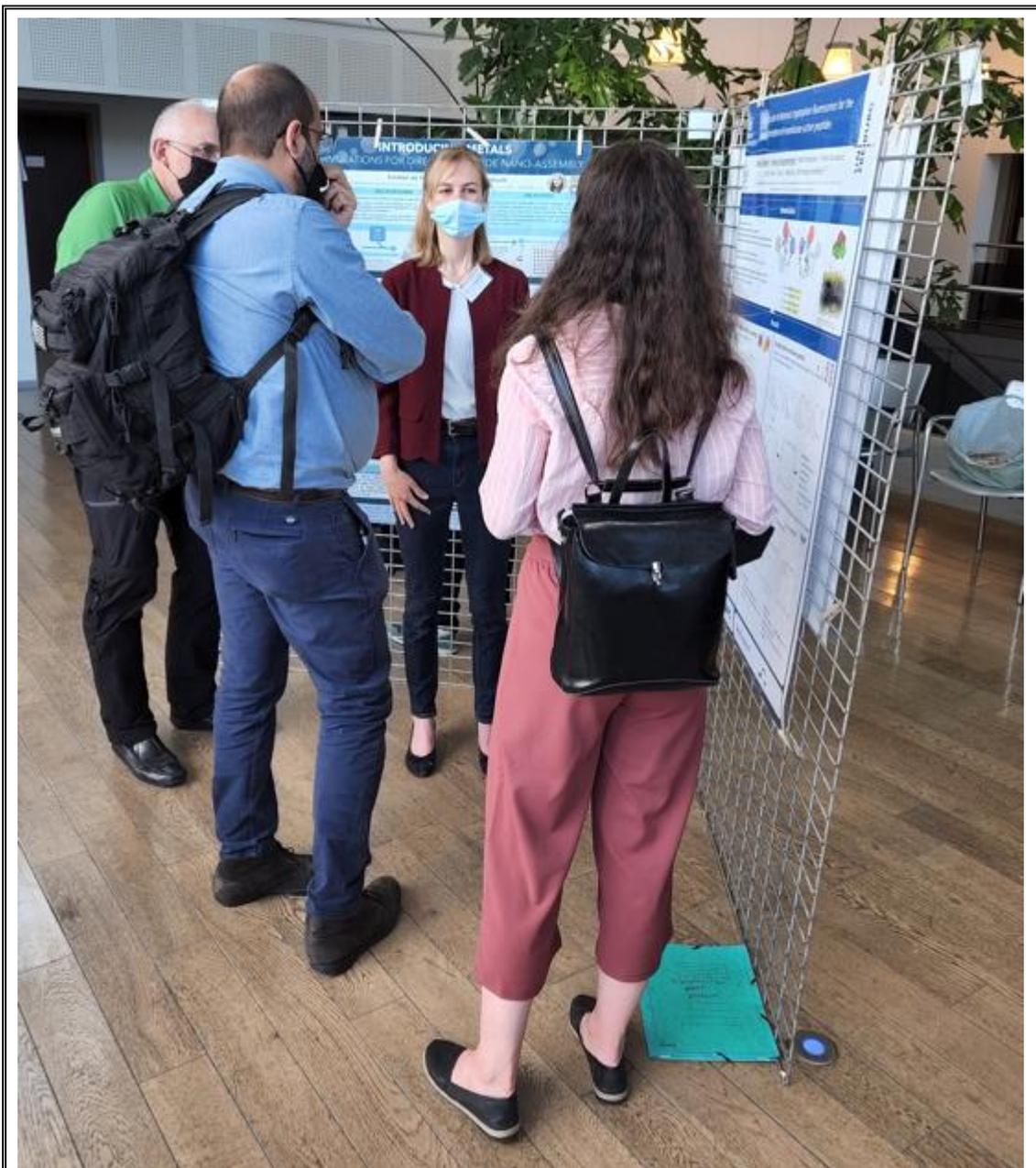
Conference web site:

<http://www-chimie.u-strasbg.fr/~rmnmc/>



The importance of finding new antibiotics (from a talk)





Young and established scientists from three different continents discussing around posters.



Many interesting talks.....



... an attentive audience in times of covid...



...and even more interesting presentations.



Many helping hands already during the preparative phase assured the smooth running of the workshop.