

THEORY HUB FOR FCCee PHYSICS

SPP PROPOSAL TIMELINE

Felix Yu (JGU Mainz)
for the programme committee



Roundtable Meeting,
July 3, 2026



TIMELINE OF THE SPP PROPOSAL

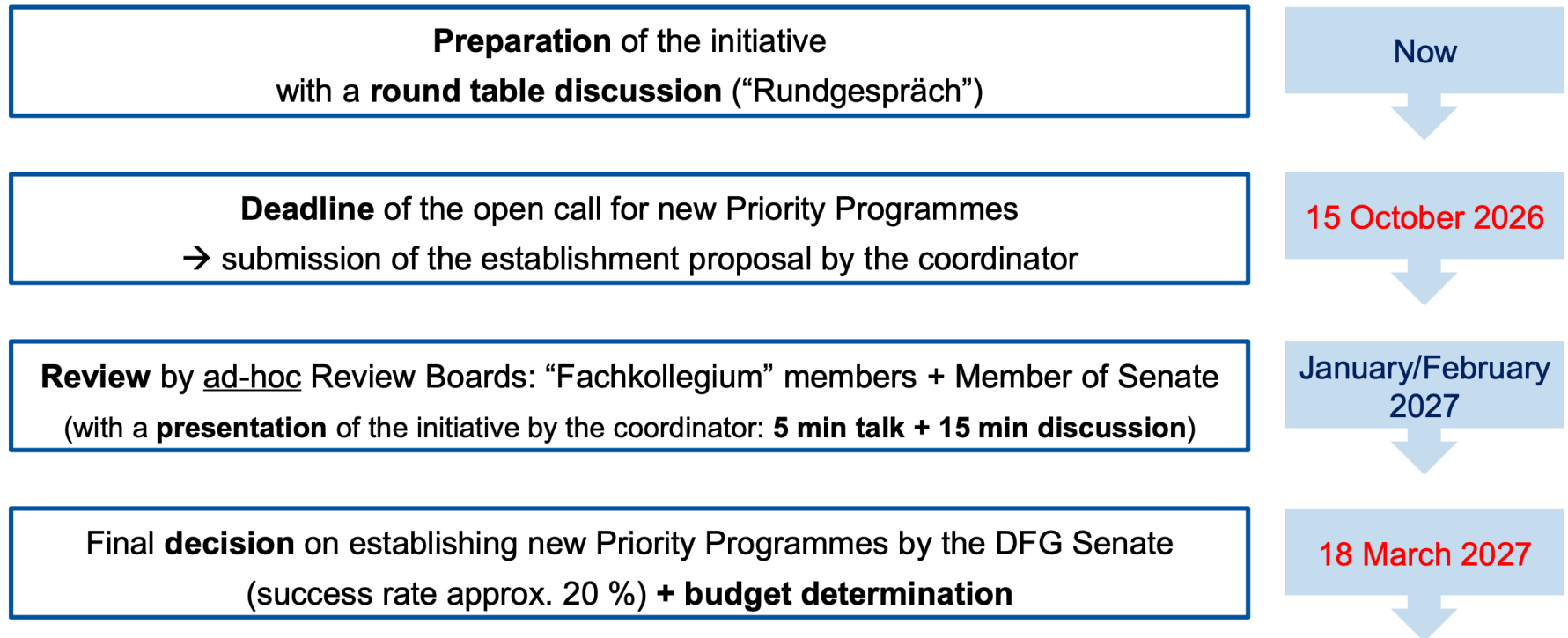
- Now-August 5 – continued with gathering community input
 - First roundtable minutes available on Indico
 - Second roundtable minutes will also be available on Indico
 - Open call for “seed ideas” for projects that would fall under the remit of funding from the SPP (mainly PhD positions!)
- Finished draft – September 15, 2026
 - Circulation among (international) theory colleagues for mock referee comments, enough time for revisions
- Submission on elan – October 15, 2026

