

## AKCSE E-Newsletter

[ ISSUE 18 ] December 15, 2023



캐나다한인과학기술자협회

The Association of Korean-Canadian Scientists and Engineers

## President's Message

안녕하세요? 2023년 1월 1일 협회 회장으로 업무를 시작한 게 엊그제 같은데, 벌써 12월이 되었습니다. 다들 올해 한해동안 계획하신 많은 일들 잘 이루셨는지요? 지난 1년 동안 협회에도 많은 사업들이 있었는데 협회 회원님들, 부회장님들, 이사님들과 협회 직원님들의 노고로 다 잘 마무리되고 있는 것 같습니다. 다가오는 새해에도 캐나다한인과학기술자 협회가 더욱 성장하고 발전하도록 많은 도움과 조언 부탁드립니다. 저는 지난 11월 중순 한국 출장을 가서 올해 CKC에 참석한 기관 중 14곳을 방문하였고, 내년에도 지속적으로 성원해주시고 CKC에 참석하셔서 양국의 과학기술 교류와 협력이 지속되게 힘써 주시기를 부탁드립니다. 또한 올해는 한국과 캐나다 수교 60주년으로 많은 행사들이 캐나다 전역에서 개최되었습니다. 저는 지난 12월 2일 토론토에서 개최된 한국-캐나다 수교 60주년 포럼에 참석하여 “캐나다 내 한인과학기술인들의 성장과 사회 기여”라는 제목으로 발표를 하면서 저희 협회의 역사와 현재 활동을 돌아보았습니다. 발표를 준비하면서 놀랐던 것은 저희 협회가 처음 설립되고 활동을 시작했을 때 추구했던 협회의 역할과 사회적 기여가 37년이 지난 지금까지도 여전히 잘 이어져 오고 있다는 것이었습니다. 협회가 처음부터 천명했던 4가지 미션 (1. 한국-캐나다 양국간 과학기술 교류 및 협력 증진, 2. 캐나다 한인과학기술자간의 교류 및 정보교환, 3. 한인 차세대 지원을 통한 미래 과학기술자 육성, 4. 캐나다 사회와 한인 지역 사회에 기여)을 지금까지 잘 수행하고 있다는 것을 재확인하였습니다. 내년에도 저희 협회가 초창기부터 추구해왔던 역할을 잘 감당할 수 있길 바라고 이를 위해 회원 여러분들의 적극적인 참여와 활동 부탁드립니다. 행복한 성탄절과 연말연시 보내시고, 새해 복 많이 받으세요!



한국전기연구원 방문 및 면담

## Job Posting

## National Research Council of Canada (NRC) – Research Officer, Sustainable Aviation Propulsion

<https://recruitment-recrutement.nrc-cnrc.gc.ca/job-invite/20704/>

We are looking for a Research Officer to join the Gas Turbine Laboratory within the Aerospace Research Centre (ARC). The ARC is expanding its research and development capabilities in the field of sustainable aviation, including hybrid electric propulsion systems and electric propulsion for aerospace applications. The Research Officer's activities include the development and delivery of research and development, technical service projects, project management, and external collaboration/relationship building. This is an excellent opportunity for the right candidate interested in working within a fast-growing research & business environment at Canada's leading research and technology organization.

## 2023 AKCSE Awards

지난 한 해, AKCSE 회원들의 끊임없는 노력과 열정으로 많은 기술적 성취와 업적이 이루어졌습니다. 그동안의 훌륭한 활동과 기여에 대한 인정을 표하며, 2023 AKCSE Awards의 수상자들을 소개합니다. AKCSE, 한국과학기술단체총연합회, 그리고 과학기술정보통신부 주관으로 시상식은 지난 CKC 2023에서 진행되었습니다.



Commendation from the Minister of  
Science and ICT (MSIT), Korea

**Gap Soo Chang 장갑수**

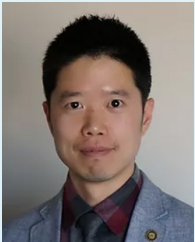
Professor  
University of Saskatchewan



KOFST Scientist and Engineer of the Year  
Award

**Choloong Hahn 한철웅**

Senior Engineer  
Huawei Canadian Research Institute



KOFST Scientist and Engineer of the Year  
Award

**Chun Il Kim 김천일**

Associate Professor  
University of Alberta



2023 AKCSE Best Service Award

**Simon Park 박상범**

Professor  
University of Calgary



KOFST Scientist and Engineer of the Year  
Award

**Sangsig Yun 윤상식**

National Research Council



2023 AKCSE Early Achievement Award

**Eunsik Kim 김은식**

Assistant Professor  
University of Windsor



KOFST Scientist and Engineer of the Year  
Award  
KIAT K-TAG Award

**Jihyun Lee 이지현**

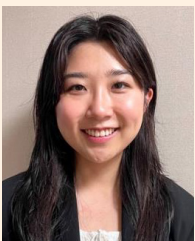
Assistant Professor  
University of Calgary



