

## 大连化物所因公出访事后公示表

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| 出访人团组成员基本信息:  |                |            |
| 姓名  | 部门             | 职务         |
| <b>Andreas Goldbach</b>   | <b>DNL19T3</b> | <b>研究员</b> |
| 实际执行情况:<br><b>2019.7.6-7 大连-北京-杜塞尔多夫-埃因霍温</b><br><b>2019.7.8-11 参加第十四届国际膜催化会议</b><br><b>2019.7.12 回老家探亲</b><br><b>2019.7.13-14 法兰克福-北京-大连</b>   |                |            |
| 经费开支情况:<br>本次出访共计产生费用 <b>23075.58元</b> ,<br>其中, 机票费用 <b>10360元</b> , 境外费用 <b>12535.58元</b> , 7月6日国内段补助 <b>180元</b> 。  |                |            |
| 出访总结:<br><br>This is the preeminent conference series in membrane reactor research with focus on inorganic membranes. The 14 <sup>th</sup> conference was attended by ca. 150 academic and industrial researchers from around 20 countries. About 70 lectures and 30 posters were presented including plenary lectures by T. Tsuru (Hiroshima, Japan) on silicon-based inorganic membrane reactors, J.M. Serra, (Valencia, Spain) on high-temperature mixed ion-electron conduction membrane reactor applications, M. Wessling (Aachen, Germany) on reactor design for electrochemical membrane processes, and R. Dittmeyer (Karlsruhe, Germany) on microreactor membrane processes.<br><br>I presented a keynote lecture which was entitled Ethanol steam reforming in palladium membrane reactors: Impact of external mass transport and membrane permeance. Palladium and metal membrane reactor studies remained a focal point of this conference series with approximately 20 lectures and 10 posters presented. Most of these presentations targeted hydrogen production via reforming of fossil or renewable energy carriers, the water-gas shift reaction and ammonia decomposition. The increased interest in the latter reaction is a new development owed to ammonia being recognized as a promising chemical hydrogen storage material for fuel cells in the automotive sector.<br><br>A special lecture session featured reports from seven EU Horizon 2020 research projects involving membrane reactor technologies (BIONICO, Hygrid, HyMethShip, MEMBER, PROMECA, MENERE, ROMEO) and an overview of the upcoming European Horizon research program presented by C. Marzano from the European Commission. Other major topics of the conference were the application of membranes in bioreactors and photocatalytic reactors.<br><br>During the conference I reestablished contacts with colleagues from Italy (A. Caravella, G. Barbieri), South Korea (S. K. Ryi) and Germany (R. Dittmeyer) discussing possibilities for future collaboration in the field of catalytic membrane reactors. The 15 <sup>th</sup> conference will be hosted in Japan in 2021 organized by T. Tsuru, S. Uemiyama and T. Sato. |                |            |