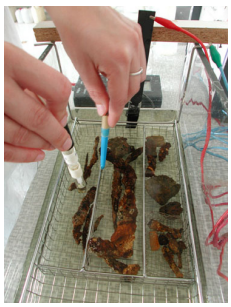
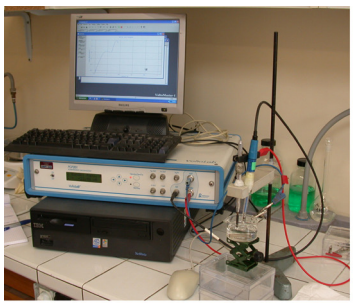
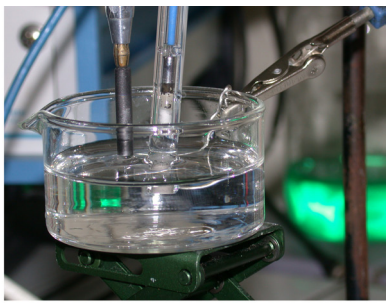
TECHNICKÉ MUZEUM V BRNĚ 50 LET TMB 1961 / 2011 METODICKÉ CENTRUM KONZERVACE ARCHEOLOGICKÝ ÚSTAV AV ČR, PRAHA, v.v.i.

WORKSHOP ON ELECTROCHEMICAL METHODS IN THE CONSERVATION OF METAL ARTIFACTS: PRINCIPLES AND APPLICATIONS

12–14 September 2011 / The Faculty of Science of the Masaryk University in Brno



DESCRIPTION

Description: The workshop is devoted to restorers and scientists who are interested by the application of electrochemical methods to the conservation of cultural objects. The aim is to give an overview of the principal methods used in conservation as well as the main principles in electrochemistry and their application to specific problems. The workshop will contain three modules, with theoretical and practical parts, each of them closed by a discussion and a summary. Participants are welcome to bring case studies for discussion.

Objectives: At the end of the training, the participants must be able to:
- understand the basic principles of electrochemistry;
- use electrochemical equipment ;
- critically evaluate results given in scientific papers and reports
- adapt themselves operational conditions to obtain the expected results

Organizers: The Methodical Conservation Centre of the Technical Museum in Brno, The Laboratory of Conservation of the Institute of Archaeology of the Academy of Science of the Czech Republic, Prague, v.v.i. and the Faculty of Science of the Masaryk University in Brno – the Study of the Chemistry in Conservation-Restoration.

Co-organizer: Working Group of Metals of the Committee of Conservators-Restorers of the Association of Museums and Galleries of the Czech Republic

Instructor: Virginia Costa qualified as Engineer in metallurgy in Brazil and presented her PhD on surface electrochemistry at the TU-Berlin (Germany). As professor at the Federal University in Porto Alegre (Brazil) she specialized in corrosion and protection of metals. Since then she has been applying her scientific and technical background, giving lectures on metals conservation while acting as freelance expert at international level (France: Musée de la Musique and Conservare; Austria: Kunsthistorisches Museum; UK: English Heritage; Belgium: IRPA). She has written articles and organized numerous training courses on the use of electrochemistry and metallography for analysis and conservation of metals. At present, she is lecturer at the Institut National du Patrimoine and is working in different research projects in collaboration with the Laboratoire de Recherche des Monuments Historiques (LRMH).

The workshop will be in English.

PROGRAM

1. Basis of electrochemistry and corrosion
   - Electrode and corrosion potential; Pourbaix's diagrams E/pH; Cathodic and anodic reactions;
   - Polarisation: three electrodes cell ; factors affecting corrosion; corrosion forms (pitting, crevice, galvanic)
2. Application in metals treatment
   - Cleaning and stabilization
   - Choice of operational conditions (electrolyte, potential, etc)
   - Case study (composite objects, damas, jewellry, archaeological finds)
3. Application in metals analysis
   - Identification and quantification of corrosion products
   - Evaluation of environmental conditions

PLANNING

Date	Classroom	Laboratory
12/9	Basis of electrochemistry and corrosion	Potential measurement; use of Pourbaix diagram; corrosion probability and rate
13/9	Application of electrochemistry to metals treatment	Cleaning of silver using potentiostat and power supply; local cleaning with gel and 'pencil'; conditions for cleaning of other metals
14/9	Application of electrochemistry to metals analysis	Conditions to treat archaeological finds identification of metals and compounds

PARTICIPANTS

The course is limited to 10 participants. Target audience – archaeological and historic objects conservators, conservators-scientist. Participants will receive a certificate related to the achievement of the workshop.

REGISTRATION

Candidates can send a curriculum vitae and a motivation letter for evaluation and approval **to both contact e-mail addresses until 30th April 2011.** Candidates will be informed of the acceptance of their candidature by 31th May.

Motivation letter written in English should include following information: Candidates name, name and address of employer, contact address; relevance to the work, examples of past projects, further application of the knowledge gained during the course, level of English.

The course fee: 550 CZK. The course fee includes all equipment and material needed during the course.
Travel expenses and accommodation are supported by the participants.

DATES AND VENUE

12–14 September 2011
The Faculty of Science of the Masaryk University in Brno
The Department of Chemistry / Univerzitní Kampus Bohunice / Areál Kamenice 5, budova A12 / www.ukb.muni.cz

CONTACT ADDRESSES

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