OPEN CALL

COST Action CA18202

NECTAR – Network for Equilibria and Chemical Thermodynamics Advanced Research

and

ISMEC Group – International Group for the Thermodynamics of Complexes

will organize the

1st ISMEC – NECTAR Training School

on the Determination, Analysis and Use of Thermodynamic Data

SOLvE – Advances in SOLution Equilibria

July 26th – 28th, 2021

ONLINE

Open Call

This is an open call aimed at recruiting 30 (thirty) students/trainees for the **1st ISMEC – NECTAR Training School (TS) on the Determination, Analysis and Use of Thermodynamic Data,** called **SOLvE – Advances in SOLution Equilibria**.

SOLvE will be held **online** from July 26th – 28th, 2021.

COST is supported by the Horizon 2020 Framework Programme of the European Union

Of the 30 (thirty) students/trainees, 15 (fifteen) will be recruited and financed by NECTAR COST Action CA18202 (www.cost-nectar.eu, https://www.cost.eu/actions/CA18202/), in the terms described in this document.

The main procedure regulations concerning TS for COST Actions are governed by the COST Vademecum (https://www.cost.eu/wp-content/uploads/2021/04/Vademecum-V9-28-April-20212-1.pdf), in particular those described in Section 6. Please read this section prior to preparing your TS application.

Scopes of SOLvE TS

The well-known computer science motto of "garbage-in garbage-out" perfectly holds also for chemical thermodynamics.

Researchers working in this field need high-quality data to obtain high-quality results. Analogously, any subject dealing with chemical thermodynamics needs high-quality data and models to ensure their robustness for high-quality applications.

SOLvE is 3 days **online** training school that will help people dealing with solution equilibria in promoting good laboratory practices. Experienced professors will provide focused theoretical background, practical aspects and tips for high-quality experimental data collection and clues for robust data analysis through different models and protocols (ranging from Excel to more specialised software). The main experimental approaches for solution equilibria will be presented and discussed. Applications of each technique to cutting-edge research will be also highlighted.

During the TS, a plenary lecture will be given to introduce the theoretical background for a correct approach to solution equilibria. Then each session (half a day) of the TS will be focused on a specific technique:

- Potentiometry and other electrochemical techniques
- Spectrophotometry and spectrofluorimetry
- NMR
- Calorimetry

At the end of each session, experienced researchers will present the applications of each technique in nowadays research.

Students/trainees will learn how to design and perform accurate experiments by each technique and will learn how to correctly analyse obtained data by the most common software and approaches.

Scopes of NECTAR COST Action

The thermodynamic study of chemical equilibria represents the core of many important branches of chemistry, from coordination and supramolecular chemistry, to chemical speciation, to molecular modelling and drug design. The importance of chemical equilibria, and chemical thermodynamics in general, results from the simple assertion that many properties of elements and compounds depend

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mainly on their interactions in a given system: the biological activity of an element or molecule, or their environmental impact can be explained by a detailed study of these interactions, whose nature and strength can be evaluated by chemical equilibrium and other thermodynamic studies.

NECTAR combines the expertise of the large community of specialists working in the field of thermodynamic studies of chemical equilibria. The scopes of this Action are to create a network based on the stimulating collaboration between them, to promote knowledge exchange, and to achieve high technological progress. All this will be accomplished through a fruitful collaboration between young researchers and experienced scientists, taking into consideration gender balance and maximal geographical distribution. Innovative and integrated theoretical and experimental approaches will be established and optimized. Overall, the outstanding quality of obtained results will serve as benchmark for next decades, allowing their application in the above-mentioned fields and substantially impacting on life quality of next generations.

For further details and specific objectives, please read the Memorandum of Understanding (MoU) of NECTAR COST Action: https://www.cost.eu/actions/CA18202/.

Scopes of ISMEC Group

The International Group for the Thermodynamics of Complexes, the ISMEC Group, is an open group established in early Seventies, in which researchers at all levels freely meet to share info and ideas in the field of the Thermodynamics of Complexes. No subscriptions and/or official documents are needed to join our community: people interested in can simply subscribe through the ISMEC Group website (www.ismecgroup.org).

The main scope of ISMEC Group is to take initiatives and to organize events and activities to promote research, best practices, formation and culture in the field of the Thermodynamics of Complexes at all levels.

Main ISMEC Group achievements have been the unification of various methodologies in the study of the thermodynamics of complexes, the development of different experimental techniques, the setup of suitable computer programs and calculation methods, and the organization of International Congresses and Training Schools as well.

Purpose of COST TSs

Training Schools aim to facilitate capacity building on a topic relevant to the theme of the respective COST Action through the delivery of intensive training on a new or emerging subject. They can also offer familiarisation with unique equipment or expertise and are typically, although not exclusively, considered to be for the benefit of ECI and PhD students. They are not intended to provide general training.