TIMELINE OF THE SPP PROPOSAL

Priority Programmes: Two-step evaluation and timeline

5

Initiative Phase:



Slides from M. Krämer (DFG)

TIMELINE OF THE SPP PROPOSAL

Priority Programmes: Two-step evaluation and timeline (continuation)

6

If Priority Programme is established → **Funding Phase:**

Call for the **first funding period** for individual proposals

Optional **round table discussion** (“Rundgespräch”) on proposal submission

Deadline for proposal submission

Review panel for the individual proposals:
in person, with poster session

Decision by the DFG Joint Committee
and start of funding

Summer/Fall
2027

Fall 2027

Spring 2028

Summer 2028

Slides from M. Krämer (DFG)

BUDGET

- Will request $\approx 7.8\text{M€}$ over 3 years (first funding period), $\approx 16\text{M€}$ over 6 years
 - Personnel: 40 PhD (75% FTE)
 - Will including funds for travel, international visitors, workshops, summer school, international conference

BUDGET

DRAFT

DRAFT

BUDGET

DRAFT

DRAFT

OUTLINE OF THE SPP PROPOSAL

- 25 pages total

Community input welcome!

*For Section 2, ESP materials will serve as basis,
but writing will need to balance the FCCee
physics case and “Why an SPP Theory Hub in
Germany?”*

- 1 Summary
- 2 State of the art of research and preliminary work
- 3 Subject-related list of publications
- 4 Merits of the proposal taking into account the objectives of the programme
 - 4.1 Originality of research questions in terms of topic and/or methodology
 - 4.2 Delimitation of scope taking into account the duration of a Priority Programme
 - 4.3 Coherence of planned research activities
 - 4.4 Strategies for collaborating / networking across disciplines and locations
 - 4.5 Promotion of researchers in early career phases
 - 4.6 Promotion of equity and diversity
 - 4.7 Handling of research data
 - 4.8 Networking of planned research activities within the international research system
- 5 Differentiation from other on-going programmes on related topic,
e.g. Collaborative Research Centres, Research Units, programmes by other funding organisations
- 6 Qualification of coordinator to manage a research network
- 7 List of potential applicants
- 8 Justification of requested funding amount for the first funding period of three years
- 9 Researchers with whom the programme committee members have collaborated scientifically within the past three years

PROPOSAL TEMPLATE

<https://www.dfg.de/resource/blob/168236/53-11-en-elan.rtf>

Proposal to Establish a Priority Programme

(Do not exceed a maximum of 25 pages in total.)

[Title of Priority Programme]

[Programme committee]

[Coordinator]

[Title first name last name, research institution, city, academic status, research area]

[Other members]

(up to four)

[Title first name last name, research institution, city, academic status, research area]

1 Summary

(plain-language description of research area, max. 3000 characters)

[Text]

2 State of the art of research and preliminary work

[Text]

3 Subject-related list of publications

(Works cited in the proposal, both by the applicant(s) and by third parties. Please include DOI/URL if available. A maximum of 20 of the programme committee members' own works cited may be highlighted; font at least Arial 9 pt.)

[Text]

4 Merits of the proposal taking into account the objectives of the programme

4.1 Originality of research questions in terms of topic and/or methodology

[Text]

4.2 Delimitation of scope taking into account the duration of a Priority Programme

(six years)

[Text]

4.3 Coherence of planned research activities

[Text]

4.4 Strategies for collaborating / networking across disciplines and locations

[Text]

4.5 Promotion of researchers in early career phases

[Text]

4.6 Promotion of equity and diversity

(Outline how you plan to address gender equality for researchers, diversity in research and the compatibility of research and family (including care) throughout the Priority Programme. What measures are planned under the Priority Programme?)

