

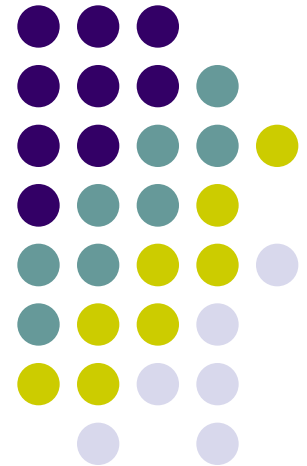
Plasma Applications in Material Science

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<http://pams2010.physik.uni-greifswald.de/index.html>

Funded by the European Commission through DAAD





Physics in Greifswald



2007



INP Greifswald



S 2010

IPP Greifswald



Subject/Goals

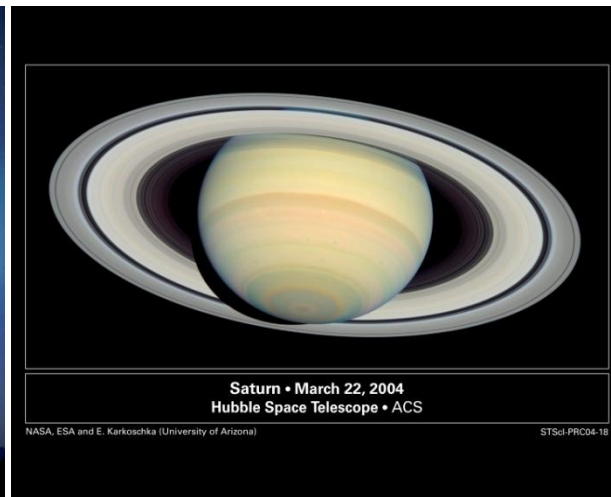


- Teaching project funded by the European Commission (EC) within the ERASMUS programme
- Enhancing the collaboration between European Higher Education Institutions
- Addressing Plasma technology which is a key technology, e.g., in
 - microelectronics fabrication,
 - nanotechnology and materials research,
 - lighting and plasma displays,
 - pollution control,
 - medical and biological applications,
 - sterilization,
 - and has major impact on the development of society.
- The project aims to develop a curriculum for a compact training course in plasma applications for material sciences for undergraduate and postgraduate students with a background in natural science and engineering.
- The IP course shall provide both theoretical and practical knowledge about plasma applications in material science and technology to students.



Plasma

A plasma is an ionised gas. More than 99 % of the visible Universe consists of plasmas



Examples of natural plasmas.

Low Temperature and High Temperature Plasma Applications

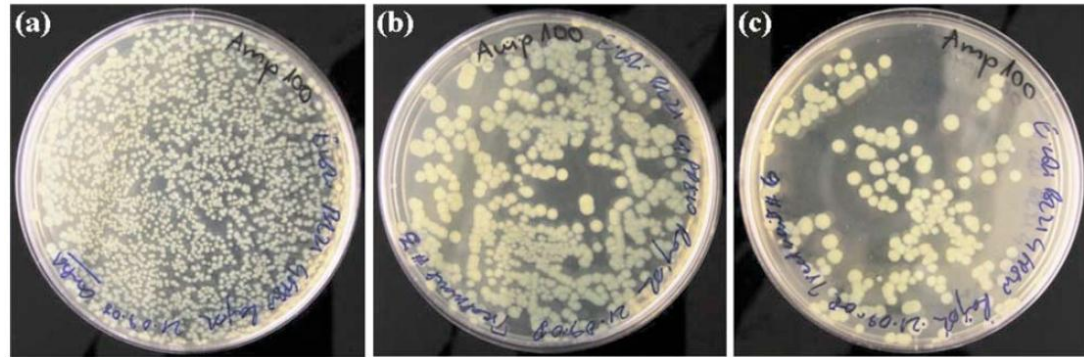


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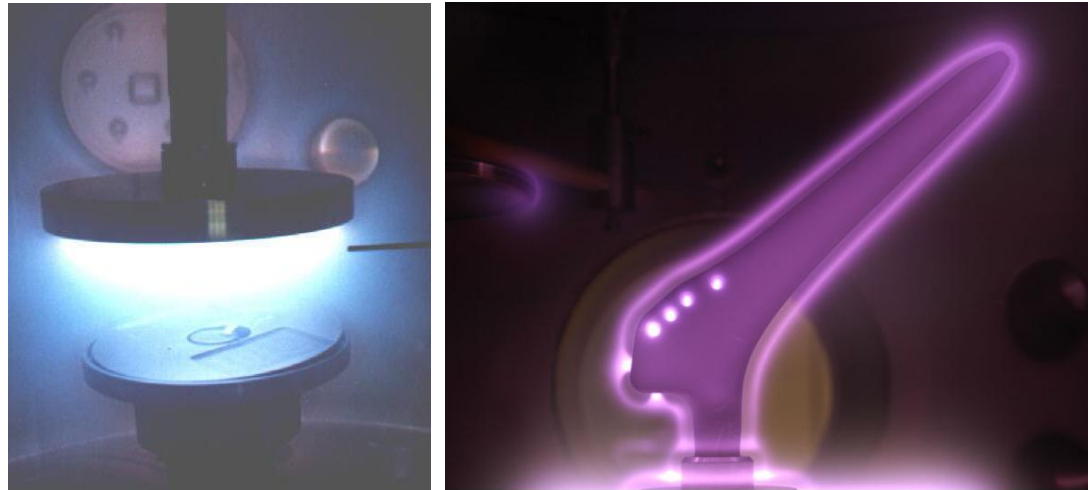
Plasma Applications



