

ELECTROCHEMISTRY 2010

From microscopic understanding
to global impact



RUHR-UNIVERSITÄT BOCHUM
SEPTEMBER 13TH – 15TH 2010

RUHR
UNIVERSITÄT
BOCHUM

RUB



Conference jointly organized by



Fachgruppe Angewandte Elektrochemie



Arbeitskreis Elektrochemische Analysenmethoden
der GDCh-Fachgruppe Analytische Chemie (ELACH)



Deutsche Bunsengesellschaft für Physikalische
Chemie (DBG)



Gesellschaft für Chemische Technik
und Biotechnologie e.V. (DEHEMA)



Arbeitsgemeinschaft elektrochemischer
Forschungsinstitutionen e.V. (AGEF)



Gesellschaft für Korrosionsschutz e.V. (GfKORR)



Deutsche Gesellschaft für Galvano- und
Oberflächentechnik e.V. (DGO)

3rd EuChemS Chemistry Congress

29.08. – 02.09.2010 · Nürnberg · Germany

www.euchems-congress2010.org

Chemistry – the Creative Force

SCIENTIFIC COMMITTEE

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Gunther Wittstock	Oldenburg
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LOCAL ORGANIZING COMMITTEE

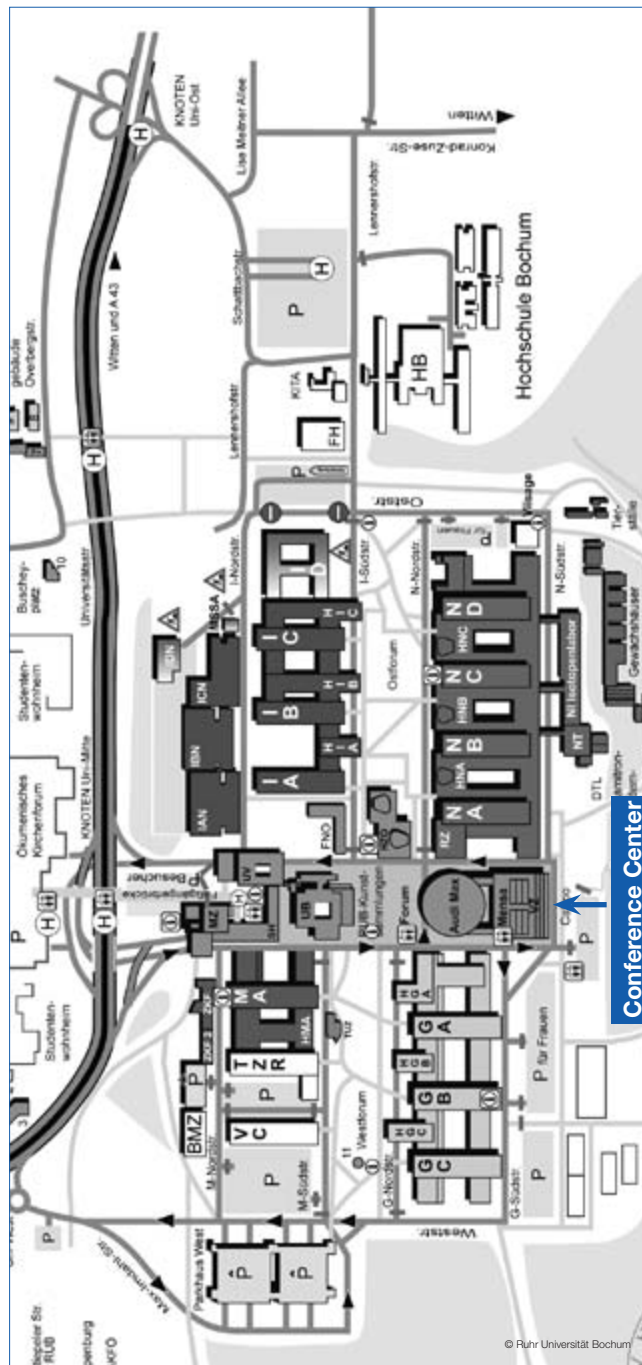
Wolfgang Schuhmann	Bochum
Gunther Wittstock	Oldenburg
Claudia Birkner	Frankfurt (Main)
Christiane Dörr	Frankfurt (Main)