[Text]

4.7 Handling of research data

[Text]

4.8 Networking of planned research activities within the international research system

[Text]

5. Differentiation from other on-going programmes on related topic, e.g. Collaborative Research Centres, Research Units, programmes by other funding organisations

[Text]

6. Qualification of coordinator to manage a research network

[Text]

7. List of potential applicants

(by research area)

[Title first name last name, research institution, city]

8. Justification of requested funding amount for the first funding period of three years

[Text]

9. Researchers with whom the programme committee members have collaborated scientifically within the past three years

(This information will help avoid potential conflicts of interest.)

[Text]

PROPOSAL EVALUATION

<https://www.dfg.de/resource/blob/167442/10-212-en.pdf>

II Structure of the Review

1. How would you assess the **quality of the project**, especially with regard to originality and the anticipated contribution to knowledge? To what extent can the topic to be addressed be expected to have a formative effect on the relevant field of science or the humanities?
2. Are the plans for organising the interdisciplinary and multi-location collaboration/networking convincing?
3. Are the research objectives coherent and clearly achievable over the course of the planned timeframe (six years)? How do you rate the explanations on the handling of research data?
4. Is the coordinator qualified to manage a major interdisciplinary and multi-location research group?
5. To what extent do measures designed to support researchers in early career phases exceed the usual standards?
6. How do you rate the measures to be taken to promote gender equality for researchers, diversity in research and the compatibility of research and family?
7. How would you assess the planned integration of the envisaged research activities into the international research system?
8. Are the envisaged activities sufficiently and convincingly distinct from other current DFG programmes with a direct thematic connection (e.g. Collaborative Research Centres, Research Units) or programmes offered by other funding organisations (including those outside Germany)?
9. To facilitate the structuring of the discussion in the selection panel, please provide an initial appraisal using the categories below:
 - Category A: The Priority Programme can be recommended for establishment without reservation.
 - Category B: The Priority Programme is largely convincing but requires discussion.
 - Category C: The Priority Programme is not convincing and therefore its establishment should not be recommended.

SPP 1096: String Theory in the Context of Particle Physics, Quantum Field Theory, Quantum Gravity, Cosmology and Mathematics

Subject Area Physics
Mathematics
Term from 2000 to 2011
Project identifier Deutsche Forschungsgemeinschaft (DFG) - Project number 5470383

Project Description

No abstract available

DFG Programme Priority Programmes
International Connection Belgium, France, United Kingdom

Projects

[AdS/CFT-Korrespondenz und Holographie in nicht-supersymmetrischen String- und Feldtheorien](#) (Applicant [Rühl, Werner](#).)

[Application of string theory to black hole physics and cosmology](#) (Applicant [Mukhanov, Viatcheslav](#).)

[Application of string theory to cosmology and black hole physics](#) (Applicant [Mukhanov, Viatcheslav](#).)

[Closed Strings and String Field Theory](#) (Applicant [Sachs, Ivo](#).)

[Conceptual and cosmological aspects of string-motivated space-time models with higher dimensions](#) (Applicant [Kiefer, Claus](#).)

[Dualitäten zwischen Eichfeldtheorien und Stringtheorien und Dynamik von Dirichletbranes](#) (Applicant [Dorn, Harald](#).)

[Equivalence of D-brane categories](#) (Applicant [van Straten, Duco](#).)

[Erweiterte Supersymmetrie und effektive Stringwirkung](#) (Applicant [Dragon, Norbert](#).)

[Fundamentale Freiheitsgrade in der verallgemeinerten AdS/CFT-Korrespondenz](#) (Applicant [Erdmenger, Johanna](#).)

[Geeichte Supergravitation und duale Quantenfeldtheorien](#) (Applicant [Samtleben, Henning](#).)

[Integrität und Stringdynamik in der AdS/CFT Korrespondenz](#) (Applicant [Plefka, Jan](#).)

[- Koordinatorantrag -](#) (Applicant [Louis, Jan](#).)

