8th
International Conference on Women in Physics
Women & Girls in Physics Education
POSTER

Fascination Science!
STEM Role Models

Germany

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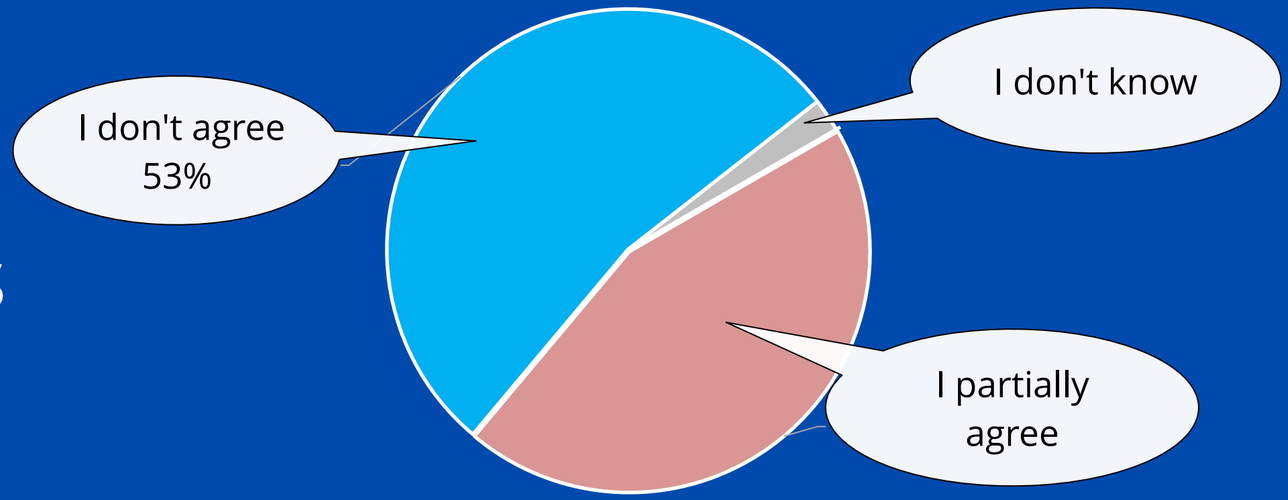
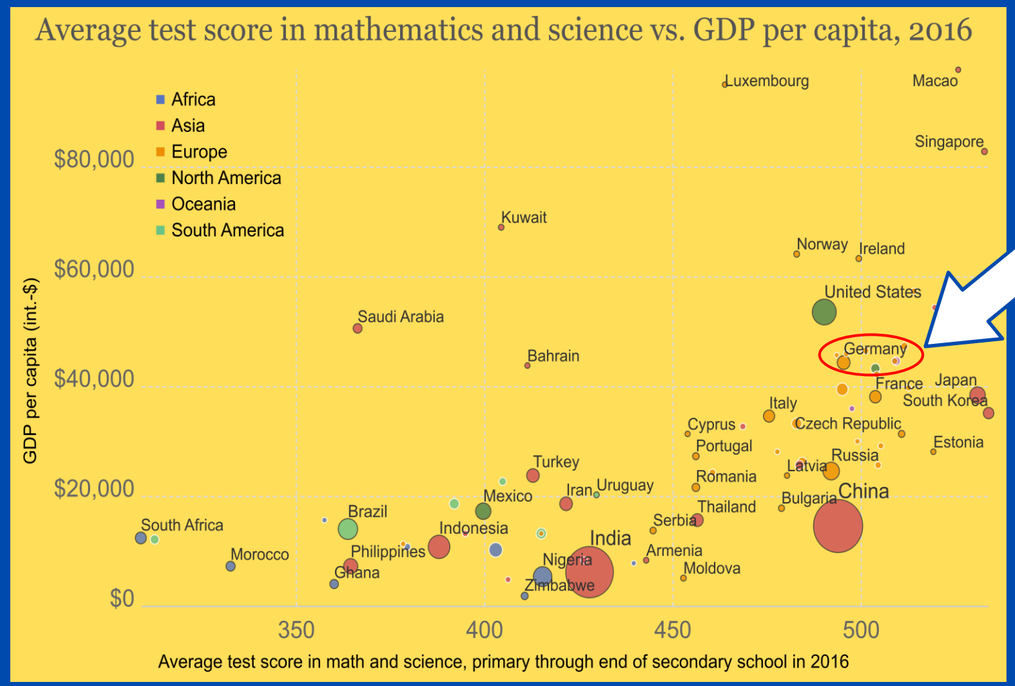
STEM

Do you think that the **'S' in STEM is outdated** and do you find topics such as artificial intelligence, renewable energies, electromobility, new therapies, and vaccines more interesting than physics, chemistry, biology, and medicine?



