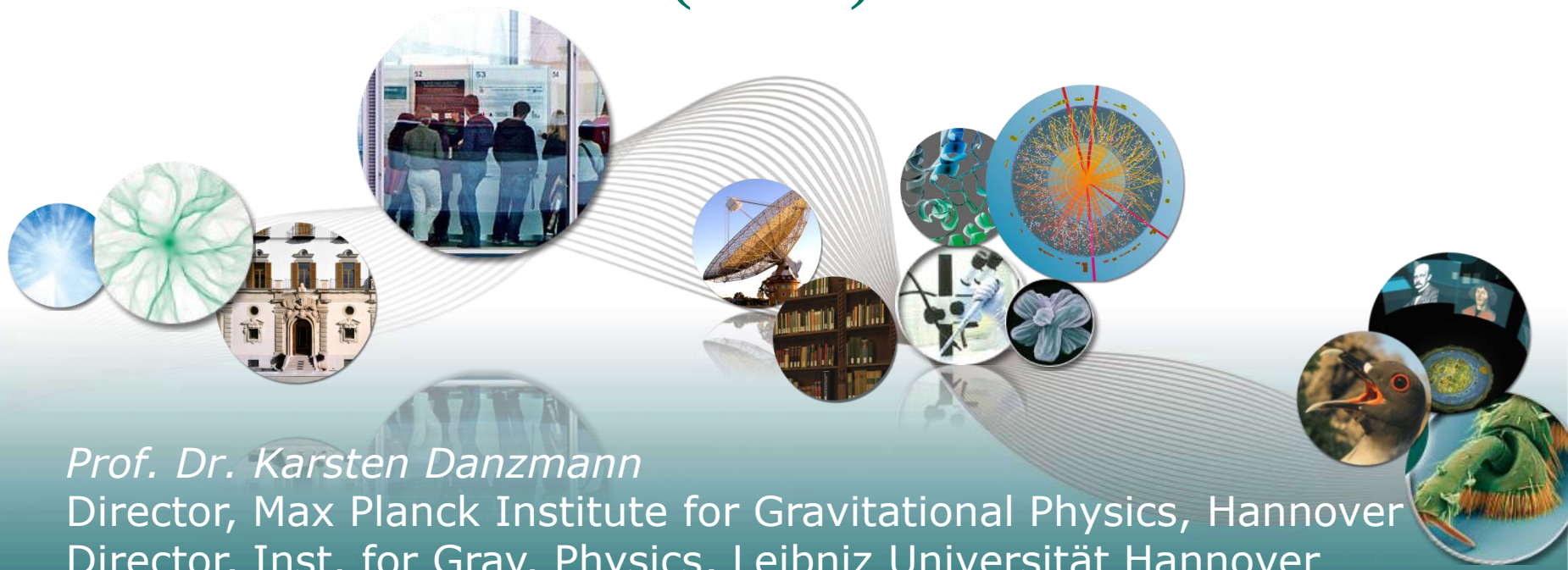
Max-Planck-Gesellschaft

(MPG)

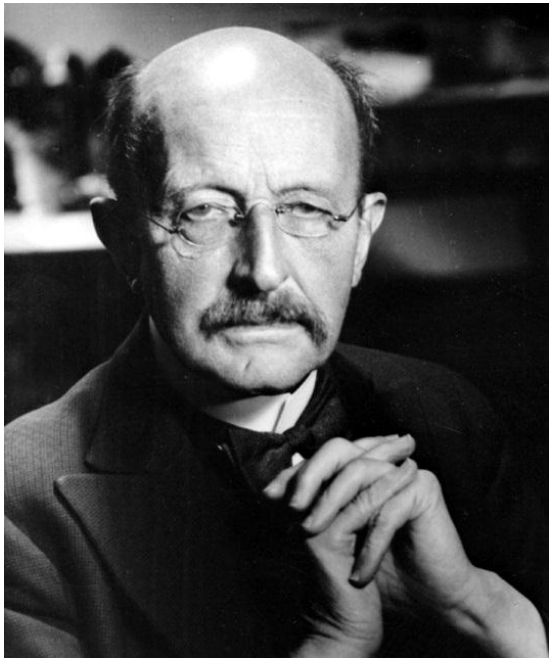


Prof. Dr. Karsten Danzmann
Director, Max Planck Institute for Gravitational Physics, Hannover
Director, Inst. for Grav. Physics, Leibniz Universität Hannover

