

***Introduction to Mössbauer spectroscopy and some selected applications of the method for catalysts' studies***

*(proposed preliminary program for a condensed course to be held at Dalian Institute of Chemical Physics by prof. Károly Lázár – Centre for Energy Research, Budapest, Hungary)*

*Tentative schedule*

05/11/2019			
06/11/2019			
07/11/2019			

***Part 1 -Introduction***

***1.1. Basics of Mössbauer effect***

***1.2. Basics of Mössbauer spectroscopy (MS)***

***Experimental techniques***

***1.4. Evaluation of spectra (description with Lorentz lines – distribution of parameters - other codes)***

***1.5. Implementation of various techniques, performance of experiments***

***1.6. History – short retrospection – MEDC***

***Part 2. Mössbauer spectroscopy of catalysts***

***2.1. Assessment of MS from the aspect of catalysts' studies (with respect to catalytic processes)***

***2.2. Practical accomplishment – in situ cells***

### **2.3. Selected examples for catalysts studies**

Metals and alloys (Fisher-Tropsch,  $^{57}\text{Co}$  emission HDS, several Pt-Sn, Au-Sn, Rh-Sn)

$^{197}\text{Au}$  Mössbauer spectroscopy

xides (spinel, zeolites, mesoporous catalysts, MOF-s)

\_\_\_\_\_ (Prussian blue, single atom catalysts)

### **3. Summary**

(Károly Lázár)