[Logarithmische Konforme Feldtheorie: Mathematische Grundlagen und ihre Anwendungen auf Strings, Branes und supersymmetrische Feldtheorien](#) (Applicant [Plefka, Jan](#).)

[Rühl, Michael](#).)

[Lokale Observable in der AdS-CFT-Korrespondenz](#) (Applicant [Rehren, Karl-Henning](#).)

[Moduli spaces of holomorphic vector bundles and Gauge theory on Calabi-Yau manifolds, with applications to F-theory/heterotic duality](#) (Applicant [Kurke, Herbert](#).)

[Nichtkommutative Raum-Zeit-Strukturen](#) (Applicant [Wess, Julius](#).)

[Nichtkommutative Raum-Zeit-Strukturen - Kooperation mit den Balkanländern](#) (Applicant [Wess, Julius](#).)

[Nichtperturbative Stringdualität und D-branes in Calabi-Yau-Kompaktifizierungen](#) (Applicant [Schomerus, Volker](#).)

[Nonabelian structures on D-branes and M-branes](#) (Applicant [Schupp, Peter](#).)

[Nonperturbative string vacua and unified models of particle physics](#) (Applicant [Nilles, Hans-Peter](#).)

[Phasenstruktur und exakte Niederenergie-Wirkungen in N=1 supersymmetrischen String-, M- und F-Theorie Kompaktifizierungen](#) (Applicant [Klemm, Ph.D., Albrecht](#).)

[Phasenübergänge und Baryogenese im frühen Universum in supersymmetrischen Modellen](#) (Applicant [Schmidt, Michael G.](#).)

[Phänomenologische Aspekte der Stringtheorie](#) (Applicant [Louis, Jan](#).)

[Poisson Sigma Models and String Theory](#) (Applicant [Strobl, Thomas](#).)

[Spezielle geometrische Strukturen in der Stringtheorie](#) (Applicant [Ballmann, Werner](#).)

[Stringkompaktifizierungen, Supergravitation und spezielle Geometrie](#) (Applicant [Wipf, Andreas](#).)

[Strings and self-dual field theories](#) (Applicant [Lechtenfeld, Olaf](#).)

[Superkonforme Quantenfeldtheorien und topologische Feldtheorie mit Spinstruktur](#) (Applicant [Schweigert, Christoph](#).)

[Superstrings auf K3-Räumen](#) (Applicant [Nahm, Werner](#).)

[Susy breaking on a hidden brane](#) (Applicant [Nilles, Hans-Peter](#).)

[The holonomy of the B-field in string theory](#) (Applicant [Agricola, Ilka](#).)

[Untersuchung von N = 1 supersymmetrischen und nicht-supersymmetrischen Stringtheorien und Eichtheorien sowie deren Dualitätssymmetrien](#) (Applicant [Lüst, Dieter](#).)

[Untersuchung von N = 1 supersymmetrischen und nicht-supersymmetrischen Stringtheorien und Eichtheorien sowie deren Dualitätssymmetrien](#) (Applicant [Cardoso, Gabriel Lopes](#).)

[Untersuchungen zur AdS/CFT-Korrespondenz](#) (Applicant [Theisen, Stefan](#).)

Spokesperson

[Professor Dr. Jan Louis](#)

