

Our Flagship Conference and SHE in ECE

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We are excited to share with you that the IEEE Antennas and Propagation Society (AP-S) flagship conference, the 2022 IEEE AP-S International Symposium on Antennas and Propagation and U.S. National Committee–International Union of Radio Science Radio Science Meeting (IEEE AP-S/URSI 2022), which was held in “the Mile High City” of Denver, CO, USA, on 10–15 July 2022, was a great success. Many of the attendees were happy to join the in-person meetings and events. Many could not do so for various reasons and inconveniences caused by the pandemic. Virtual attendance was made possible for all those who could not be there in person.

Dr. Ajay Poddar, chair of the AP-S Chapter Activity Committee (CAC) and vice chair-I of the Committee on Promoting Equality (COPE), invited the Chapter officers and committee members to attend the Joint AP-S Chapter Chairs, AP-S COPE, AP-S Member and Geographic Activities (MGA), and AP-S Special Interest Group on Humanitarian Technology (SIGHT) Luncheon Meeting at IEEE AP-S/URSI 2022 on Thursday, 14 July 2022, 12 p.m.–4 p.m. The meeting was held at the Hyatt Regency, Denver, in the Silver A-B Rooms. The lunch meeting was a very successful event. AP-S COPE Chair Prof. Weng Chew

EDITOR'S NOTE

The Committee on Promoting Equality (COPE) met in person for the first time after its inception, during the IEEE Antennas and Propagation and U.S. National Committee–International Union of Radio Science Radio Science Meeting (IEEE AP-S/URSI 2022), which was held in “the Mile High City” of Denver, CO, USA, on 10–15 July 2022. The activities of COPE were presented during the AdCom meeting and also discussion of COPE activities was held during the Chapter Chair/COPE/SIGHT/MGA joint luncheon meeting at Denver.



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presented the activities carried out under the COPE mission during the Administrative Committee (AdCom) meeting held on 10 July in Denver during the conference as well as during the Joint AP-S Chapter Chairs, AP-S COPE, AP-S MGA, and AP-S SIGHT Luncheon Meeting on 14 July.

Photos of the AdCom meeting and the presentation by Prof. Chew can be seen in Figure 1. It was a good opportunity for our Chapter officers and volunteers to get together after a three-year gap due to the COVID-19 pandemic to share experiences, raise concerns, and make suggestions for long-term engagement and contributions to society.

The presentations by the Chapter officers globally and the AP-S leadership were motivating, and interactions with Chapter officers and volunteers, attending from different parts of the world, made the event a great success. Dr. Poddar conducted several

discussions and brainstorming ideas for future joint events, including ham radio workshops and other activities with the various officers of Young Professionals, SIGHT, IEEE Smart Village (ISV), and Diversity, Equity, and Inclusion, among others. The photos in Figures 2 and 3 show these meetings and discussions for future collaborative efforts. Prof. Durga Misra from the IEEE North Jersey Section has provided the following report of another event held at the New Jersey Institute of Technology (NJIT) on 22 July 2022.

THE IEEE SHE IN ECE EVENT

A REPORT BY PROF. DURGA MISRA

On 22 July 2022, a “One-Day Summer Camp for Female High School Students” was hosted at NJIT, from 8:30 a.m. to 3:30 p.m., to encourage female students to join engineering, especially electrical engineering and computer engineering. The theme was



FIGURE 1. The in-person AdCom meeting on 10 July 2022 in Denver and Prof. Chew presenting on COPE activities during the meeting.

“Soaring High-powered Excellence” (SHE) in IEEE and SHE in Electrical and Computer Engineering (ECE). More than 75 girls, including several minority students, entering grades 9 to 12 at local high schools, attended the event.

The students were welcomed by Prof. Durga Misra, Chapter chair of the Electron Devices Society (EDS)/Circuits and Systems Society (CASS) Chapter of the North Jersey Section. He emphasized the financial sponsorship of the IEEE EDS and CASS.

The morning panel session included a faculty panel, an industry panel, and a student panel in addition to a hands-on activity by the girls (Figure 4). The faculty panelists were Prof. Xuan Liu of the ECE Department, Prof. Ratna Raj of the ECE Department, and Prof. Janice Daniel, Associate Dean for Research at the Newark College of Engineering, and the moderator was Ryoko Mathes. The faculty panel advised the students on career development.