SPONSORS

We are grateful for the support by:



International Society of Electrochemistry (ISE)



Conference Center

Dear colleagues,

the organizing committee of the national conference on electrochemistry in Germany “ELECTROCHEMISTRY 2010: From microscopic understanding to global impact” has the pleasure to invite you to visit Bochum, Germany on September 13-15, 2010. The scientific committee has selected a scientific program from about 200 submitted contributions illustrating the increased importance of electrochemistry in particular for establishing a sustainable economy but also the wide range of electrochemical research in Germany and its attractiveness to international guests and contributors.

Bochum is located in the Ruhrgebiet, an area that has been one of the hot spots of industrial revolution in Germany and is undergoing a major change towards high-tech industries. The man-made landmarks of past and present industrial landscape forming the stage for the this year event RUHR.2010 in which the regions celebrates itself as Europe’s cultural capital – perhaps a reason for you to pay a pre- or post-conference trip to this exciting and changing area! The Ruhr-University is home to more than 33.000 students and 20 Faculties on a compact campus. The conference venue will be the congress center of the university offering excellent facilities for up to 4 parallel sessions and poster exhibitions close to the lecture halls.

A post-conference excursion on 15 September will go to Henrichshütte, Hattingen – protected site of industrial culture and architecture.

The conference “ELECTROCHEMISTRY 2010: From microscopic understanding to global impact” wants to carry on the spirit of a successful meeting Electrochemistry 2008 in Gießen. As before the meeting will be held in English thus addressing also an international community.

Gunther Wittstock and Wolfgang Schuhmann
(Conference Chairs)

PRELIMINARY PROGRAM

Monday, September 13, 2010

- 12:00 – 12:15 Opening
12:15 – 13:00 Plenary lecture
13:00 – 13:30 Coffee Break
13:30 – 15:40 3 Parallel sessions
(Keynote lectures and oral presentations)
15:40 – 17:00 Poster Session I, Exhibition, Coffee break
17:00 – 17:20 3 Parallel sessions
(oral presentations)

Tuesday, September 14, 2010

- 09:00 – 10:30 2 Plenary lectures
10:30 – 11:00 Coffee Break
11:00 – 12:30 4 Parallel sessions
(Keynote lectures and oral presentations)
12:30 – 14:00 Lunch
14:00 – 15:40 4 Parallel sessions
(oral presentations)
15:40 – 17:00 Poster Session II, Exhibition, Coffee break
17:00 – 18:00 4 Parallel sessions
(oral presentations)
18:10 – 18:40 Geschichte der Fachgruppe Angewandte
Elektrochemie der GDCh
19:00 Symposiums dinner

Wednesday, September 15, 2010

- 09:00 – 09:45 Plenary lecture
09:45 – 10:30 Coffee break
10:30 – 12:30 3 Parallel sessions
(Keynote lectures and oral presentations)
12:30 – 13:00 Closing, Poster Prizes

Optional excursion to Henrichshütte, Hattingen

INVITED LECTURES

To contribute to the high scientific quality of the conference plenary and key note lectures given by internationally recognized scientists from Germany and abroad were invited by the organizers. The topics of these talks cover a broad spectrum of problems and new trends in the field of electrochemistry.

