

演題：**Beyond Adsorption and Because of Adsorption:  
Exploring the silent aspect of carbon porosity**

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日時：2022年10月6日（木）16:00~17:30

場所：材料化学系棟 中会議室(MC102)



要旨：

In this talk we would like to provide an insight into our perspectives on the new applications of nanoporous carbons that were inspired by the graphene features and its presence in these carbonaceous materials. A significant advancement to the “new” science of the “old” nanoporous carbons is in their new application such as gas sensing and ORR and CO<sub>2</sub>RR catalysis. In these applications both surface chemistry and porosity are crucial factors determining the specific performance. The mechanism of specific processes based on an involvement of porosity will be proposed.

Our inspiration by the science of graphene combined with the comprehensive knowledge of activated carbons surface chemistry, texture, morphology and adsorptive/reactive adsorptive properties directed us to look at carbons from another perspective; from the perspective of nanotechnology. The results obtained by us and briefly addressed here are new and many questions have arisen, and are left unanswered, and many approaches need improvements. One has to take into consideration that explaining the complex phenomena in nanoporous carbons is not easy owing to the combination of the porosity and surface chemistry effects. Practically either one cannot exist without another and they add up to that specific and unique synergy provided only by these materials. One thing is certainly true: “adventurous” graphene features can be found in nanoporous carbons and they deserve to be explored and used to their full extent.

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