



Hearing Industry Research Consortium

Request for Proposals (RFP) 2024:

Successful Communication: novel, real-life relevant outcome measures of HA benefit

Brief Description of Purpose and Opportunity

The Hearing Industry Research Consortium wishes to support pre-competitive research into novel experimental setups and outcome measures which could provide insights into HA benefit for active communication participation in lives of the hearing aid wearers.

RC encourages outcome measures that go beyond 'one person listening' tasks (established audiological practice) and may include modalities additional to auditory conversation dynamics (e.g. turn taking), such as visual information of gestures, postures and in general - information reflecting communication dynamics and communication success.

'Pre-competitive' means that, while research results of the proposed project may suggest perspectives to improve the generic design and provision of hearing aids, the research itself should not be concerned with the development of specific features of hearing-aid systems.

The funding pool for this RFP is 300,000 US Dollars, and the period for execution of projects under this RFP is two to three years from 1 January 2025. Proposals for two-year projects are preferred. It is expected that one or two project proposals will be funded.

A detailed description of the application procedure, as well as the guidelines for research under this scheme and the proposed research area, can be found in the following sections.

Research Area 2024

In 1947, Raymond Carhart, often referred to as the father of audiology, wrote a paper suggesting that a speech in noise test should be used as a proxy for judging hearing aid success in noisy communications of real life. He elaborated this by saying:

“Obviously, the final criterion of hearing aid excellence is the success with which the instrument functions in everyday situations; thus, selection procedures need to be chosen so as to yield estimates of the future usefulness promised by each hearing aid.” (Carhart, 1947).

We believe the time is ripe for stepping into this *future* usefulness of hearing aids: into the noisy, active communication of everyday life. To do this, we encourage research proposals that bring communication situations into the lab, and/or bring the lab into the real world of the people living with hearing loss. The hearing aid industry is in a need of sensitive and reproducible outcome measures that can evaluate communication performance of people who need hearing assistance. For this, we need to better understand what comprises a successful communication and what is the effect of such communication on the well-being of the hearing impaired (e.g. Hall et al., 2023), and on their communication partner(s). Further, we need sensitive conversation outcome measures that include both speaking and listening and are as natural as possible.

This request for proposal encourages collaboration between audiologists and researchers from various other research fields such as psychology, sociology, language disorders, neuroscience and more some.

Some specific examples of research questions we are interested in are included but not limited to the ones below.

- Given the many factors influencing communication success (e.g. Nicoras et al., 2023), what novel outcome measures can be used to reflect the HA benefit in real life communication?
- How can we measure real-life communication success without disturbing the actual conversation flow, and still have reproducible results? Outcome measures such as turn-taking behavior, various levels of alignment between talkers and other aspects of conversation can be explored (e.g. Rasenberg et al., 2020; Rasenberg et al. 2023).
- How does communication change with hearing loss, and can the compensatory strategies that are developed by the hearing aid wearers (including avoidance of communication) be used as outcome measures? For example, are gesturing behavior of participants in noisy conversations (e.g. Trujilo et al. 2021) a potential outcome measure?
- How do real life measures of communication benefit compare to speech in noise tests in the lab?
- How suitable are physiological response measures (e.g. stress levels) as outcome measures for assessing active communication? (Aliakbaryhosseinabadi et al. 2023)
- Can assessing the contextual complexity or number of miscommunications be used to evaluate conversation success?

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References

Aliakbaryhosseinabadi, S., Keidser, G., May, T., Dau, T., Wendt, D., & Rotger-Griful, S. (2023). The effects of noise and simulated conductive hearing loss on physiological response measures during interactive conversations. *Journal of Speech, Language, and Hearing Research*, 66(10), 4009-4024.

Hall, J. A., Holmstrom, A. J., Pennington, N., Perrault, E. K., & Totzkay, D. (2023). Quality Conversation Can Increase Daily Well-Being. *Communication Research*, 00936502221139363.

Nicoras, R., Gotowiec, S., Hadley, L. V., Smeds, K., & Naylor, G. (2023). Conversation success in one-to-one and group conversation: A group concept mapping study of adults with normal and impaired hearing. *International Journal of Audiology*, 62(9), 868-876.

Rasenberg, M., Pouw, W., Özyürek, A., & Dingemanse, M. (2022). The multimodal nature of communicative efficiency in social interaction. *Scientific Reports*, 12(1), 19111.

Rasenberg, M., Özyürek, A., & Dingemanse, M. (2020). Alignment in multimodal interaction: An integrative framework. *Cognitive science*, 44(11), e12911.

Trujillo, J., Özyürek, A., Holler, J., & Drijvers, L. (2021). Speakers exhibit a multimodal Lombard effect in noise. *Scientific reports*, 11(1), 16721.

Procedure

Submission

To submit a proposal, complete the application form available on the IRC website www.hearingirc.com, and submit the completed application form as a **single** PDF file on the proposal submission form at <http://proposals.hearingirc.com>. You will know that your application has been received when you receive a confirmation via e-mail.

Review

Proposals will be reviewed by the IRC board and their nominated representatives. The review process may include further dialogue with the applicant for clarification and/or revision.

Deadlines

Submission of proposals: August 1st 2024.
Announcement of grant winner by October 1st 2024.

Contact

Further information and enquiries may be directed to 'contact@hearingirc.com'. The mission, activities and membership of IRC are described in detail on the IRC website www.hearingirc.com.

