




Name	Stefania Specchia	PHOTO 
Affiliation	Politecnico di Torino, Italy	
Invited Keynote Lecture		
Presentation Title	The use of waste biomass in the synthesis of platinum-free sustainable electrocatalysts	
Abstract (150 words)	<p>Fuel cells are clean and efficient energy devices. The most widely used electrocatalysts for the cathodic oxygen reduction reaction (ORR) in polymer electrolyte fuel cells (PEFC) make use of platinum to favor this sluggish reaction. In the last decades the use of transition metals on N-doped carbon have been proposed as alternative electrocatalysts. More specifically, the study of N-doped porous carbon materials derived from biomass has become a “hot-topic” because of their low cost, non-toxicity and renewability. Fe-N-C electrocatalysts displaying a promising performance as ORR electrocatalysts have been synthesized from a variety of biomass to valorize organic waste into valuable resources in the view of circular economy.</p> <p>Purpose of this talk is to illustrate the most recent efforts to engineering Fe-N-C electrocatalysts for ORR from transition metals on N-doped carbon derived from waste biomass. The main characteristics, pros & cons and future outlines will be discussed in detail.</p>	
Biographical Sketch (150 words)	<p>Prof. Stefania Specchia is Full Professor of Chemical Plant Design at the Politecnico di Torino since 2019, and external Adjunct Researcher of CNR-ITAE since 2014, with experience in research and students’ supervision on sustainable chemical engineering, hydrogen production via fuel processing, electrocatalysts for low-temperature fuel cells (Gre.En² Group). She has been responsible scientifically for several projects including EU, international and national projects, and industry-funded contracts. She is in the scientific board of the POLITO Japan Hub. Her research works include 144 peer-reviewed publications on international journals, 8 book chapters, and 1 international patents. The results have been presented at various conferences, several invited and keynote lectures. According to the Scopus database, Prof. Specchia has received more than 5,400 citations with an h-index of 46. Since October 2020, she is Editor of Chemical Engineering Journal, section Chemical Reaction Engineering (Elsevier).</p>	