Identifying the need of modern teaching methods



World Bank, Hanushek and Woessmann (2012), Population (Gapminder, HYDE(2016) & UN (2019))OurWorldInData.org/quality-of-education

What can we do?

The future lies in the actions of today!

EXTRACURRICULAR ACTIVITIES

Learning key concepts in a continuously changing world

Research of today for the technology of tomorrow

Are extracurricular activities useful?

83% of the asked students welcome all chances to participate in events like Girls-Day, LabTours and Internships at University and Research Institutes.

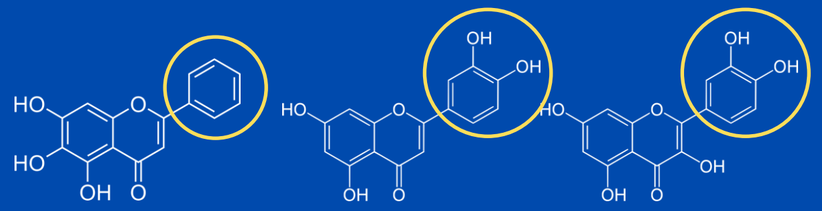
Internships and LabTours as women and girls in science

An internship at a research Institute? Is that possible? How? Where?

At the Max Planck Institute of Microstructure Physics, within a theoretical internship we learn together what does it mean to be a researcher.

Project: Natural Products (NPs) - The future of pharmaceuticals?

25% of new drugs approved worldwide are NPs. Many of which have antioxidant and anti-inflammatory effects.



The Reactivity of these molecules is analysed by calculating their electronic properties using density functional ([n(r)]) methods.

$$n(\mathbf{r}) = N \int \mathrm{d}^3\mathbf{r}_2 \cdots \int \mathrm{d}^3\mathbf{r}_N \, \Psi^*(\mathbf{r}, \mathbf{r}_2, \ldots, \mathbf{r}_N)\Psi(\mathbf{r}, \mathbf{r}_2, \ldots, \mathbf{r}_N). \qquad n(\mathbf{r}) = \sum_{i=1}^{N} |\varphi_i(\mathbf{r})|^2.$$

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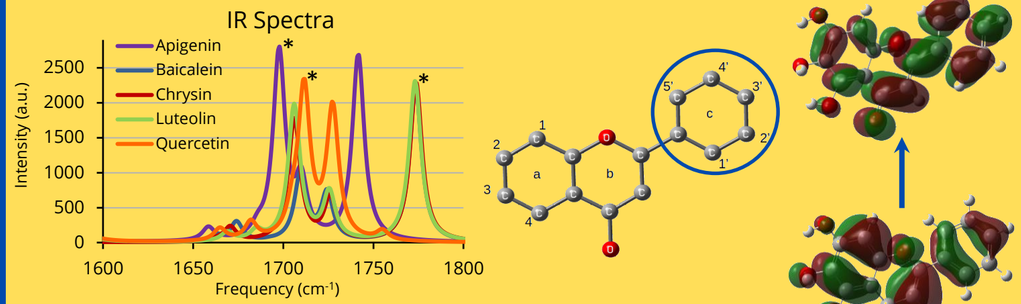
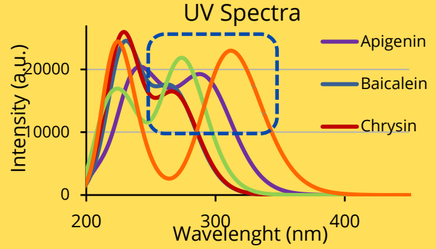
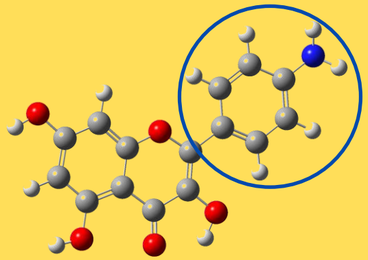
According to the computed electronic properties, one can control the reactivity of these family of molecules by adding other chemical groups to the ring (c)