Dr. Fumiko Kawazoe
Coordinator, International Max Planck Research School (IMPRS)
on Gravitational Wave Astronomy

MPG: Mission and Guiding Principles

»*Insight* must precede *Application*«



Max Planck, 1858 -1947
Founder of the Quantum Theory
Nobel Prize 1918

- Basic Research at cutting-edge, strictly curiosity-driven and quality oriented
- Autonomy, where scientists decide upon science
- „Harnack Principle“: People not programs
- Long-term trust systems with significant core funding for high-risk projects
- Quality assurance by peers

Scientific Sections

Biology and Medicine Section

Chemistry, Physics and Technology Section

Human Sciences Section

Facts & Figures

» 21.405

In total, the workforce of the Max Planck Society consists of **21.405 employees**, including **5,470 scientists** as well as **4,487 guest scientists** and **grantholders**.

276 Directors in 80 Institutes

» 1.527,7 Mio. EUR

Citation Ranking

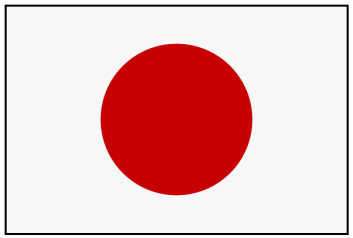
Max Planck researchers are among the most cited worldwide:

- Number of „highly cited papers“ (top 1%)
- January 1998 – June 2008 (Source: ISI – Essential Science Indicators)

1. Harvard University	4685
2. Max-Planck-Gesellschaft	2173
3. Stanford University	2104
4. University of California, Berkeley	1870
5. University of Washington	1807
6. MIT	1801
7. John Hopkins University	1787
8. University of California, Los Angeles	1702
9. University of Michigan	1465
10. Columbia University	1422

Strong Scientific Collaboration with Japan

- MPG-RIKEN Agreement since 1984
- 200 visiting scientists from Japan (2012)
- 3 Max Planck Directors from Japan
  - MPI for Physics, Munich: Prof. Masahiro Teshima
  - MPI Florida, Jupiter: Prof. Ryohei Yasuda
  - MPI for Astrophysics: Prof. Eiichiro Komatsu
- 110 collaborative projects (2012)
  - 54 Chemistry, Physics and Technology Section
  - 38 Biology and Medicine Section
  - 18 Human Sciences Section
- RIKEN – Max Planck Joint Research Center for Systems Chemical Biology (since 2011)
- Max Planck – The University of Tokyo Center for Integrative Inflammology (taking up work in January 2014)



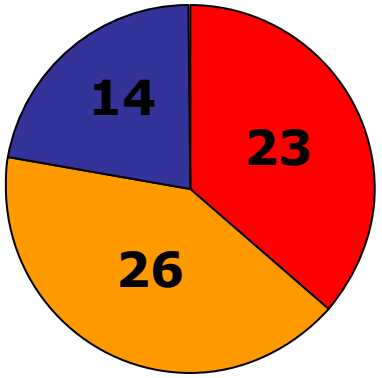
International Max Planck Research Schools

IMPRS

- PhD programs offered by
  Max Planck Institutes and Universities
- Structured education and research environment, with added-value courses
- PhD student positions with competitive monthly remuneration
- Open world-wide for applications
- Group building and networking

