



TACO Newsletter

02/2022



Content

1. Personnel Developments	3
2. Upcoming Events.....	4
3. TACO Papers	5
4. New Projects and Grants.....	6
5. Awards and Achievements.....	7
6. Miscellaneous.....	8

Reporting period: August – September 2022

1. Personnel Developments



[Yvan J. O. Asencios](#) is visiting professor in subproject P08 of Günther Rupprechter, Institute of Materials Chemistry, TU Wien.

Other than that, we are still the same fantastic team as two months ago!

Are there personnel developments in your TACO subproject? Tell the science manager [Stefan Uttenthaler](#) about it!

2. Upcoming Events



The schedule for the **TACO colloquia** in the fall of 2022 is already established. Before the next Newsletter issue, we will have the following four colloquia talks:

Date	Speaker	Title (Topic)
Oct. 17	Patrick Rinke	<i>Active Materials Exploration and Characterization with Bayesian Optimization</i>
Nov. 7	Ferdi Schüth	<i>Mechanochemical and Mechanocatalytic Reactions in Ball Mills – from Voodoo to Science</i>
Nov. 14	Marialore Sulpizi	(Solid/Liquid Interfaces: Simulations of Structure, Reactivity, Spectroscopy)
Nov. 28	Nuria Lopez	<i>Dynamic Metal Charge States in Single Atom Catalysis</i>

Individual invitations for the talks will follow.

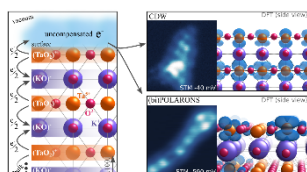


12. – 15. Feb. 2023: The second TACO PhD Retreat will take place again in the JUFA Schladming, with lots of talks by Ph.D. students and outdoor discussions! Our young faculty members Jesús Carrete, Jiří Pavelec, and Moritz Eder will take care of the scientific program.

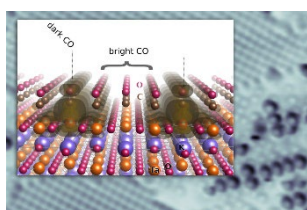
3. TACO Papers



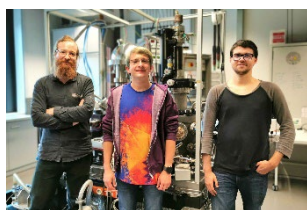
TACO scientists published two papers about the polar KTaO_3 (aka TaKO_3) surface in the summer:



The first one, published by Michele Reticcioli et al. in [Nature Communications](#), reveals rich electronic physics on the surface of KTaO_3 . Michele talks about it in a [video interview](#) on our YouTube channel.



The second paper investigates the surface chemistry of KTaO_3 . Zhichang Wang et al. report two “species” of CO binding to that surface. They published their article in [Science Advances](#).



Together with researchers from FHI Berlin, scientists of the group of Günther Rupprechter (PI of P08) succeeded in monitoring a catalytic reaction with three different microscopies under exactly the same conditions in real-time. This way, information is obtained that none of the methods alone could reveal. The newly developed methodology will also be vital for investigating oxide surfaces within TACO. Their findings were published in [ACS Catalysis](#), and there is a [TU Wien News Item](#).

Your TACO-related article was published recently? Inform the science manager [Stefan Uttenthaler](#) about it!

4. New Projects and Grants



The full proposal “Materials for Energy Conversion and Storage (MECS)” for a Clusters of Excellence, in which several TACO scientists are involved, is in its final preparation phase before submission on October 17. The Austrian Science Fund FWF will communicate the decision in March 2023.

5. Awards and Achievements



Several TACO scientists took leading roles in the DPG meeting in Regensburg in September. Read more about their achievements in organizing symposia and focus sessions or giving plenary talks [on our website](#).



Lena Puntscher, Ph.D. student of P04 PI Gareth Parkinson, won best student contribution at the IVC meeting in Sapporo. She presented her work about the stabilization of platinum-group metal adatoms on the α -Fe₂O₃ surface with and without water. Congratulations!

6. Miscellaneous



From September 14-16, we met for an intense and fruitful TACO Retreat in Steinschaler Dörfel in Frankenfels, Lower Austria. We enjoyed six invited keynote talks, presentations about progress in all scientific TACO subprojects, and many posters. Thank you all for being there and contributing to its success! Some photos are collected on the [TU Owncloud](#), and we will also put a selection on our website.



The most recent [video](#) on the TACO YouTube channel is the interview with Michele Reticoli about his first-author Nature Communications paper about “Competing electronic states emerging on polar surfaces”. Check it out!