GEPRIS is a project of the Deutsche Forschungsgemeinschaft (DFG)
Contact GEPRIS at <http://www.dfg.de/gepris>
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Projekt	
SPP 1491: Precision experiments in particle- and astrophysics with cold and ultracold neutrons	
Fachliche Zuordnung	Physik
Förderung	Förderung von 2010 bis 2020
Projektkennung	Deutsche Forschungsgemeinschaft (DFG) - Projektnummer 130699104
Projektbeschreibung	
Das Schwerpunktprogramm hat zum Ziel, mithilfe von Experimenten mit langsamen und ultrakalten Neutronen einige fundamentale Fragen in der modernen Teilchen- und Astrophysik zu beantworten. Zu diesen gehören das Verständnis der Naturkräfte und der damit verbundenen Symmetrien sowie Untersuchungen zur Gravitationskraft bei sehr kleinen Abständen. Neue wissenschaftliche Einrichtungen und technologische Entwicklungen der jüngsten Zeit erlauben neue präzise Messungen, die bisherigen Untersuchungen in ihrer Präzision um ein bis zwei Größenordnungen überlegen sein werden. Dazu gehören neue Quellen für ultrakalte Neutronen und die Möglichkeit, an kalten Neutronenstrahlen neue Quellen für Zerfallsprodukte des Neutrons mit bisher unerreichter Quellstärke zu errichten. Der hiermit ermöglichte experimentelle Zugang ist entweder komplementär zu Experimenten an Hochenergiebeschleunigern wie dem LHC oder sogar einzigartig. Das Forschungsprogramm ist auf vier Bereiche fokussiert, welche in direktem Zusammenhang mit Teilchen-/astrophysikalischen Fragestellungen stehen: Forschungsgebiet A: Verletzung der CP-Symmetrie und Teilchenphysik im frühen Universum (Suche nach einem elektrischen Dipolmoment des Neutrons); Forschungsgebiet B: Struktur und Natur der schwachen Wechselwirkung und mögliche Erweiterungen des Standardmodells der Teilchenphysik (Präzisionsexperimente zum Neutronenzerfall); Forschungsgebiet C: Beziehung zwischen Gravitation und Quantenphysik (Experimente zu quantisierten Zuständen im Gravitationsfeld); Forschungsgebiet D: Ladungsquantisierung und die Neutralität des Neutrons (Präzisionsbestimmung der Neutronenladung). Neue und leistungsstarke Quellen für ultrakalte Neutronen (Neutronen mit Geschwindigkeiten kleiner als 5 m/s - sogenannte UCN) werden derzeit an verschiedenen Standorten aufgebaut. Neutronen mit diesen Geschwindigkeiten sind speicherbar und ermöglichen lange Beobachtungszeiten. Diese werden es erlauben, Untersuchungen zu hochpräzisen Experimenten über Gravitation und einem möglichen elektrischen Dipolmoment des Neutrons durchzuführen. Auf der anderen Seite erlaubt die detaillierte Untersuchung zum Neutronenzerfall, nach bisher eventuell nicht berücksichtigten Beiträgen neuer Kräfte in der schwachen Wechselwirkung zu suchen und die Erhaltung bekannter Symmetrien noch genauer zu untersuchen. Diese Symmetrien (z.B. Zeitumkehr) sind u.a. verbunden mit der Materie-Antimaterie-Asymmetrie im Universum und theoretisch mit Prozessen bei sehr hohen Massenskalen. Auf der anderen Seite erlaubt der Test von Newtons Gravitationsgesetz hinunter zu sehr kleinen Abständen, nach neuen Extradimensionen im Mikrometerbereich zu suchen und eventuell neue Eichbosonen in ihnen aufzuspüren.	
DFG-Verfahren	Schwerpunktprogramme
Internationaler Bezug	Frankreich, Österreich, Schweiz

Projekte

A non-depolarising neutron guide for PERC (Antragsteller Schmidt, Ulrich)

Advanced control and manipulation of neutron beam intensity and polarisation in precision neutron experiments (Antragsteller Jericha, Erwin)

Calibration sources for proton spectroscopy in neutron decay (Antragsteller Soldner, Torsten)

CASCADE, neutron detectors for highest count rates of cold and ultra-cold neutrons in combination with fast self-triggering readout electronics (Antragsteller Klein, Martin)

Conduction of phase III of the project: Test of the electrical neutrality of the free neutron with a sensitivity of $\delta q_n = 10^{-22} \text{ e}$ (Antragsteller Reich, Tobias)