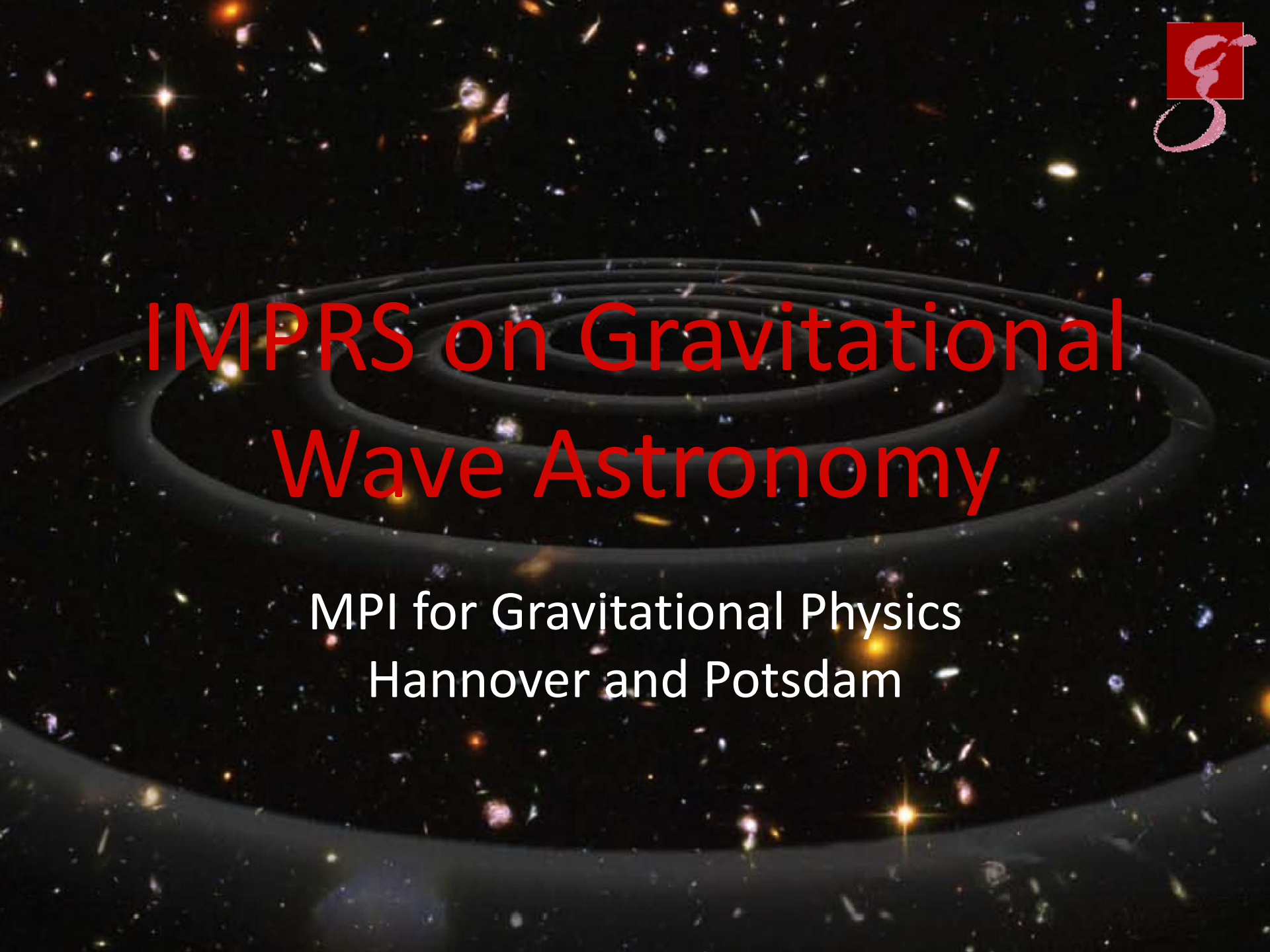
63 International Max Planck Research Schools
Stand: January 2013

BMS: Biological Medical Section
CPTS: Chem. Phys. and Tech. Section
GSHS: Human Sciences Section



BMS CPTS GSHS

●Institut / Forschungsstelle
○ Teilinstitut / Außenstelle
❒ Sonstige Forschungseinrichtung