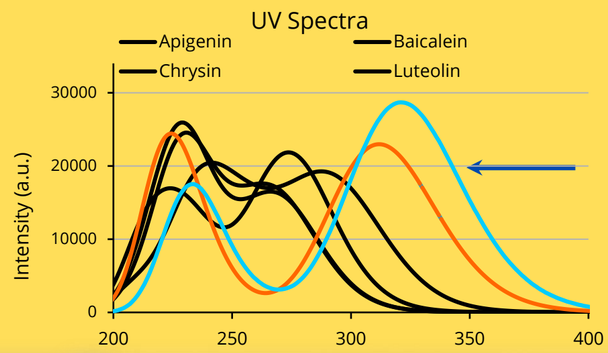
Strategies to guide

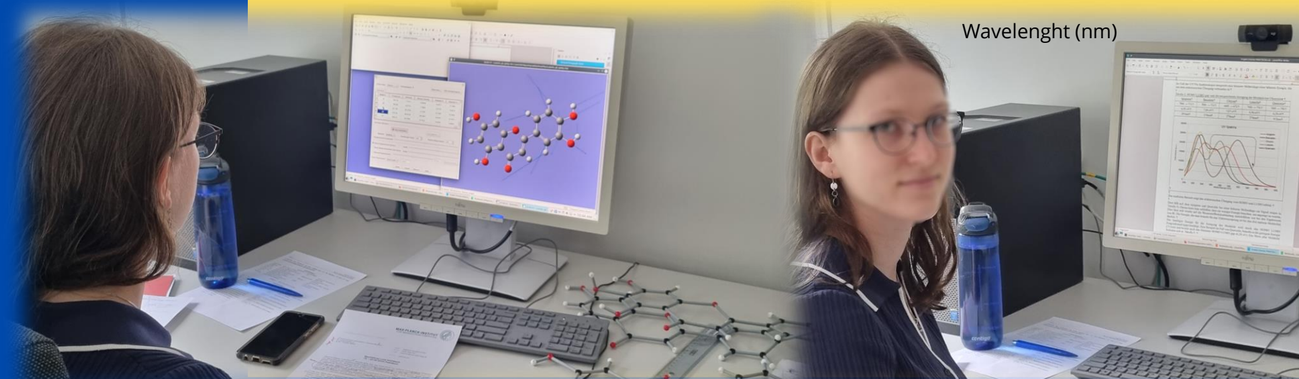




The final report of the project has the same structure as a typical scientific publication.