2023 AKCSE Early Achievement Award

**Kangsoo Kim 김강수**

Assistant Professor  
University of Calgary



2023 AKCSE Best Young Professional  
Member Award

**Nia Kang 강승혜**

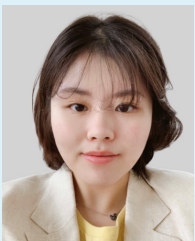
McGill University



AKCSE WiSE Award

**Sunmee Kim 김선미**

Assistant Professor  
University of Manitoba



2023 AKCSE Best Student Member Award

**Jungha Jane Lee 이정하**

University of Alberta



AKCSE Best CKC Volunteer Award

**Sungwhan Yeo 여승환**

Ericsson Canada

**Bu Min Seo 서부민**

Barrette Structural



## 2023 AKCSE Awards (Continued)



2023 AKCSE Best Chapter Award

**Central Alberta Chapter**  
 지부장: 김미영 (~2023. 4.)  
 박병열 (2023. 5~)



AKCSE Canada-Korea  
 Collaboration Award  
 (한국-캐나다 협력상)

한국기계연구원 KIMM

## AKCSE Seminar Series

지난 한해 동안 정기적으로 진행해 온 AKCSE 세미나가 10월과 11월에도 온라인 상에서 성공적으로 열렸습니다. University of Manitoba에 김선미 교수님과 Toronto Metropolitan 대학교 이충혁 교수님께서 발표해 주셨습니다. 내년에도 지속적인 관심과 참여 부탁드립니다!

### Enhancing Research in Substantive Fields Through the Careful and Proper Use of Methods: A Quantitative Psychologist View



Sunmee Kim, Ph.D., Assistant Professor  
 Department of Psychology | University of Manitoba  
 E-mail: sunmee.kim@umanitoba.ca

**Abstract:** Quantitative psychology is a specialized subfield within psychology that balances the intricacies of “methods” (i.e., tools and techniques—the “what”) with the rationale of “methodology” (i.e., the reasoned argument regarding the use of a method—the “why” and “how”). My ongoing research and collaborative efforts aim to ensure not only statistical soundness but also a meaningful connection with pertinent real-world research questions. This presentation will illustrate this perspective through two research collaboration cases. Specifically, it will demonstrate how careful application of quantitative

methods (1) uncovered inherent limitations in conventional analytical approaches in retina research and (2) revealed significant, enduring intervention effects in reducing racial bias-effects that were not initially apparent in the original open-science study focused on various social cognitive training interventions.

### Hydrogen and Fuel Cell Technologies – From Materials and Interfaces to Device Studies



ChungHyuk Lee, Ph.D., Assistant Professor  
 Department of Chemical Engineering | Toronto Metropolitan University  
 E-mail: chunghyuk.lee@torontomu.ca

**Abstract:** Curtailing anthropogenic CO<sub>2</sub> gas emission is a crucial first step to mitigate a catastrophic climate disaster. Transportation is projected to remain as the main source of CO<sub>2</sub> emission until 2050, contributing to about ~27% of the total carbon emissions from the energy sector. A promising alternative to the current internal combustion engines in automotive applications is the hydrogen fuel cell, which can produce on-demand electricity with zero carbon emissions. They are particularly advantageous for heavy-duty vehicle applications owing to their high intrinsic power density and short refueling time.

When fuel cells are coupled with water electrolyzers powered by renewable energy sources (i.e., green hydrogen), a complete decarbonization of the transportation sector can be realized. A water electrolyzer is an electrochemical energy conversion device that generates H<sub>2</sub> from electrical energy and liquid water. With renewable energy, it produces high purity H<sub>2</sub> (99.999%) at a compressed state in absence of carbon emissions. Despite the promise of hydrogen fuel cells and water electrolyzers, several bottlenecks hinder their wider adoption, including insufficient performance and durability, and high balance-of-plant cost. Here, I present the research efforts at TMU to directly address these challenges, using experimental diagnostics, design and fabrication of multifunctional materials, and assessment of device performance and durability.

## YGP CORNER: Farewell to 2023 and more

Building upon the momentum generated by CKC 2023, YGPN invited our dedicated attendees and volunteers to a virtual gathering aimed at reflecting the success of CKC and fostering reconnection. On September 8th, an assembly of attendees, organizers, and volunteers came together on the Zoom platform for the YGP Post-CKC Gathering. This event provided YGP attendees with an excellent opportunity to unite, exchange valuable feedback regarding this year's CKC, and engage in meaningful discussions and enjoyable games. These shared experiences would pave the way for planning an even more enriching YGP program in the upcoming CKC in Banff.



Nia Kang  
2022–2023  
YGPN President

### YGPN President's Message

Hello AKCSE community!