E.coli
(a) Without and
(b, c) and after plasma
treatment



*Deposition of thin
anti-bakteriell and
cell-adhesive films on
implants.*



Participating Institutions



- University of Greifswald (Germany)
- TU Gdansk (Poland)
- TU Szczecin (Poland)
- TU Koszalin (Poland)
- Charles University Prague (Czech Republic)
- Linköpings Universitet (Sweden)
- University of Kiel (Germany)
- Leibniz-Institute of Plasma Science and Technology Greifswald (Germany)
- Max-Planck Institute for Plasma Physics Greifswald and Garching (Germany)
- Technologiezentrum Vorpommern, Greifswald (Germany)
- BalticNet PlasmaTec

Programme (2 weeks)



Day	Programme
Monday 16.08.2010	12.00: Arrival 12.30-14.00: Lunch 14.00-15.00: Introduction into the IP (Hippler) 15.00-17.30: Introduction to Plasmas (Hippler)
Tuesday 17.08.2010	9.00-12.30: Basics of Plasma Science I (Meichsner) 14.00-17.30: Basics of Plasma Science II (Meichsner)
Wednesday 18.08.2010	9.00-12.30: Plasma Diagnostics I (Tichy) 14.00-17.30: Plasma Diagnostics II (Röpcke, Hartfuß)
Thursday 19.08.2010	9.00-12.30: Plasma Sources (Holub) 14.00-17.30: Surface analysis (Helm)
Friday 20.08.2010	9.00-12.30: Simulations of Plasmas (Schneider, Koch) 14.00-17.30: Environmental aspects of plasma science (Brandenburg, Weltmann)
Saturday	11:00-13:00: Exkursion/Visit of IPP (Klinger, Hippler, Stranak)
Monday 23.08.2010	9.00-12.30: Fundamental Aspects of Plasma Applications (Kersten) 14.00-17.30: Laboratory course I (Hippler, Meichsner, Weltmann)
Tuesday 24.08.2010	9.00-12.30: Magnetron Discharges (Lundin, Helmersson) 14.00-17.30: Laboratory course II (Hippler, Meichsner, Weltmann)
Wednesday 25.08.2010	9.00-12.30: Plasma Sources (Holub) 14.00-17.30: Laboratory course III (Hippler, Meichsner, Weltmann)
Thursday 26.08.2010	9.00-12.30: Material Research (Gulbinski, Kosmowski) 14.00-17.30: Laboratory course IV (Hippler, Meichsner, Weltmann)
Friday 27.08.2010	9.00-12.30: Plasma Medicine (Weltmann, v. Woedtke) 14.00: Summary of IP (Hippler) 15.00: Farewell

Hippler PAMS 2010

2007/2010



To be continued in 2011

Webpage of Summer School 2010



Photo: Hans-Werner Hausmann, Universität Greifswald

Plasma Applications in Material Science

Greifswald, 16-27 August 2010

[Home](#) [Program](#) [Speakers](#) [Events](#) [Admission](#) [Support](#) [Accommodation](#) [Links](#)

Welcome to the website of the Plasma Applications in Material Science (PAMS-2010)

Plasma technology is a key technology, e.g., in microelectronics fabrication, nanotechnology and materials research, lighting and plasma displays, pollution control, and has major impact on the development of society. Although a plasma is considered the fourth state of matter, it is not well recognised as a teaching and research discipline at universities. This summer school aims to promote the basics of plasma physics in a compact training course to be taught to undergraduate and postgraduate students with a background in natural science and engineering.

The summer school addresses to 4th year and post-graduate students from participating institutions in Germany (Greifswald, Kiel), Czech Republic (Charles University Prague), Poland (TU Gdansk, Koszalin University of Technology, TU Szczecin), and Sweden (Linköping University).

Financially supported by:
European Commission through Education, Audiovisual, and Culture Executive Agency, and German Academic Exchange Service (DAAD).

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Vielen

Dank