PLENARY LECTURES:

Christian Amatore, Paris/F

Finding Out Egyptian Gods' Secret Using Analytical Chemistry:
Biomedical Properties of Egyptian Black Makeup Revealed by
Microamperometry at Single Cells

Katharina Krischer, Garching/D

New views on electrocatalysis: From fluctuation enhanced
reaction rates on nanoelectrodes to mesoscopic pattern
formation

Daniel Mandler, Jerusalem/IL

Electro-assisted deposition of Thin Films: Applications from
Corrosion Prevention to Biomedical Engineering

Martin Winter, Münster/D

Electro-Mobility: Materials, Electrochemistry, Application

KEYNOTE LECTURES:

Rolf Breinbauer, Graz/A

Electrochemical Methods in Highthroughput Synthesis

Frank Endres, Clausthal/D

Electrochemical double layers and multi layers in ionic liquids

Lo Gorton, Lund/S

Bioelectrocatalysis Through Direct Electron Transfer Between
Electrodes and Redox Enzymes

Andreas Gutsch, Kamenz/D

Neue Li-Ionen-Batterien – Ergebnisse und Herausforderungen
aus industrieller Sicht

Timo Jacob, Ulm/D

Multiscale-Modeling of the Oxygen Reduction Reaction

Marc Koper, Leiden/NL

Comparing platinum and gold for electro-oxidation reactions

Christine Kranz, Ulm/D

Nanoelectrochemistry at the AFM tip

Alexander Kuhn, Bordeaux/F

Rational design of nanostructures using bipolar electrochemistry

Hans-Dieter Wiemhöfer

Polymer Electrolytes for Batteries – Properties and Recent Trends

September 14, 2010

18:10-18:40 hrs

COMMEMORATING LECTURE

Jürgen Garcke, University of Ulm (Ulm)

50 Anniversary of the Division of Applied Electrochemistry of the Gesellschaft Deutscher Chemiker e.V. (GDCh):

Die Geschichte der Elektrochemie – was können wir heute noch daraus lernen? (in German)



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ORAL AND POSTER CONTRIBUTIONS

Oral and poster contributions from all fields of electrochemistry have been included. The exact timetable will be published by the end of July on the conference website

www.gdch.de/electrochemistry2010

The poster session will be organized that there is enough time for in depth discussions. Only online submissions of last minute posters can still be accepted.

Abstracts must conform the abstract guideline and the sample abstract on this website.

Parallel oral sessions are planned in addition to the plenary lectures:

- A. Fundamentals of electron transfer and electrocatalysis**
(interfacial structures and reactivity, multi-scale simulation, high resolution study of processes in the electrochemical double layer)
- B. Molecular electrochemistry in new materials, sensors**
(e. g. energy, bioelectrochemistry, membranes, reactions in microscopic and nanoscopic domains, unconventional solvents and reaction environments)
- C. Electrochemistry in the solid state and of inorganic materials**
(corrosion and corrosion control, electrochemical machining, electroplating, photoelectrochemistry)
- D. Improvements of industrial processes and products by enhanced mechanistic and microscopic understanding**
(e.g. new energy conversion and storage technologies, energy efficient electrosynthesis)

DEADLINE

Submission of Last-Minute-Posters

July 28, 2010

COMPANY AND BOOK EXPOSITION

Companies are invited to submit requests for exhibition space (electrochemical equipment, books) to the local organizing committee.

For more information please contact

Electrochemistry2010@ruhr-uni-bochum.de

▶ PRIZES



Promotion Prize in the Field of Applied Electrochemistry

The division of Applied Electrochemistry of the Gesellschaft Deutscher Chemiker e.V. (German Chemical Society) awards the **Promotion Prize in the Field of Applied Electrochemistry** to a young chemist (less than 30 years of age) who has made an important contribution (doctoral thesis or scientific publication) to the field of electrochemistry. The prize consists of a diploma, € 1.000, a lecture by the Award recipient and travel expenses incidental to receiving the prize.

The price will be awarded during the conference.

Applications and nominations should consist of a curriculum vitae, a letter of support and three copies of the scientific contribution and must be submitted by **June 30, 2010** to

Gesellschaft Deutscher Chemiker e.V.
Ulrike Bechler
Varrentrappstr. 40-42
D-60486 Frankfurt am Main
E-Mail: u.bechler@gdch.de

Joachim Walther Schultze Prize for young electrochemists

The new prize of the AGEF (Working Party of Electrochemical Research Institutions) will be awarded at Electrochemistry 2010 to a young electrochemist who is at the beginning of a scientific carrier, has made a significant contribution to electrochemical research and has demonstrated already a visible independent profile.

