



Palestinian-German

# ScienceBRIDGE

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Palestine Ahliya University

Dr. Khalid Sabarneh

Allied Medical Sciences Department

# RETURNER PROGRAM

## Successful Projects

Joint Research Project: Dr. Jurgen Dammers and Dr. Ahmad Hasasneh (2016):

**Title:** Features extraction in resting state brain activity based on new machine learning methods

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- **Progress:**
- Dr. Hasasneh already visited INM4 three times: (Dec 2016, June-July 2017, May 2018), which focused on:
  1. Presenting lectures focused on: Deep learning and its applications, Restricted Boltzmann Machines training techniques.
  2. Attending many meetings with the INM4 researchers and discussing topics related to MEG data processing.

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- 3. Performing and implementing a lot of trainings related to MEG data processing and artifacts rejection
- 4. Contributing to preparing a journal paper entitled: Deep Learning Approach for Automatic Classification of Ocular and Cardiac Artifacts in MEG Data.
- 5. Supervising and helping the Ph.D. candidate (Asma Sbeih).

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- Dr. Jurgen Dammers also visited PAU twice: May 2017 and Nov. 2017. The visits focused on:
  - 1. Presenting a lecture entitled: Magnetoencephalography – A neuroimaging tool to explore the spatio-temporal dynamics in the living human brain.
  - 2. Several meetings with Dr. Hasasneh and Ms. Asma Sbeih, preparing for the PhD project.
- Discussing possible collaborations with various colleagues from PAU and surrounding Universities.

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- **Publication:**
- Hasasneh, Ahmad, et al. "Deep Learning Approach for Automatic Classification of Ocular and Cardiac Artifacts in MEG Data." *Journal of Engineering* 2018.

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- 2. Ph.D. Scholarship (2017): Ms. Asma Sbeih
- **Project title:** Features extraction in resting state brain activity based on new machine learning methods
- **Joint supervision:** Dr. Jurgen Dammers and Dr. Ahmad Hasasneh

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# Future Outlook

- \* We hope that faculty from the Allied Medical Sciences will be able to initiate contacts with professors at Juelich to carry out joint projects.
- \* We hope that when Ms. Asma (Ph. D. candidate) returns to PAU, she can exchange with colleagues the experience that she gained at Juelich.

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