Construction of a neutron guiding component (further called 'neutron switch') for an experiment to measure the electric dipole moment of the neutron at the Paul Scherrer Institut (PSI) in Villigen, Switzerland (Antragsteller Plonka-Spehr, Christian)

Construction of a storage device for ultra-cold neutrons (UCN) using superconducting magnets for measuring the lifetime of the free neutron with the experiment PENELOPE (Antragsteller Paul, Stephan)

Defining polarised neutron beams in high-precision experiments with PERC (Antragsteller Jericha, Erwin)

Development of a high-resolution optical magnetic-field sensor for experiments to measure the electric dipole moment of the neutron (Antragsteller Bison, Georg)

Development of a miniaturized SQUID measuring systems for an experiment to measure the electric dipole moment of the neutron (Antragsteller Fierlinger, Peter)

Development of a procedure to optimize magnetic shielding for spin precession experiments like nEDM (Antragsteller Burghoff, Martin)

Development of a prototype shield for a new EDM experiment (Antragsteller Paul, Stephan)

Development of new, non-depolarizing and high reflective coatings based on B-C-N compounds for application in fundamental neutron physics (Antragsteller Bräuer, Günter ; Lauer, Thorsten)

Development of simulation, data acquisition and analysis systems for the next-generation measurement of the neutron EDM (Antragsteller Marino, Michael)

Electron and Proton spectroscopy for PERC (Antragsteller Abele, Hartmut)

Entwicklung externer und interner Magnetfelder für ein EDM Experiment (Antragsteller Fierlinger, Peter)

Experimental set-up and first measurements of the neutron lifetime using PENELOPE (Antragsteller Paul, Stephan)

Gravitational induced phase effects: Testing the Newtonian potential for a nonlocalized state and short-range interactions in the submicron range (Antragsteller Zawisky, Michael)

Investigations of magnetic field related systematic effects on the measurements of the electric dipole moment of the neutron in the OILL-Experiment (Antragsteller Gutsmedl, Erwin)

Koordinatorprojekt (Antragsteller Paul, Stephan)

Low-energy proton detection using silicon drift detectors, and precision measurements of the proton asymmetry in neutron decay (Antragsteller Zimmer, Oliver)

Magnetometry at the fTesla-scale for neutron EDM experiments (Antragsteller Heil, Werner)

Magnetometry at the fTesla-scale for neutron EDM experiments using a co-habiting Xenon magnetometer based on free spin precession (Antragsteller Heil, Werner)

Measurement of the neutron lifetime using a hybrid magnetic trap for ultra-cold neutrons (Antragsteller Zimmer, Oliver)

Messung des gebundenen Betazerfalls freier Neutronen (Antragsteller Paul, Stephan)

Multi-chamber (co-)magnetometry with 199Hg for the next-generation measurement of the neutron EDM (Antragsteller Petzoldt, Gerd)

Neutron polarisation and polarisation analysis with 10-4 accuracy and design of the beam line for PERC (Antragsteller Soldner, Torsten)

Neutron polarizer for PERC (Antragsteller Märkisch, Bastian Martin)

PERC, a clean, bright and versatile source of neutron decay products (Antragsteller Märkisch, Bastian Martin)

Polarized ultra-cold neutrons in the next generation measurement of the neutron EDM (Antragsteller Fierlinger, Peter)

Precision field characterization for the next generation measurement of the neutron EDM (Antragsteller Fierlinger, Peter)

Precision magnetometry (Antragsteller Bison, Georg)

Precision measurement of proton recoil spectrum and proton asymmetry in neutron decay using the spectrometer aSPECT (ILL contribution) (Antragsteller Zimmer, Oliver)

Precision measurements of proton recoil spectrum and proton asymmetry in neutron decay using the spectrometer aSPECT (Mainz contribution) (Antragsteller Heil, Werner)

Probing the electric neutrality of the neutron (Antragstellerin Durstberger-Rennhofer, Katharina)

