

# Exceed-Swindon Network LA Science Ties

# WEBINAR

May 21<sup>st</sup>  
2021

10 – 12 AM  
(Brazilian time)

São Carlos, Brazil



## Using Electron as a Clean Reagent for Wastewater Treatment

In the modern world, anthropogenic production of hazardous and polluting substances discarded in water bodies can impact human health and aquatic life. In order to avoid contamination, industrial effluents have to be treated by biological or physicochemical methods before being discarded. Considering that many organics present in industrial wastewaters are not biodegradable and refractory to conventional treatments, more efficient methods must be employed.

In this webinar, we will present the fundamentals of using electron as a clean reagent and its application for wastewater treatment. The field of Environmental Electrochemistry will be explored for decontamination of wastewaters containing heavy metals and organic pollutants. It will be shown that electricity can be successfully used to effectively destroy organic pollutants and recover metal ions, cleaning the water in an efficient and feasible economic way. The treated water can also be applied for reuse.

This webinar is being held as part of the international exceed-Swindon network project funded by the DAAD and the German Federal Ministry for Economic Cooperation and Development.

### 10:00 – Welcome

Prof. Andreas Haarstrick  
Technical University of Braunschweig  
Exceed-Swindon Network

### 10:15 – Underlying the background on Electrochemical treatments

Prof. Luís A. M. Ruotolo  
Federal University of São Carlos

### 10:35 – Treatment of industrial effluents containing heavy metals: water reuse and metal recovery

Prof. Luís A. M. Ruotolo  
Federal University of São Carlos

### 11:00 – Electrochemical incineration of organic pollutants

MSc. Kaíque S.G.C. Oliveria  
Federal University of São Carlos

### 11:30 – 12:00 – Debate

MSc. Patricia T. Juchen  
Federal University of São Carlos



# Using Electron as a Clean Reagent for Wastewater Treatment

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## Panelists



### Prof. Luís A. M. Ruotolo

Dr. Ruotolo is an Associate Professor at the Department of Chemical Engineering at UFSCar, where he coordinates the Laboratory for Environmental Technologies ([www.latea.deq.ufscar.br](http://www.latea.deq.ufscar.br)). He got his Bachelor's and Ph.D. degrees in Chemical Engineering, with a post-doc in Electrochemistry at UFSCar and Water Chemistry at the University of Wisconsin-Madison. His research interests include the treatment of industrial effluents using adsorption and electrochemical technologies for the abatement of heavy metal and organic pollutants aiming to metal recovery and provide reuse water. Electrochemical approaches have also been investigated for water desalination. His complete CV can be assessed in <https://orcid.org/0000-0003-2517-0017>.



### MSc. Kaíque S. G. C. Oliveira

Kaíque got his Bachelor's and Master's degree in Chemical Engineering and has experience in the development of electrochemical processes for the treatment of industrial effluents containing organic pollutants. During his Ph.D. at UFSCar, Kaíque is studying new materials for brackish water desalination using electrochemical technologies. His research interests include electrochemical processes for organic pollution abatement and water desalination. His complete CV can be assessed in <https://orcid.org/0000-0002-0372-0017>.

## Moderator



### MSc. Patricia T. Juchen

Patricia has Bachelor's and Master's degree in Chemical Engineering and has been working on electrochemical desalination of brackish water during her Ph.D. at UFSCar. She studied for one year at the University of California in Davis and has experience in adsorption processes. Her research interests include wastewater treatment by adsorption and desalination using electrochemical methods. Her complete CV can be assessed in <https://orcid.org/0000-0001-5994-1372>.

## Registration

Link: <https://forms.gle/st4TP4ugkEFDA2VN9>