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General eligibility criteria

SOLvE is open to PhD students, Post-docs, researchers and any other stakeholder interested in receiving advanced training in the design, experimental and calculation procedures for the determination of stability constants and other thermodynamic parameters by the most common techniques.

Due to the limited number of slots available, preference will be given to Early Career Investigators (ECI, PhD students or researchers with no more than 8 years passed from their PhD).

Eligibility criteria and guidelines for NECTAR trainees

According to NECTAR MC decisions:

- a maximum of 15 (fifteen) people will be allowed to attend the SOLvE TS as NECTAR Trainees.
- NECTAR trainees will attend SOLvE and will receive TS material free of charge, but they won't receive any kind of reimbursement.

Eligibility criteria as NECTAR trainees:

Trainees shall be engaged in an official research programme as a PhD Student or postdoctoral fellow or can be employed by, or affiliated to, an institution, organisation or legal entity which has within its remit a clear association with performing research, and belongs to a NECTAR COST Action Member Country, or is an approved NECTAR Near Neighbour Country (NNC) Institution (actually, two Ukrainian Institutions) or an approved European RTD Organization.

Trainees not eligible to be reimbursed:

1. Trainees from COST Partner Members.

2. Action MC Observers from IPC.

3. Trainees from Approved IO, EU Commission, Bodies, Offices and Agencies.

4. Other Trainees not specifically mentioned as being eligible.

Application Procedure

All applicants must fill, scan and sign the application form (available at www.cost-nectar.eu and www.ismecgroup.org) and send it by email to solve@uwb.edu.pl together with a signed copy of their CV and a motivation letter, indicating their research interests and, only for NECTAR applicants, the added value of the training for NECTAR, not later than June 15th, 2021.

Application email must have subject: "SOLvE TS Application Form, SURNAME NAME".

The application procedure is legally bound to the Vademecum of COST Vademecum (https://www.cost.eu/wp-content/uploads/2021/04/Vademecum-V9-28-April-20212-1.pdf).

The "Motivation Letter" should contain the following information (max 2000 words):

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1. Aim & Motivation - Please explain the scientific and/or other motivation for the participation to the TS and what scientific and/or other outcomes you aim to accomplish with the TS. Please include in this section a brief description of the scientific context into which TS will be an added value for your activities to be performed (e.g. specific field of study);
2. Proposed contribution to the scientific objectives of the Action (ONLY FOR NECTAR APPLICANTS). Please include how your training will contribute to the plan of one or more WG(s) of the Action.

   A CV should be submitted, drafted preferably in Europass format (max. 3 pages). A list of academic publications can be added on separate pages.

Applications assessment and communication of results

The selection of applicants will be performed by a Committee chaired by Prof. Enrique García-España (NECTAR TS Coordinator). The Committee will perform the scientific assessment of the applications considering the SOLvE, ISMEC Group and NECTAR Action scopes and objectives, as well as the impact of the training by the applicants and involved institutions.

General criteria for evaluation of TS proposals are:

- priority to TS applications of PhD students or ECI;
- geographycal/institution distribution
- priority to applicants from ITCs;
- gender balance;
- motivation;
- Curriculum Vitae (CV).

All applicants will receive a notification of the acceptance of their application not later than June 25th, 2021.

Trainee/Students registration and fees

After the notification of the acceptance, NECTAR trainees will need to formalize their trainee status online on their e-COST account.

All other trainees/students will need to pay the registration fee - 30 (thirty) € - and send a scanned copy of the receipt to solve@uwb.edu.pl, not later than July 2nd, 2021.

Registration email must have subject: “SOLvE TS Registration fee, SURNAME NAME”.

All payments must be made in euros (€), by bank transfer to:

Uniwersytet w Białymstoku
Bank: Bank Millennium S.A.
IBAN: PL22 1160 2202 0000 0002 4179 4442

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BIC/SWIFT: BIGBPLPW
In the payment title please specify SOLvE TS and provide surname and first name of the participant (e.g., SOLvE TS, Smith John)

Bank charges must be covered by the participant.

After the registration email and payment have been received, the secretariat will confirm your Registration by e-mail.

TS Reporting

Within 15 days from the end date of the TS, all the trainees must submit at least three (3) pictures and/or one (1) video showing training and/or group activities, directly to solve@uwb.edu.pl and, for NECTAR Trainees, to the Science Communications Manager Prof. Elżbieta Gumienna-Kontecka (elzbieta.gumienna-kontecka@chem.uni.wroc.pl).

Deadlines

Relevant dates are as follows:

- **June 15th, 2021**: deadline for submission of TS applications
- **June 25th, 2021**: notification of selected trainees/students
- **July 2nd, 2021:** deadline for the payment and submission of registration fee.

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