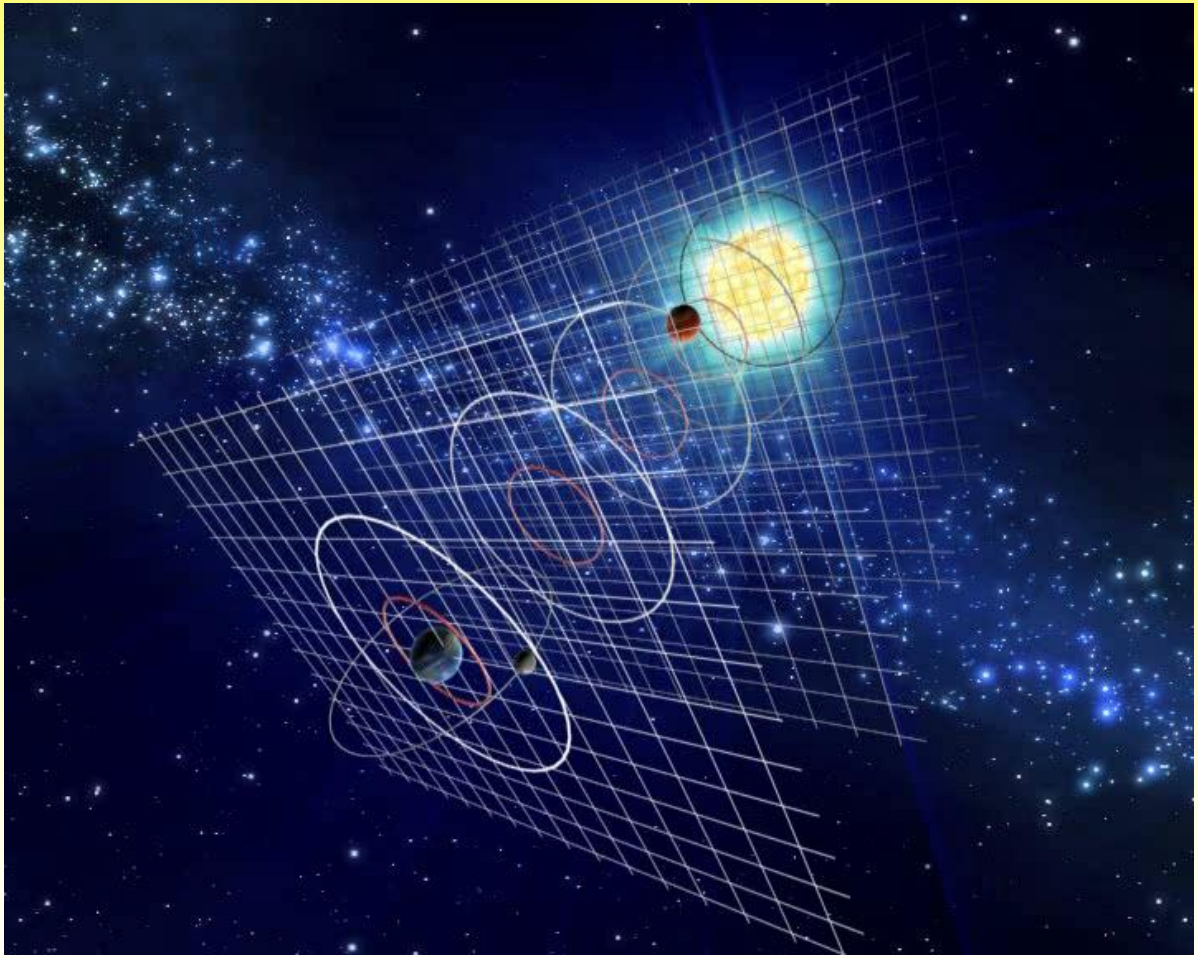


IMPRS on Gravitational Wave Astronomy

MPI for Gravitational Physics
Hannover and Potsdam