As I wrap up my two-year term as the President of the Young Generation and Professionals National (YGPN) group of AKCSE, I wanted to share how incredibly proud I am of how far the YGPN community has come since its conception in 2020. These last two years have been one of the most challenging, yet rewarding, projects I have undertaken. I am pleased to share that throughout my term, we have been able to introduce a brand new YGP CKC program, reengage YG and YP chapter connections, launch a nationwide mentorship program, and develop a website to serve as a hub for all YGP-related information, activities, and resources (website coming early 2024). In the second half of my term, we geared our efforts towards fostering and empowering future leaders within the YGP community and

identifying ways in which leadership transitions can be both progressive and sustainable. I cannot thank my team, who have stuck with me through the highs and lows, enough for these accomplishments. We came together no fewer than twice a month every month to plan and execute our goals and we have made quite the progress – both in our individual capacity as leaders and in our function as a team. So, congratulations, team! I would also like to extend my gratitude the executive team in the AKCSE Headquarters, especially Dr. Seonghwan Kim (2023–2024 AKCSE President), Dr. Il Yong Kim (2021–2022 AKCSE President), and Dr. Regina Lee (2021–2024 VP Next Generation) for enabling us to expand our horizons. Moving forward, I am grateful and proud to be able to hand off my role to the exceptionally talented and dedicated Johnny Lee, Mina Lee, and their team. I hope you all share my excitement in welcoming the new YGPN leadership. Thank you for your support and see you around!



MinYoung Yoo  
2022–2023  
YGPN Vice President

### YGPN Vice President's Message

Dear AKCSE Members,

Concluding my term as YGP National Vice President brings immense pleasure as I reflect on our collective progress and achievements. My focus centred on fostering robust connections within our region, bridging the gap between school and local chapters. Through collaborative efforts, we successfully established channels for improved coordination and support among our chapters. This initiative aimed at creating a more cohesive network, offering members increased opportunities for collaboration and personal/professional growth. We dedicated ourselves to promoting relationships across regional chapters, recognizing the importance of a unified and interconnected AKCSE network. By fostering such network, we aimed to create a more caring and supportive community for Korean-Canadian students and young

professionals in STEM fields. It is my pleasure to see leaders of different-sized chapters sharing useful advice with each other and actively engaging in online/offline communications to develop their own identities across Canada. Hosting two successful CKC conferences has formed a collaborative platform for our members and professionals from diverse fields. I am grateful for all YGP attendees to get to know each other more throughout the conferences with local organizers and volunteers, who have always been taking a significant part at CKCs. I am grateful for all YGP attendees to get to know each other more throughout the conferences with local organizers and volunteers, who have always been taking a significant part at CKCs. Serving in this role has been a great learning opportunity, offering substantial personal and professional growth. While I'll miss our shared experiences, I'm confident the AKCSE and YGP communities will thrive under the new leadership. Proud to have served as your YGP National Vice President, I eagerly anticipate witnessing the continued success and growth of AKCSE in the years to come.



 @YGP AKCSE  
 @YGP AKCSE  
 @ygp.akcse  
 @YAKcse  
 YGP AKCSE

### As always... connect with us on social media!

LinkedIn: [www.linkedin.com/in/ygp-akcse](https://www.linkedin.com/in/ygp-akcse)

Facebook: <https://www.facebook.com/ygp.akcse>

Instagram: <https://www.instagram.com/ygp.akcse/>

Twitter: <https://twitter.com/YAKcse>

YouTube: <https://www.youtube.com/channel/UC1CcK8hgxyoKWkb3x6ccgHg>

Discord: <https://discord.gg/GPvKU7bA3>

## Calgary Korean Scholarship Foundation



**캘거리한인장학재단**  
**Calgary Korean Scholarship Foundation**

캘거리 한인 장학재단(Calgary Korean Scholarship Foundation)은 캘거리 지역의 한인 학생들을 위해 설립된 비영리 단체로, 학생들의 교육적 성장과 발전을 지원하는 것을 주요 목표로 하고 있습니다. 이 장학재단은 탁월한 학업 성적과 리더십 능력을 갖춘 한인 학생들에게 장학금을 제공함으로써, 그들의 학문적 성취를 격려하고 지원합니다.

장학재단은 학업 성적, 커뮤니티 내 봉사 활동, 재정적 필요성, 예체능 분야에서의 성과 등 다양한 기준을 바탕으로 장학생들을 선정하여 장학금과 버서리를 수여합니다. 이러한 지원은 대학교 및 의/치/법대 수준의 학생들에게 주어지며, 학생들이 경제적 부담 없이 학업에 전념할 수 있도록 돕고 있습니다. 캘거리 한인 장학재단은 지역사회와의 긴밀한 협력을 통해 한인 커뮤니티의 발전에 기여하고 있으며, 학생들의 교육적 성공을 위해 지속적으로 노력하고 있습니다. 매년 장학금 수여식을 개최하여 선발된 학생들의 성취를 축하하고, 그들에게 장학금을 전달합니다.

장학재단의 재정적 지원을 통해 캘거리의 한인 학생들이 캐나다와 한국의 미래를 이끌어 갈 유능한 젊은 인재로 성장하고, 그들의 꿈과 목표를 실현하는 데 기여하는 것을 목표로 하고 있습니다. (<https://www.calgaryksf.org/>)