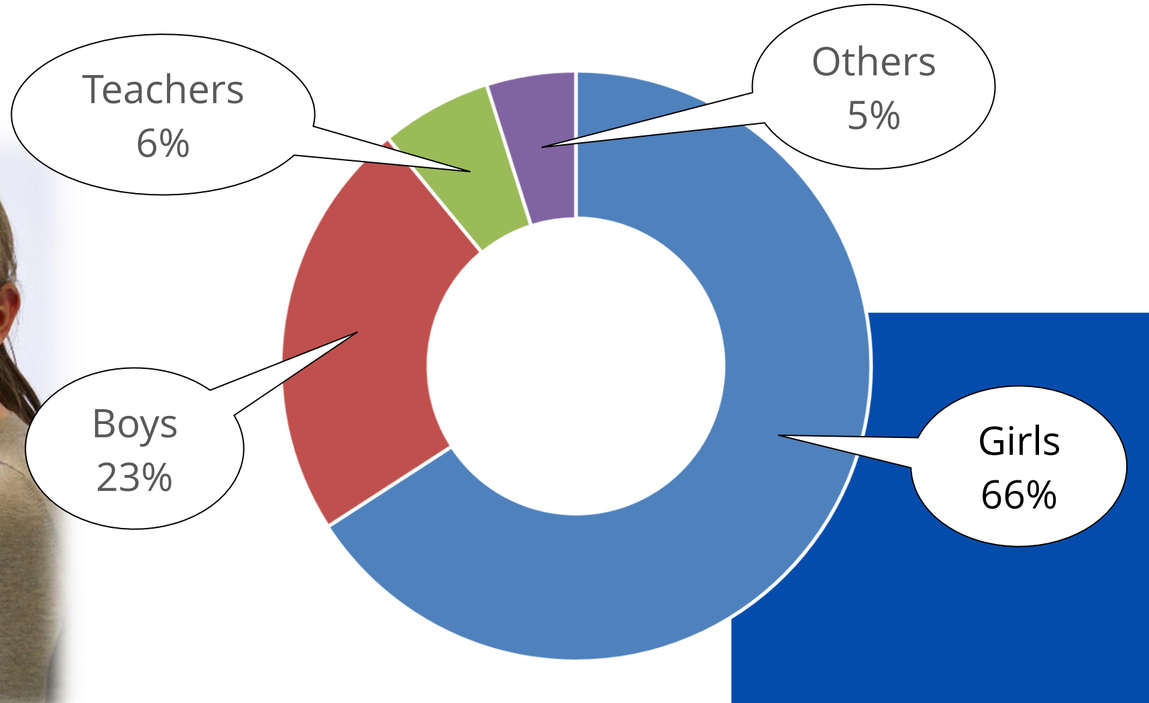


Fascination Science!

During the webinar sessions (worldwide available via the German Physical Society YouTube channel), the participants meet experienced scientists, get to know their work and learn details about the paths they followed in their scientific career.

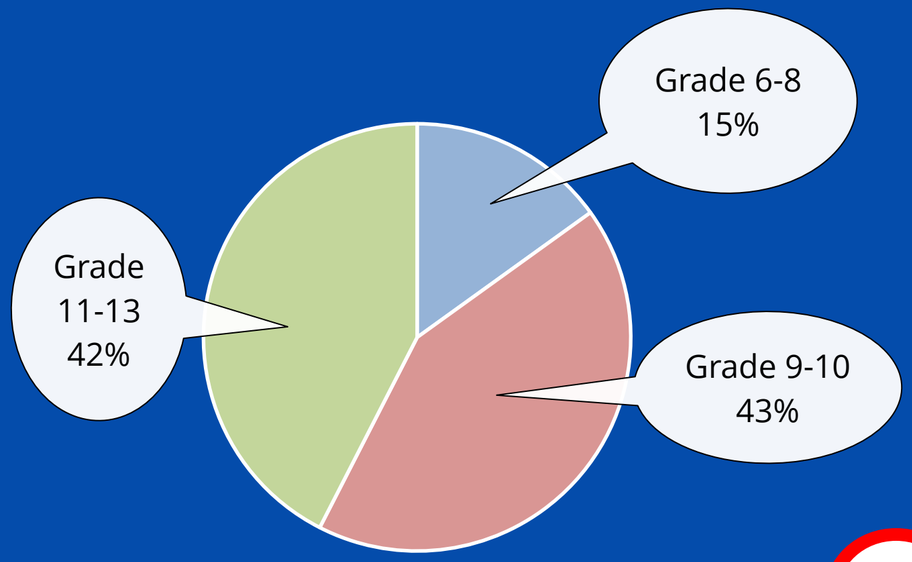
A career in Science? Is it possible?

NUMBER OF REGISTERED PARTICIPANTS: 82
WITHOUT CO-ORGANIZERS AND DOUBLE REGISTRATIONS



Building bridges with technologies of the future

39% of the participant pupils score the Webinars as **very good**, **58%** as **good** and only **3%** did not find the topic attractive enough.