Gravitational Waves

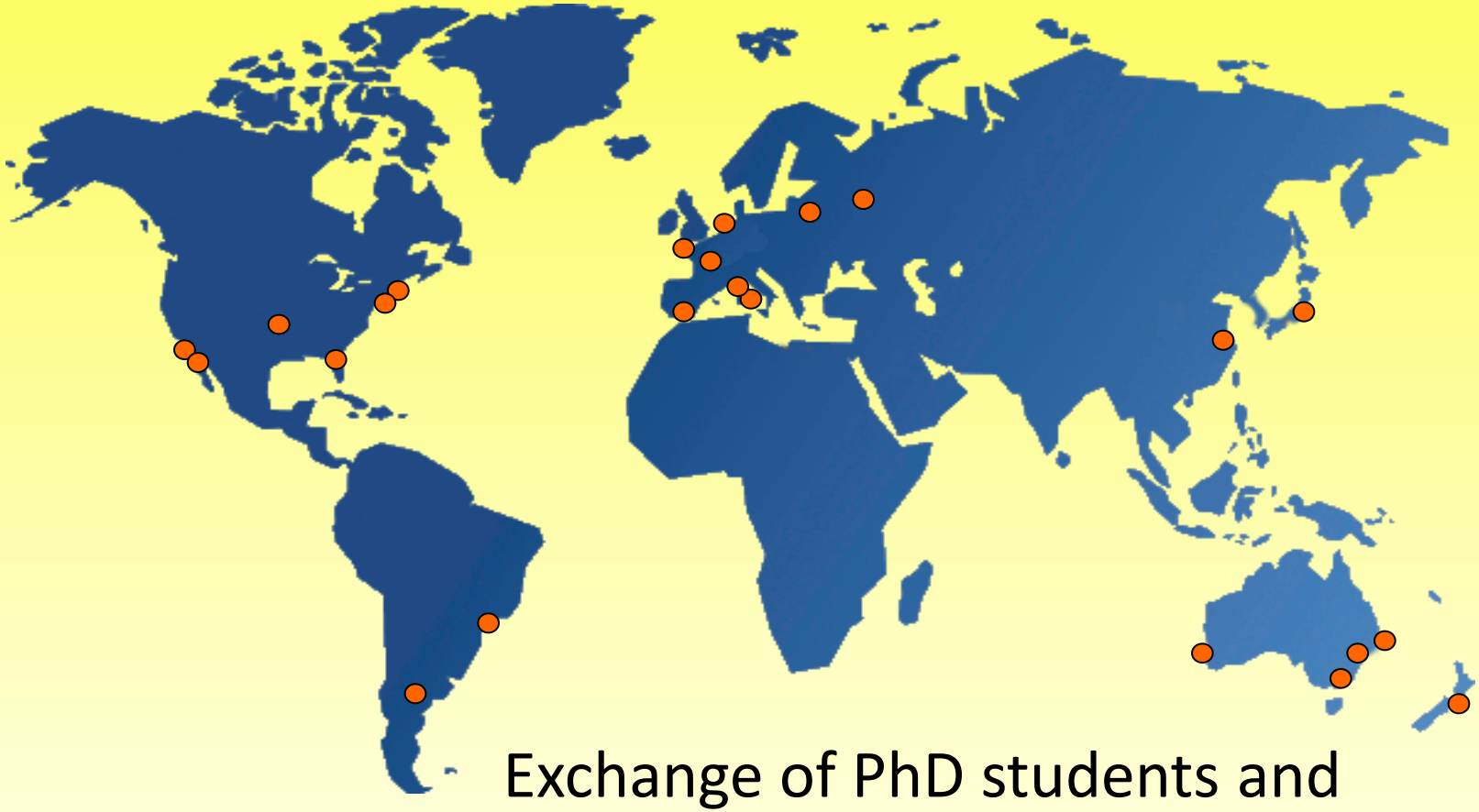
- Waves of of space and time distortion
- Predicted by Einstein‘s General Relativity



