



Forschungszentrum Karlsruhe
in der Helmholtz-Gemeinschaft

XC101-1

Light Scattering: Mie and More

**Commemorating 100 years
Mie's 1908 publications**

3 – 4 July 2008

Program

Invited Speakers

Call for Poster Presentations

**In cooperation with
the GAeF Annual Meeting**

**Invitation
and
Program**

**FTU Fortbildungszentrum
für Technik und Umwelt**

Subject

One hundred years ago, Gustav Mie published a paper on the optics of turbid media, especially colloid media. He thus could explain exciting color phenomena of gels, which then were en vogue. His solution for the light scattering of small spherical particles was in full generality and it set the basis for aerosol optics. For lack of computing capacity he could only exploit the first approximation. In the meantime, the Mie Theory has been developed further and experimental proofs exist for any detail. Today, a Mie calculation only takes milliseconds on a PC and methods exist to calculate scattering and absorption for practically any shape and composition of particles. The optics of small particles is a powerful tool in industrial, atmospheric, astronomical and other research. This conference will give an overview of current theories, computational methods, experimental techniques, and applications of optics of small particles.

The meeting is scientifically hosted by GAeF and Forschungszentrum Karlsruhe.

Members of the Scientific Committee are: **Aladár Czitrovsky, Helmuth Horvath, Miroslav Kocifaj, Michael Mishchenko, Wladyslav Szymanski.**

We wish to direct your attention to this workshop and would be happy to receive your poster presentations on this or a closely related topic.

Call for Posters (Deadline: 2 May 2008)

Please submit your one-page abstract before **2 May 2008** to:

Sibylle Mann, Forschungszentrum Karlsruhe – FTU
P.O. Box 36 40, 76021 Karlsruhe, Germany
E-Mail: sibylle.mann@ftu.fzk.de

For further information on this meeting please visit the GAeF home page: www.gaef.de

Program

Thursday, 3 July 2008

- 08:30 **Bus transfer from hotel to FTU**
- 09:00 **Registration and placing of posters**
- 09:30 **Opening**
Professor Dr. Helmuth Horvath
- 09:45 **Historic development and basics**
Professor Dr. Helmuth Horvath
- 10:15 **Generalized Lorenz-Mie theory and applications**
*Professor Dr. Gérard Gouesbet,
Professor James A. Lock, Ph.D.*
- 10:45 **Poster presentation and coffee break**
- 11:45 **Raman-Mie Scattering**
Professor Dr. Wolfgang Kiefer
- 12:15 **Lunch break**
- 13:15 **Light scattering by non-spherical particles, Differences to spherical ones**
Dr. Michael Mishchenko
- 13:45 **Light scattering theories and computer codes**
Dr.-Ing. Thomas Wriedt
- 14:15 **Coffee break**
- 14:30 **Astronomic applications**
Dr. Miroslav Kocifaj
- 15:00 **Photon correlation measurements of elastic and non-elastic light scattering**
Dr. Aladár Czitrovsky
- 15:30 **Poster session and exhibition**
- 17:00 **Get-together with a glass of wine**
- 18:00 **Bus transfer to hotel**

Friday, 4 July 2008

- 08:15 **Bus transfer from hotel to FTU**
- 08:45 **Radiation pressure and photophoresis**
Dr. Olga Jovanovic
- 09:15 **Optics of fractal structures**
Dr. Stefano di Stasio
- 09:45 **Poster presentation and coffee break**
- 10:45 **Light absorption**
Professor Dr. Hans Moosmüller
- 11:15 **Photo emission**
Professor Dr. Heinz Burtscher
- 11:45 **Dense aerosols and multiple scattering**
Dr. Alexander Kokhanovsky
- 12:15 **Lunch break**
- 13:15 **Retrieval of particle characteristics from optical data**
Dr. Albert Ansmann
- 13:45 **Remote sensing of aerosols**
Professor Dr. Lucas Alados Arboledas
- 14:15 **Coffee break**
- 14:30 **Optical particle counters and spectrometers**
Professor Dr. Wladyslav Szymanski
- 15:00 **Final discussion and closing remarks
End of the conference**
- 15:30 **Bus transfer to Karlsruhe central railway station and/or hotel**

