

## Thesis Project Offer

Joint Research and Education Programme "Palestinian-German Science Bridge PGSB"  
Forschungszentrum Jülich GmbH & Palestine Academy for Science and Technology

### Thesis type\*

<input type="checkbox"/> BSc	<input checked="" type="checkbox"/> MSc	<input type="checkbox"/> PhD	Intended starting date (approx.): June 2023
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### Contact details of supervisor/responsible host at Forschungszentrum Jülich

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Function*	Institute and homepage of institute*
Group leader	PGI-6

University affiliation in Germany*
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### Co-Supervisor at Palestinian university (if applicable)

Title	Degree	First name	Surname
Title	Degree		

Phone	E-mail

University/institution	Department/faculty/institute

### Project description\*

Recent discoveries of novel topological and magnetic phases led to interest in characterization of new quantum materials which are predicted to exhibit such properties. The advances in spin- and angle-resolved photoemission (spin-ARPES) over the past 2 decades enabled studying the electronic structure of quantum materials at unprecedented detail.

The thesis would focus on evaluation of angle-resolved circular-dichroic photoemission data our group recently collected on novel Kagome compounds  $GdV_6Sn_6$  and  $GdMn_6Sn_6$ . These materials exhibit novel topological and magnetic phases. The work will be performed in collaboration with theory institute PGI-1 and additional sample characterization could be performed in collaboration with JCNS.

Our group operates laser-driven high-resolution spin-ARPES system at PGI-6 in Juelich, and in addition routinely performs experiments at synchrotron facilities Elettra (Trieste) and Solaris (Krakow) as well as at ALS (Berkeley), Soleil (Paris), and Diamond (Oxford).

Date*	Signature*
31-01-2023	Lukasz Plucinski

\* required field