Our own IMPRS curriculum

- Stable and healthy curriculum mix:
  - Central: Training on the job, learning-by-doing
    - Intensive advising through double advisor scheme
  - Training periods of several months abroad
    - Take advantage of international collaborations
  - Presentations by every student at one national and one international conference every year
  - Three IMPRS block lecture week retreats per year for specialized teaching and group spirit building
    - Turning out key element of team building across boundaries
  - Several soft skill trainings every year

Promotion of Young Scientists



Exchange of PhD students and
PostDocs with international partners

IMPRS Lecture Week Program

- Mandatory for all IMPRS members
- Three lecture weeks per year
- All under one roof for one week
- Three 2-hour lectures a day,
  plus exercises, project work (possibly resulting in publication) and social activities
- Group building and community spirit
- All students obtain basic understanding of their non-speciality topics!
- Remote but nice location:

IMPRS Lecture Week Locations

Hannover
Steinhuder Meer

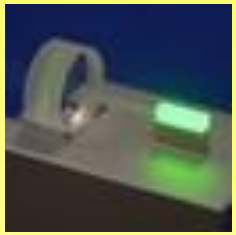
Spain
Mallorca

Berlin

Our IMPRS: A Unique Mix Of Skills

Classical Ground Based Interferometry

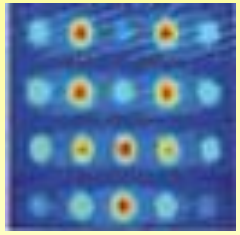
Nonclassical Light and Interferometry Techniques



Data Analysis and Observations

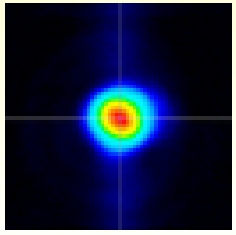
Interferometry in Space

Matter Wave Interferometry



Numerical Relativity

Laser Development and Stabilization



General Relativity and Sources of Gravitational Waves

Theoretical Astrophysics

Summary

- Many IMPRSs are the prime educational institutions for their fields in the world!
- Successful curriculum comprising theory, experiment and soft skills!
- Networking and group spririt!
- We at the AEI are proud of our program and could accommodate more than the present 60 graduate students!

Career | Career programs for junior scientists | International Max Planck Research Schools

www.mpg.de/en/imprs

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International Max Planck Research Schools

A state-of-the-art degree in research

Since 2000, the International Max Planck Research Schools (IMPRS) have become a permanent part of our efforts to promote Ph.D. students. Talented German and foreign junior scientists are offered the opportunity to earn a doctorate under excellent research conditions. A shared characteristics of the graduate programmes at Max Planck Institutes is a close colloboration with universities.

Currently, there are 63 IMPRS; 26 in the Chemistry, Physics and Technology Section, 23 in the Biology and Medicine Section, and 12 in the Human and Social Sciences Section. The research schools are established by one or several Max Planck Institutes. However, these IMPRS work in close cooperation with universities and other – sometimes foreign – research institutions. This provides an extraordinary framework for the graduate students to work in, and is a great advantage in interdisciplinary research projects, or in projects that require special equipment. Currently, 80 Max Planck Institutes are associated with an IMPRS.

Innovative training programmes

In general, about half of the junior researchers who receive their training at an IMPRS are from Germany and the other half from around the world. The principal component of the 3-year study programme is the doctoral thesis representing a major piece of independent research, mainly in an interdisciplinary topic. Doctoral students also benefit from regular workshops, which facilitate exchange of information and provide students with the

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Contact

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IMPRS Regional Distribution

Regional distribution of International Max Planck Research Schools

Regional distribution of International Max Planck Research Schools. [more]

