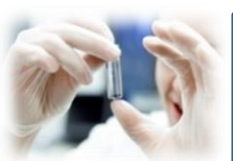


ELCoREL NEWS

No. 9
2021

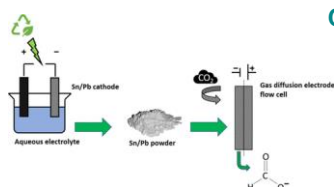
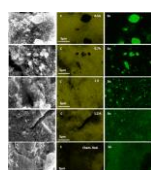
ELECTROCHEMICAL CONVERSION OF RENEWABLE ELECTRICITY INTO FUELS AND CHEMICALS

A Marie Skłodowska Curie Innovative Training Network (ITN) - **ELCoREL** – is supported by the European Commission to train the new generation of experts capable to develop and implement novel technologies capable of storage of renewable electricity into fuels and chemicals.



ELCoREL aims at both scientific and technological aspects of the storage of renewable electricity in fuels and chemicals. To meet this goal the ELCoREL consortium relies on work of 14 Early Stage Researchers (ESR) who carry out research aiming at development of systematic knowledge supporting development of novel tailored catalysts meeting specific activity and selectivity targets for oxygen evolution and CO₂ reduction. The involvement of two industrial partners ensures rapid application of the fundamental science in electrochemical technology.

Publications by our ESR fellows within the ITN



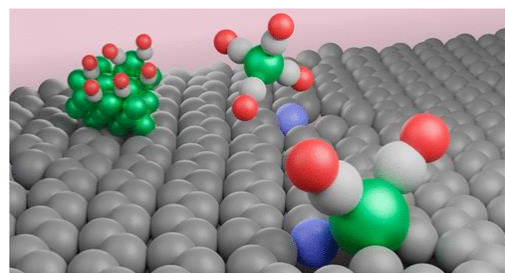
Cathodic Disintegration as an Easily Scalable Method for the Production of Sn- and Pb-Based Catalysts for CO

Davide Pavesi, Rim C. J. van de Poll, Julia L. Krasovic, Marta Figueiredo, Gert-Jan M. Gruter, Marc T. M. Koper, Klaas Jan P. Schouten
ACS Sustainable Chemistry & Engineering 2020, 8, 41, 15603–15610
<https://pubs.acs.org/doi/10.1021/acssuschemeng.0c04875>

High Performance Hydrogen Evolution Reaction Catalyst Based on Single-Walled Carbon Nanotubes Decorated by RuO

Fedor S. Fedorov, Daniel Settipani, Marthe Emelie Melandsø Buan, Jani Sainio, Farhan S. M. Ali, Daniil Ilatovskii, Tanja Kallio, Albert G. Nasibulin
ChemElectroChem 2020, 7, 2651 – 2659

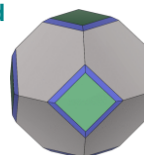
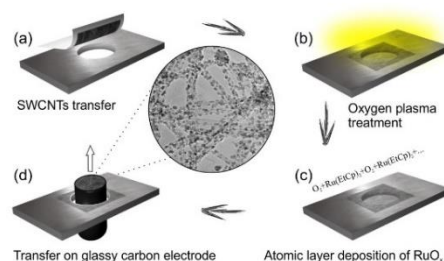
<https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/celec.202000528>



Stability and Redispersion of Ni Nanoparticles Supported on N-Doped Carbons for the CO

Paulina Prslja, Núria López
ACS Catalysis 2021, 11, 1, 88–94

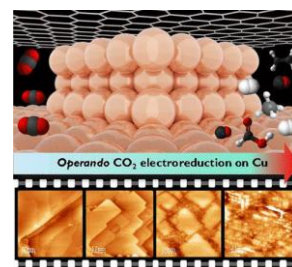
<https://pubs.acs.org/doi/10.1021/acscatal.0c01909>



Stability Emergence of Potential-Controlled Cu-Nanocuboids and GrapheneCovered Cu-Nanocuboids under Operando CO₂ Electroreduction

Thanh Hai Phan, Karla Banjac, Fernando P. Cometto, Federico Dattila, Rodrigo García-Muelas, Stefan J. Raaijman, Chunmiao Ye, Marc T. M. Koper, Núria López, and Magalí Lingenfelder
Nano Letters 2021 21 (5), 2059-2065

<https://pubs.acs.org/doi/10.1021/acs.nanolett.0c04703>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 722614.

Md Noor Hossain



Hello, My Name is Md Noor Hossain. I born and grown up in Noakhali district of Bangladesh. Currently, I am working as a Doctoral Candidate in the Research Group of Electrochemical Energy Conversion and Storage in the Department of Chemistry and Materials Science, Aalto University, Finland.