FIGURE 2. From left: Dr. Ajay Poddar, Prof. Yahia Antar, Dr. Cynthia Furse, Dr. Wei Lin, and Prof. Mahrukh Khan.

The industry panelists were Chitra Venkatraman, retired telecommunications engineer from Nokia, IEEE North Jersey Section pre-university chair, and IEEE Women in Engineering (WIE)

cochair; Dr. Reena Dahle, senior radio-frequency scientist of Metamagnetics, IEEE North Jersey Section WIE cochair; and Dr. Anisha Apte, senior design engineer at Synergy Microwave

Corporation, IEEE AP-S AdCom member, and AP-S COPE vice chair-2; and Dr. Charlotte Blair, technical manager, Ansys, IEEE CAC Region 1 coordinator. The panel was moderated by Prof. Ratna Raj.

The panelists described various activities geared toward girl students, including the WIE and TryEngineering

programs, and discussed how female engineers make a highly positive impact in the industrial workspace. Dimana Kornegay of NJIT's admission office guided the senior students in the application process.

The hands-on activity was guided by Dr. Byron Chen, director of labs of the ECE Department. The students were

given Snap Circuits MyHome Plus from Elenco Electronics and a multimeter to set up the activity.

After lunch, the students were divided into four groups for a visit to Makerspace and to view the ECE Department labs and take part in campus tours and an "Ask Anything" session with the student panel, which was managed by Anushreya Ghosh, Jehan Salabi, and Cori Frockowiak. An excellent breakfast and a stupendous lunch were served to the attendees. The entire project was managed by Teri Bass and Ryoko Mathes of the ECE Department of NJIT.

AP-S COPE FUNDING REQUEST DEADLINE: 15 NOVEMBER 2022

AP-S COPE aims to fund projects that provide good use of IEEE expertise exhibiting a strong technological component, with clear engagement with the community, indicating that the proposed solution is both desired and feasible. We look for established relationships, ideally documented, with stakeholders who will be involved in the project and implementation with a clear, detailed, and credible project