Guidelines

Projects must be defined pieces of research with clearly stated objectives, experimental plan, and expected outcomes. The level of ambition should correspond to the funding magnitude.

The funding pool for this RFP is 300,000 US Dollars, and the time period for execution of projects under this RFP is 2-3 years from 1st January 2025. Proposals for projects of two years duration are preferred. It is envisaged that one or two project proposals will be funded.

There is no restriction regarding how many proposals may be submitted by the same investigator or institution.

Proposals may include aspects of co-funding from other sources. However, it must be possible to separately identify what the IRC Grant is supporting, and co-funding must not hinder the fulfillment of the terms and conditions of the IRC Grant.

Terms and Conditions

The terms and conditions for IRC research grants are given below where IRC is referred to as “we”, “us” or “our”, the Institution administering the grant is referred to as “you”, “your” or “yours”, and the Principal Investigator managing the execution of the Research is referred to as “PI”.

Research Practice

- The PI must conduct the Research as it is described in the Application and in accordance with any other reasonable requirements notified to you by us from time to time.
- You must obtain institutional and personal licenses and consents from relevant ethical committees as necessary for proper conduct of the Research and adhere to guidelines from relevant authorities in your Territory.

Finance

- The IRC Grant is payable only to you and may only be passed in whole or in part to a third party outside your institution in accordance with explicit provisions of the submitted project plan.
- The IRC Grant will be paid in two annual installments during the Term. The first payment will be made on or before the Start Date, or once a counter-signed copy of the offer letter is received, whichever is later. The second payment will be made within one month of your submission of the progress report at 12 months, if IRC’s evaluation of that report determines that satisfactory progress is being made on the Research.
- IRC policy is to pay indirect costs (institutional overhead) amounting to max. 15% of the total grant amount.
- Payments will be made in US Dollars and the sums paid over to you will be inclusive of any currency conversion fees that may be incurred.
- The IRC Grant must be used exclusively for the purpose of the Research.
- If we become aware that the IRC Grant or any part of it is not being used exclusively for the Research we may withhold any payments not yet made, and recover any part of the IRC Grant which has not been properly used.

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- One year after the Start Date you must send us a signed statement detailing the IRC Grant income and expenditure. Within two months of the End Date, you must send us a statement detailing the overall income and expenditure.
- You must return any of the IRC Grant which remains unspent at the end of the Term.

Dissemination and Publicity

- The findings from the Research must be published in an appropriate form, usually as one or more papers in a peer-reviewed journal, preferably as open access articles. Failure to do so will jeopardize any further sponsorship of the PI's research by IRC.
- IRC's contribution to the Research must be acknowledged every time the Research is published or disseminated.
- The PI must inform IRC of any press statements about the IRC Grant or the results of the Research, and should consider formulating such statements jointly with IRC.

Reporting and Activities

- IRC will nominate one of its board members as a Project Owner for the granted project. The Project Owner will be the PI's primary point of contact with the IRC regarding issues of substance during the course of the Research.
- The PI will submit a written progress report to the Project Owner every six months after the Start Date, detailing progress of the Research and identifying successes, failures and, if appropriate, any circumstances which may prevent the Research from being completed within the Term.
- Efforts should be made for the PI to meet the Project Owner in person for a verbal report at the end of the first and second year of the Research.
- Given reasonable circumstances of location and events, the PI may be requested to make a report in person to the IRC board.
- On reasonable notice, you will permit a person delegated by IRC to observe the Research.
- Within three months of the End Date, the PI will also provide us with a comprehensive report of the Research.
- You grant us the right to use any non-confidential information from the reports for publicity purposes.

Intellectual Property

- The topic areas within which IRC issues Requests for Proposals are considered pre-competitive and unlikely to generate valuable Intellectual Property (IP). For this reason, and for simplicity of administration, it is a requirement that you do not take any steps to protect any IP which might arise during the project, but on the contrary that the PI publishes the results of the Research in a timely and complete manner, such that the results remain free of protective restrictions and available for all.

Variation and Termination

- No amendments to the grant will be effective or enforceable unless agreed by us and evidenced in writing.
- The PI must inform us as soon as practicable of any significant divergence from the original aims and directions of the Research. We may withhold any payments not yet made if we are no longer satisfied that the research is in keeping with our objectives.
- If you or the PI do not comply with the terms of this offer we may give you 28 days written notice to remedy the non-compliance or provide acceptable evidence it will be remedied in a timely fashion. If you do not remedy the failure or provide suitable

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evidence, we may terminate the IRC Grant, and you will not be entitled to any further payments.

- If we believe that satisfactory progress is not being made on the IRC Grant, we will notify you in writing. If there is a not a prompt and sufficient improvement, we will terminate the Grant with immediate effect and you will not be entitled to any further payments. Any decision as to whether satisfactory progress is being made will be entirely at our discretion.

General

- You are responsible for ensuring that the PI adheres to all of the terms of the Grant.
- Any staff recruited by you in connection with the Research are your employees and you shall be solely responsible for them and for any costs, taxes and liabilities arising under any present or future employment law or regulations.

Governing Law

- Without prejudice to your obligations to comply with the laws and regulations of your Territory, the terms of this offer will be interpreted in accordance with the laws of Denmark, and courts of Denmark will have exclusive jurisdiction.

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