SHARE

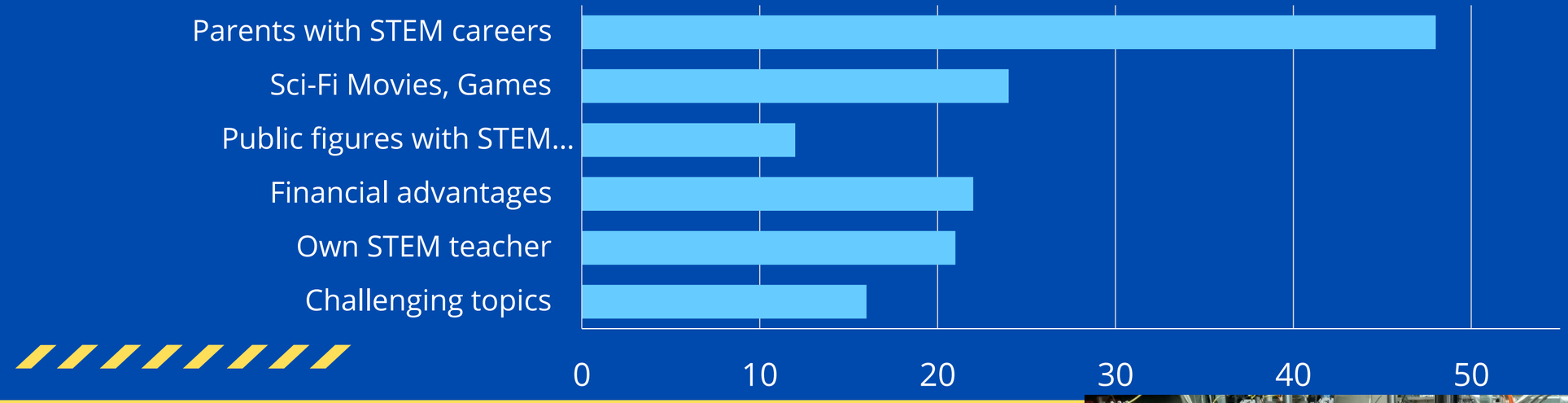
Webinars available in YouTube

Search Keywords: **Faszination Wissenschaft! DPG**

Target group: 6.-13. Class grade

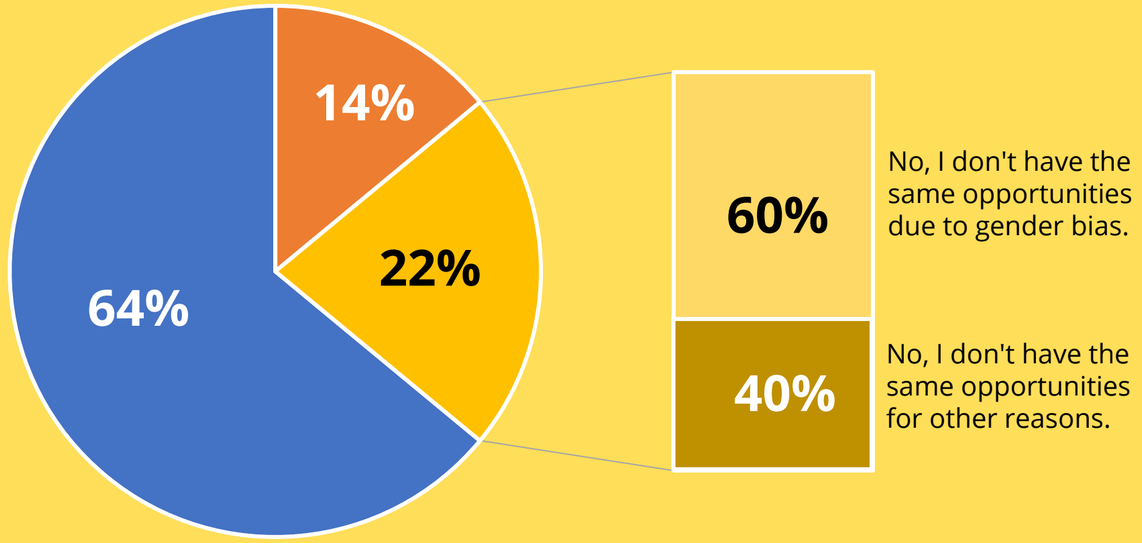
ROLE MODELS

Role models and other drivers for a STEM career multiple selection



Equal opportunities [%]

Do you think you have the same opportunities to pursue a STEM degree / career as other students your age?



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KOMMISSION CHANCENGLEICHHEIT
IN DER CHEMIE

GDCh

THANK YOU

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