Would you like to tell something about studies and your Master thesis? I studied Bachelor of Science in Chemistry at the department of Chemistry in the Faculty of Science in the University of Chittagong, Bangladesh. I studied Master of Science in Chemistry in the Faculty of Chemistry in Ruhr-University of Bochum, Germany. In my Master thesis, I focused on the impedance mapping during the oxygen and hydrogen bubble formation on Pt sponge microelectrodes in different electrolyte media.

What are you "doing" (scientific work) at the moment? Currently, I am investigating electrochemical conversion of CO₂ gas in an industrially relevant flow cell system utilizing gas diffusion electrode as a working electrode!

How do you like the workshops and meetings organized within the Elcorel project? It was great opportunities for me to learn a lot of useful things, strengthening internal and external network, eating delicious dishes and getting introduced with different cities and cultures!

What is your current location and how is life in the foreign country far from home and family? I am living in Espoo, Finland. It is a very nice and lovely city closely connected with Finnish capital Helsinki. Travelling is difficult in this Pandemic time. Missing my family members, relatives, and friends very much!

What are your hobbies and interests? I like taking care of plants, reading books specially biography and science fictions.

What is your favorite color? Navy blue!

What is your favorite meal? Kacchi Biryani-A Bangladeshi food made by row marinated meat layered with row rice before being cooked!

What is your favorite drink? Espresso-stimulate me!

What is your favorite music? I like to listen Lalon geeti, Nazrul music and Islamic music also!

What is your favorite place / city / destination / country? Cox's Bazar, where world longest natural sea beach is located! I travelled many times but still I am thirsty for travelling there!

Anything else you would like to tell us? I would like to thank ELCOREL-ITN, Marie Skłodowska-Curie Actions and finally European Union for such great fellowship.

Thank you and good luck! KS



1st 5 NEW PhDs at ELCOREL!



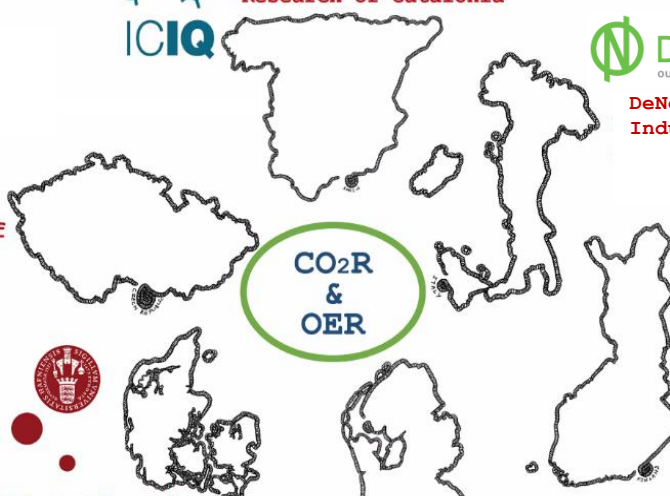
We are really proud to announce that we have already 5 new doctors within our ELCOREL ITN.

Our friends - colleagues - ESR fellows have successfully defended their PhD doctoral theses. Congratulations to Rebecca Katharina Pittkowski, Spyridon Divanis, Tugce Kutlusoy, Fedderico Dattila and Paulina Pršlja!



Rebecca Katharina Pittkowski, Spyridon Divanis, Tugce Kutlusoy, Fedderico Dattila and Paulina Pršlja





THEORY



FUNDAMENTALS



APPLICATION



University of Copenhagen



Avantium S.A.



Universiteit Leiden
The Netherlands

Leiden University

This is the last Newsletter we publish during the Elcorel project. The Elcorel project finishes its main stage after four exciting years on April 30th 2021. It was a pleasure and privilege to interact with you through our papers, the conference we have organized and through our social media channels. Elcorel has changed the lives of all of us - the more since we all were forced to improvise to carry out our mission at the time of Covid-19 pandemic. Yet the project most affected our ESR Fellows for who went through their formative years during Elcorel. Their personal messages at the end of the project can be found at our Facebook wall.

Although the Elcorel ends our activity in the electrochemical renewable energy storage will certainly continue. We also hope that you remain interested in this challenging topic. We look, therefore, forward to our future interactions - hopefully in person - at future events and activities dedicated to this subject.

Your Elcorel team

Elcorel Final Meeting was held on-line on Monday 26th April 2021

SUMMARY

Electrochemical Conversion of Renewable Electricity into Fuels and Chemicals

- May 1st 2017 - April 30th 2021
- 14 ESR fellows
- 54 Deliverables
- 7 training events / workshops
- 1 international conference
160 participants, 23 countries, 3 continents
- 21 publications
- 2 patent application
- 5 PhD doctoral thesis defended so far (7 by end of July)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 722614

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