Short conference report of my impression from the ECS conference and recommendations for future candidates

I am Karam Yassin, a Ph.D. student under the joint supervision of Prof. Dario Dekel and Prof. Simon Brandon. First and foremost, I'd like to express my gratitude to the Israeli Smart Transportation Research Center (ISTRC) for generously funding my attendance at the electrochemical society (ECS) conference, which was held on October 2022 in Atlanta, GA, USA. The 242nd ECS Meeting brings together the most active professional and student researchers from academia, government, and industry to engage, discuss, and innovate in the fields of electrochemistry and related sciences.

The ECS conference is one of the largest conferences in our fields, with hundreds of lectures in the areas of electrochemistry and solid-state science and technology, and allied subjects. One of my first suggestions is to prepare a list of relevant lectures for you. Furthermore, I strongly suggest that you ask other attendees what they thought of the most recent speaker or that you ask questions during panel sessions. This could be very important for future career and collaboration opportunities. Another important aspect, which may appear archaic, is to bring business cards with you. Unless everyone has an app that allows you to bump phones and share numbers, it is still the best way to gather contact information from researchers and scientists. I received a lot of cards, but I didn't have my own. I strongly advise bringing business cards to large conferences such as the ECS meetings.

At this conference, I gave an oral presentation on my most recent research, "**Which Properties Should Anion-Exchange Membranes Have to Achieve a Longer Fuel Cell Lifetime?**". Anion-exchange membrane fuel cell (AEMFC) is a blooming topic of research, with a very rapid increase in attention and interest. The anion exchange membrane is a core component in AEMFCs, essential for conducting hydroxide ions and, more importantly, controlling water transport between the fuel cell electrodes. In my work, I applied computational methodology to explore the effects of various membrane properties on AEMFC performance and its stability. My results highlighted important

membrane parameters aimed at improving membrane designs in order to enhance the performance stability of AEMFCs. More importantly, I showed an analytical correlation for estimating the AEMFC lifetime as a function of membrane properties. Because my work is based on computational and numerical modeling, I had an excellent opportunity to discuss my findings with expert experimentalists in the field of fuel cells in a friendly environment and made valuable networking contacts. Attending this conference was one of the most beneficial things I did during my Ph.D. studies.

In summary, The ECS conference allowed me to meet international experts from around the world and discuss the recent developments in our field. In addition, the ECS Meeting contained extended presentations that provided the first look into the current research in our field. More importantly, this conference offered me numerous and varied networking possibilities that helped me expand, cultivate and get the most out of my personal ECS network.

It is my pleasure and immense satisfaction to express my heartfelt gratitude to the ISTRC for awarding me this grant.

Sincerely,

Karam Yassin and Prof. Dario R. Dekel