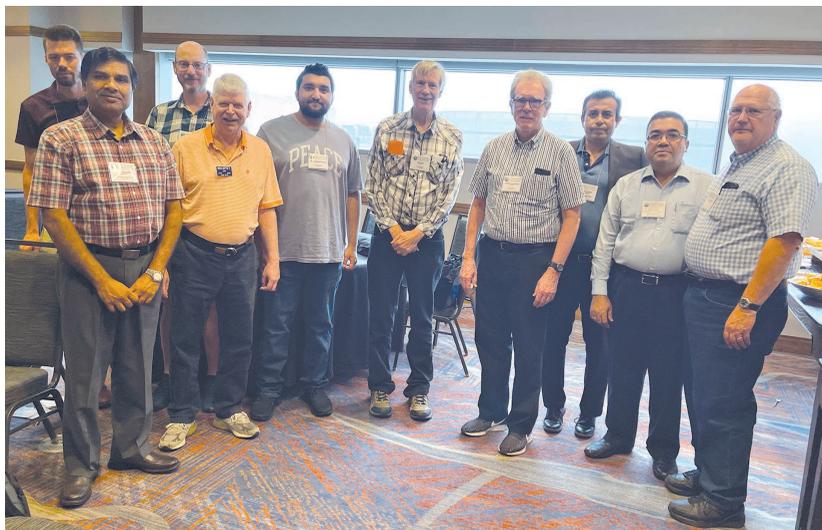
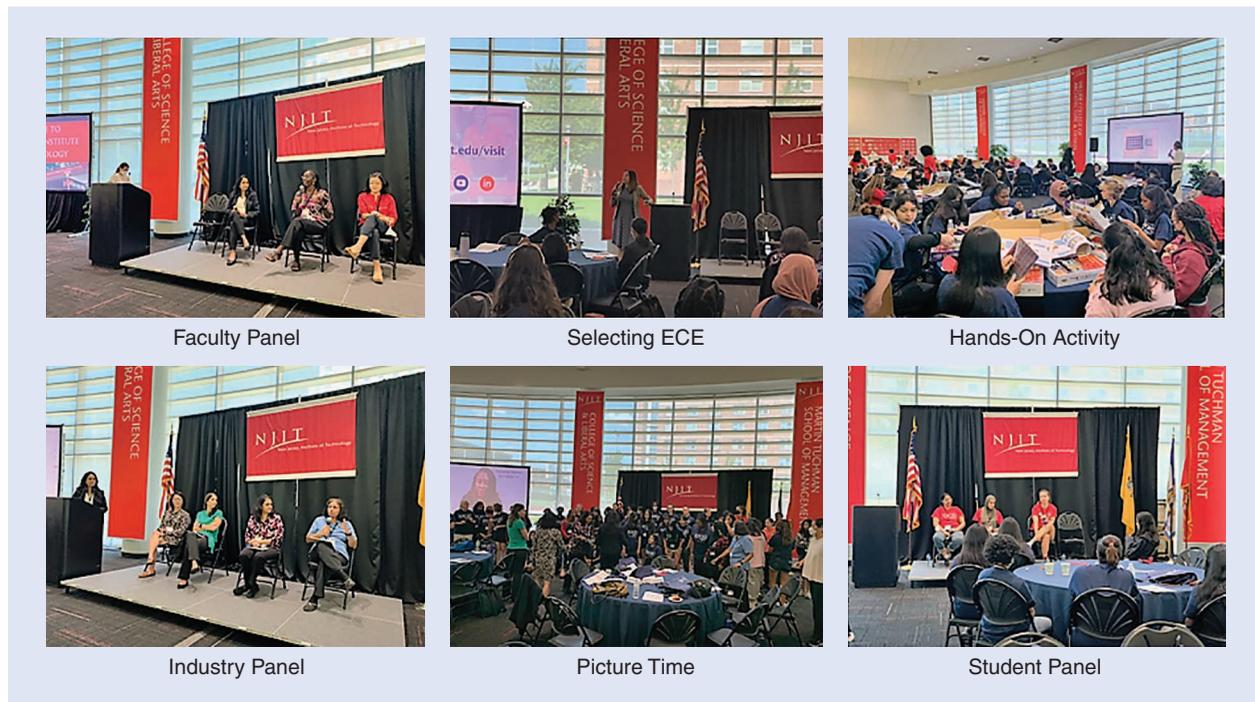


FIGURE 3. Dr. Ajay Poddar (AP-S CAC chair, COPE vice chair), first from left, and Dr. Jawad Siddiqui (AP-S SIGHT chair), third from right, met with ham radio group to discuss possible joint activities with COPE, SIGHT, ISV, and others.



Faculty Panel



Selecting ECE



Hands-On Activity



Industry Panel



Picture Time



Student Panel

FIGURE 4. Panels and activities during the "One-Day Summer Camp for Female High School Students" hosted at the NJIT on 22 July 2022.

assessment matrix, project implementation plan, and budget. The team should demonstrate combined experience to credibly execute the project and identify and address potential risks, and the project should have a real, tangible impact. If a proposal is missing the mark in two or more of these areas, it might not be ready for funding.

AREAS OF FOCUS

AP-S COPE is prioritizing immediate impact on poverty mitigation and inequality reduction through the following project areas:

- upgrading of marginalized populations
- science, technology, engineering, and mathematics education for marginalized populations
- information and communications technology for underserved populations
- sustainable power sources for underserved populations
- water, sanitation, and hygiene for underserved populations.

The panelists described various activities geared toward girl students, including the WIE and TryEngineering programs, and discussed how female engineers make a highly positive impact in the industrial workspace.

Projects must be successfully completed and submitted to the AP-S through final reporting, indicating the status of the project and utilization of funds at the end of each calendar year. Expense vouchers should be submitted as supporting documents for audit. A spreadsheet, “APS COPE Project Budget Template 2021,” should be submitted for budget proposal during application and an expense report on completion of the project. The fund

utilization should be clearly indicated. Each AP-S Chapter/Joint Chapter/Student Branch Chapter may submit multiple proposals. Proposals are subject to review and scrutiny, and the total project funding will not exceed US\$3,000 for any calendar year.