More information can be found under www.agef.org/foerderung/index.html

Metrohm Autolab Poster Prize

Metrohm and Metrohm Autolab sponsor awards (€ 3.000 in total) for the three best posters. Members of the program committee will select the awardees from all poster contributions during the poster session. The prizes will be awarded during the conference.

▶ TRAVEL GRANTS

Scholarships for members of the GDCh Division of Electrochemistry

The GDCh Division of Electrochemistry offers a limited number of partial scholarships to student division members and members in education presenting a scientific contribution (main author of an oral contribution or poster).

Please send your application until **July 28, 2010**, latest to u.bechler@gdch.de.

The form can be found at: www.gdch.de/stipendien

▶ POSTER SESSIONS

**Monday, September 13, 2010 and
Tuesday, September 14, 2010** 15.40 – 17.00

Poster Session with snacks and drinks

Snacks and drinks are included in the registration fee

▶ SOCIAL PROGRAM

Tuesday, September 14, 2010 19:30

Conference Party with dinner

(buffet included in the registration fee)
Drinks at your own expense.
Conference Center of Ruhr-Universität Bochum
Universitätstr. 150
D-44780 Bochum

Wednesday, September 15, 2010

After the conference (approximately 13.00 hrs.) an **Excursion to the Henrichshütte in Hattingen** is offered.

Participation in the excursion has to be declared latest until Tuesday, September 15, noon. With the registration a participation fee of € 10,- has to be paid covering transportation and entrance fees. A minimum of 10 participants is required.

Price per person: € 10,-
Booking required
Meeting point: conference office
Return to University approx. 17.00 hrs

LOCATION

Conference Center
Ruhr-Universität Bochum
Universitätsstr. 150
D-44780 Bochum

(see also: www.ruhr-uni-bochum.de/universitaet/campus-und-kultur/orientierung/lageplan/index_en.html)

TRAVEL INFORMATION**Arrival by ...****... plane**

The closest airports are Düsseldorf and Dortmund. Ground transportation is much easier from Düsseldorf and hence the airport in Düsseldorf is recommended. After arrival take the sky-train to the airport railway station and go to Bochum main station by local trains (RE or S-train; direction Dortmund).

... train

Bochum main station is easily accessible by long-distance trains (ICE, IC). From the train station take the underground U35 (direction Ruhr-Universität/Hustadt). Leave the tram at the station Ruhr-Universität. From there it is a straight walk along the main axis of the campus to the conference center.

... car

Bochum is accessible using a dense highway system in the greater Ruhrgebiet. The A43 (direction Münster/Wuppertal) has the closest exit to the Ruhr-Universität. From there follow the signs to the university. After arriving at the university drive through the main axis and park in parkhouse P9 which will be reserved for participants of the conference.

(see also: www.ruhr-uni-bochum.de/universitaet/campus-und-kultur/orientierung/anreise/index_en.html)

Public Transport within Bochum:

The Ruhr-Universität is easily accessible via the U35 from Bochum city.

For more information please check the website of the Verkehrsverbund Rhein-Ruhr (VRR; www.vrr.de/de/index.html)

REGISTRATION

Please register online via internet not later than **July 15, 2010**

www.gdch.de/electrochemistry2010

All tickets and conference papers (incl. book of abstracts) will be given to participants upon check-in at the registration desk.

Participants are requested to wear their conference badges at all times for identification and admittance to the conference rooms.

Upon online-registration payment by credit card or direct debit (only with German bank account) is preferred. If you want to pay by bank transfer (free of bank commission) please do not forget to print out the invoice at the end of your online-registration.