Invited speakers

Professor Dr. Lucas Alados Arboledas

Applied Physics
University of Granada, Spain

Dr. Albert Ansmann

Leibniz Institute for Tropospheric Research
Leipzig, Germany

Professor Dr. Heinz Burtscher

Institute for Aerosol Engineering and Sensor Technology
Fachhochschule Nordwestschweiz, (University of Applied Sciences of
North-West Switzerland), Windisch, Switzerland

Dr. Aladár Czitrovsky

Institute of Solid State Physics and Optics
Hungarian Academy of Sciences, Budapest, Hungary

Dr. Stefano di Stasio

Instituto Motori Consiglio
Naples, Italy

Professor Dr. Gérard Gouesbet

National Institute of Applied Sciences
Rouen University, France

Professor Dr. Helmuth Horvath

Faculty of Physics
University of Vienna, Austria

Dr. Olga Jovanovic

Faculty of Physics
University of Vienna, Austria

Professor Dr. Wolfgang Kiefer

Institute for Physical Chemistry
Würzburg University, Germany

Dr. Miroslav Kocifaj

Astronomical Institute
Slovak Academy of Science, Bratislava, Slovak Republic

Dr. Alexander Kokhanovsky

Institute for Environmental Physics
Bremen University, Germany

Professor James A. Lock, Ph.D.

College of Science
Cleveland State University, Cleveland, Ohio, USA

Dr. Michael I. Mishchenko

Goddard Institute for Space Studies
NASA, New York, NY, USA

Professor Dr. Hans Moosmüller

Division of Atmospheric Science
Dessert Research Institute, Reno, Nevada, USA

Professor Dr. Wladyslaw Szymanski

Faculty of Physics
University of Vienna, Austria

Dr.-Ing. Thomas Wriedt

Institute for Materials Engineering
Bremen University, Germany

Information for Participants

Deadline for registration: 20 June 2008

Fee: 200,- EUR (150,- EUR for GAeF members)

The attendance fee is free of VAT and is to be paid within 2 weeks after receipt of the invoice.

Service:

The attendance fee includes the conference material, refreshments during the breaks, and catering during the get-together on the first conference day. Lunch can be bought in the canteen of Forschungszentrum Karlsruhe.

Accommodation:

A block of single rooms has been reserved for conference participants in RENAISSANCE KARLSRUHE HOTEL from 2 – 4 July 2008. The price is EUR 82.- per night, including breakfast. A reservation form and a hotel brochure will be attached to the confirmation letter for the conference.

Transportation:

On the conference days, bus transfer between RENAISSANCE KARLSRUHE HOTEL and the conference venue will be provided free of charge. For departure times, please see the program.

Information and registration

Ms. Sibylle Mann
Forschungszentrum Karlsruhe GmbH
Fortbildungszentrum für Technik und Umwelt (FTU)
P.O. Box 36 40, 76021 Karlsruhe, Germany
Phone: +49 7247 82-3272
Fax: +49 7247 82-4857
e-mail: sibylle.mann@ftu.fzk.de

Venue:

Forschungszentrum Karlsruhe GmbH
Fortbildungszentrum für Technik und Umwelt (FTU)
Hermann-von-Helmholtz-Platz 1
76344 Eggenstein-Leopoldshafen, Germany

Internet:

www.fortbildung.fzk.de or www.gaef.de

Please return to
Forschungszentrum Karlsruhe GmbH
Fortbildungszentrum für Technik und Umwelt
Ms. Sibylle Mann, P.O. Box 36 40, 76021 Karlsruhe, Germany

Registration Form

Fax +49 7247 82-4857

Light Scattering: Mie and More (XC101-1)

3 – 4 July 2008

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Last Name, Title(s)

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First Name(s)

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Company/Organisation

.....
Institute/Department

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Street

.....
Postal Code, City, Country

.....
Phone

.....
Fax

.....
e-mail

The amount of **200,- EUR (150,- EUR for GAeF members)**
will be transferred after receipt of the invoice.

I am a member of: **GAeF**

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Place/Date:

.....
Stamp/Signature