Please use the link to the Google Form to submit your project proposals under the COPE mission. AP-S Chapter officers/members can fill out and submit the IEEE AP-S COPE - Special Project Funding Request Form 2022 using the link: <https://forms.gle/XwDUrDtZSkYojE35A>. If Google Forms is not available in your region, you may use “AP-S Special Project Request Form MS Word: PDF” found on the IEEE AP-S website: [AP-S | IEEE Antennas and Propagation Society | Chapters \(ieeeaps.org\)](https://www.ieee.org/antennas-and-propagation/society/chapters).



HISTORICALLY SPEAKING & WOMEN IN ENGINEERING (continued from page 136)

[32] E. Laverick and A. Rivett-Carnac, “Some measurements and applications of the microwave properties of a magnesium-manganese ferrite in the 8–9 mm waveband,” *Proc. Inst. Electr. Eng. B, Radio Electron. Eng.*, vol. 104, no. 6S, pp. 379–382, 1957, doi: 10.1049/pi-b-1.1957.0068.

[33] E. Laverick, “The calibration of microwave attenuators by an absolute method,” *IRE Trans. Microw. Theory Techn.*, vol. 5, no. 4, pp. 250–254, 1957, doi: 10.1109/TMTT.1957.1125160.

[34] “Elizabeth Killick.” Wikipedia. Accessed: Aug. 20, 2022. [Online]. Available: https://en.wikipedia.org/wiki/Elizabeth_Killick

[35] A. E. Killick and D. E. N. Davies, “Electrically scanned antenna systems: Pt2,” in *Radar Techniques for Detection, Tracking and Navigation*, AGARDDograph, 1966, vol. 100, ch. 22, pp. 417–431.

[36] E.A. Killick, “Scanning and active antennas,” in *Proc. 1st Eur. Microw. Conf.*, London, U.K., Sep. 8–12, 1969, pp. 122–123, doi: 10.1109/EUMA.1969.331975.

[37] J. Croney, E.A. Killick, and D. Foster, “A temperature independent frequency scanning antenna,” in *Proc. 1st Eur. Microw. Conf.*, London U.K., 1969, pp. 152–155, doi: 10.1109/EUMA.1969.331815.

[38] E. Killick. “Terrifying naval engineer who liked a pint and developed radar and torpedoes.” *Sussex Record Society*. Accessed: Apr. 12, 2022. [Online]. Available: https://www.sussexrecordsociety.org/wp-content/uploads/Misc_pdfs/Dr-Elizabeth-Killick.pdf

[39] “Irene C Peden.” Wikipedia. Accessed: Aug. 20, 2022. [Online]. Available: https://en.wikipedia.org/wiki/Irene_C_Peden

[40] K. Pope. “Women who shaped history.” *Smithsonian Mag.* Accessed: Mar. 17, 2022. [Online]. Available: <https://www.smithsonianmag.com/science-nature/trailblazing-engineer-irene-peden-broke-antarctic-barriers-women-180972330/>

[41] D. E. Winder, I. C. Peden, and H. M. Swarm, “A 3 Gc/s scale model of a submerged VLF antenna

using lossy ceramic powder,” *IEEE Trans. Antennas Propag.*, vol. 14, no. 4, pp. 507–509, Jul. 1966, doi: 10.1109/TAP.1966.1135713.

[42] I. C. Peden and D. E. Winder, “Dielectric and loss properties of the Antarctic terrain: Their influence on the propagation constants of VLF modes in the earth-ionosphere waveguide,” *IEEE Trans. Antennas Propag.*, vol. 18, no. 6, pp. 840–842, Nov. 1970, doi: 10.1109/TAP.1970.1139784.

[43] I. C. Peden and J. C. Rogers, “An experiment for determining the VLF permittivity of deep Antarctic ice,” *IEEE Trans. Geosci. Electron.*, vol. 9, no. 4, pp. 224–233, Oct. 1971, doi: 10.1109/TGE.1971.271505.

[44] J. B. Schneider and I. C. Peden, “Differential cross section of a dielectric ellipsoid by the T-matrix extended boundary condition method,” *IEEE Trans. Antennas Propag.*, vol. 36, no. 9, pp. 1317–1321, Sep. 1988, doi: 10.1109/8.8611.

[45] I. C. Peden, “New faces of eve: Women in electrical engineering,” *IEEE Spectr.*, vol. 5, no. 4, pp. 81–84, Apr. 1968, doi: 10.1109/MSPEC.1968.5214591.