Brochure

All IMPRS at a glance

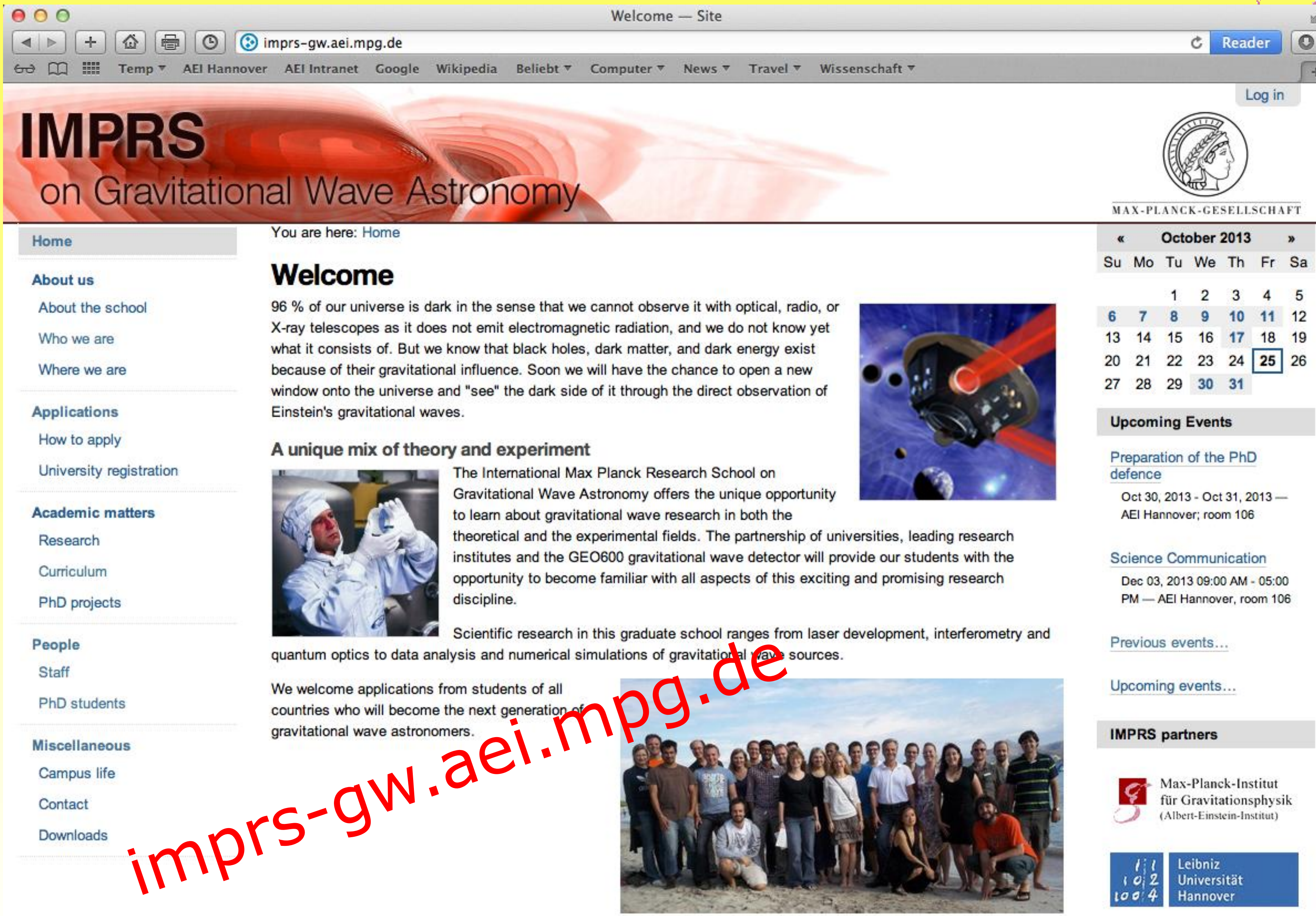
The 80-page brochure presents all IMPRS with research fields and contact information.

Latest

The differences between a grant and a contract

Ph.D. students conducting research at a Max Planck Institute will receive either a grant or a contract for funding that is based on the Collective Wage Agreement for Government Service Workers (TVÖD). [more]

Come and apply !



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