Please pay the fees to the following account (free of bank commission):

GESELLSCHAFT DEUTSCHER CHEMIKER e.V.
Dresdner Bank AG Frankfurt am Main
Routing Number (BLZ) 500 800 00
Account No. (Kto.Nr.) 4 900 200 00
Code: 5407 / Electrochemistry 2010

Attention

Participants from EU countries except Germany please use IBAN (International Bank Account Number) and SWIFT-BIC (Bank Identifier Code) instead of Bank account and Bank name:

Gesellschaft Deutscher Chemiker e. V.
Dresdner Bank AG Frankfurt am Main
IBAN DE85 5008 0000 0490 0200 00
SWIFT-BIC DRES DE FF
Code: 5407 / Electrochemistry 2010

GENERAL INFORMATION

GENERAL INFORMATION

REGISTRATION FEES

	Until July 15	From July 16
Member of one of the joining societies and member of EuCheMS-member societies	€ 200,-	€ 250,-
Member, unemployed and retired	€ 100,-	€ 125,-
Non-member	€ 250,-	€ 300,-
Student* – Member of one of the joining societies and member of EuCheMS-member societies	€ 50,-	€ 70,-
Student* – Non-member	€ 70,-	€ 90,-
GDCh-Gold member (as of 50 years of age GDCh membership)	free of charge	free of charge

*) valid student card required

If fees are paid in advance, but after **August 27, 2010**, we kindly ask participants to show proof of payment when claiming their tickets and conference papers at the conference office. Onsite payment is preferred by electronic cash or credit card (Mastercard, VISA).

Written cancellations received on or before **August 16, 2010** will be refunded less a € 25,- administration fee. After that date the full amount of the invoice has to be paid. Requests for refund will not be accepted; however, registration may be transferred to another member of your organisation. In this case please send a note to GDCh, Congress Team.

If the conference is cancelled for whatever reason, fees paid will be refunded. Further recourse is excluded.

COFFEE BREAKS

The participant fee includes coffee breaks.

LUNCH

Lunch can be taken in the nearby local mensa which is in the same building as the conference center. No prebooking is required and the food can be paid directly in cash. An area in the mensa will be reserved for conference participants

ROOM RESERVATION

Rooms are booked for the participants in various hotels throughout the city.

Bochum Marketing will gladly assist you in booking accommodation in all categories. Please apply no later than **July 2, 2010**:

Bochum Marketing GmbH
Mrs Maren Hennes
Huestr. 9
D-44787 Bochum

Phone: +49 234 904-9622
Fax: +49 234 904-9643
E-mail: hennes@bochum-marketing.de

The customers will be held accountable for non-occupancy of reserved rooms.

INFORMATION CONCERNING THE SCIENTIFIC PROGRAM

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Germany
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INFORMATION CONCERNING LOCAL ORGANIZATION

Prof. Dr. Wolfgang Schuhmann
Ruhr-Universität Bochum
Analytische Chemie - Elektronanalytik & Sensorik
Universitätsstr. 150 NC 04/788
D-44780 Bochum
Phone: +49 234 32-26200
E-mail: electrochemistry2010@ruhr-uni-bochum.de

▶ INFORMATION BEFORE AND AFTER THE MEETING

Gesellschaft Deutscher Chemiker e. V.
(German Chemical Society)
Congress Team / Electrochemistry 2010
P.O. Box 90 04 40
D-60444 Frankfurt am Main
Varrentrappstr. 40-42
D-60486 Frankfurt am Main
Phone: +49 69 7917-366 (Claudia Birkner)
E-mail: tg@gdch.de
Internet: www.gdch.de/electrochemistry2010

Executive Director: Professor Dr. Wolfram Koch,
Registernummer beim Vereinsregister: VR 4453, Registergericht Frankfurt am Main

▶ INFORMATION DURING THE MEETING

The conference office will be located in the main physicist lecture hall.

Opening hours:

Monday, September 13, 2010	11.00 – 16.30
Tuesday, September 14, 2010	08.15 – 16.30
Wednesday, September 15, 2010	08.15 – 12.00

Phone: +49 175 335-4803

▶ DEADLINES

June 30, 2010	Promotion Prize
June 30, 2010	J.W. Schultze Prize
July 2, 2010	Room reservation
July 15, 2010	early Registration
July 28, 2010	Scholarships
July 28, 2010	Last-Minute-Poster
August 16, 2010	Cancellation of participation