Realization of a magnetically shielded environment for a new measurement of the electric dipole moment of the neutron at the FRM-II and investigations of magnetic field related systematic effects (Antragsteller Fierlinger, Peter)

Test of Gravitation with Quantum Objects by an Application of Ramsey's Method of separated Oscillating Fields to Gravitationally Induced Quantum Phaseshifts (Antragsteller Abele, Hartmut)

The electric field in the neutron EDM experiment (Antragsteller Gutsmedl, Erwin)

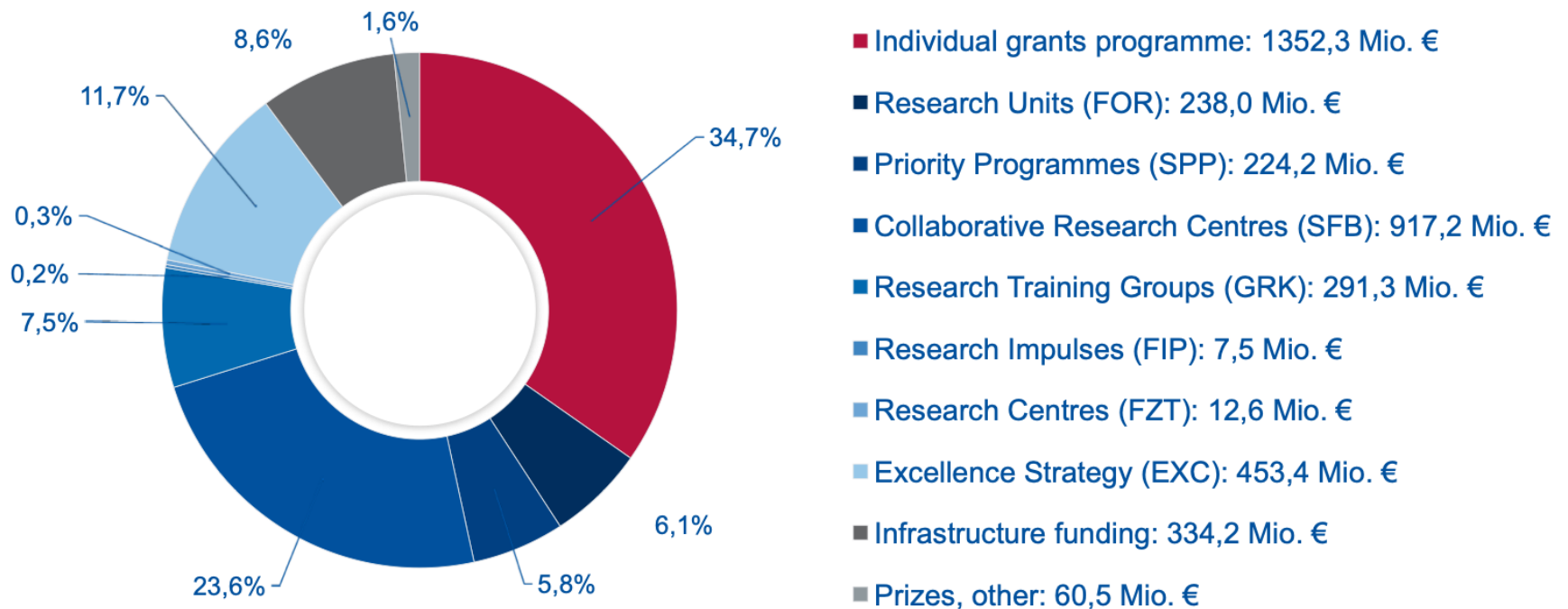
Sprecher

Professor Dr. Stephan Paul

Overview of DFG funding activities

2

Amount of research funding awarded by programme for 2024 (in Mio. € and %)



Total: 3891,1 Mio. €

Manuel Kramer (DFG) at KET Jahressammlung 2025