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WSU hosts IEEE CASS Info Session

S Mambo, SMIEEE and UB Akuru, Chair: IEEE ZA

The Institute of Electrical and Electronics Engineers (IEEE) Circuits and Systems Society (CASS) info session event held on August 11, 2023, at Zovuyo Hotel, Ndabakazi, Butterworth, Eastern Cape, South Africa. The event, which was at the auspices of IEEE Senior Member, Dr Shadrack Mambo, Senior Lecturer at Walter Sisulu University (WSU) and LOC Chairman of the info session event, aimed to promote professional development among staff and students, enhance collaboration with professional organizations, and explore the potential of CASS in shaping Africa's future.

The event attracted broad participation, with over 200 students attending alongside esteemed faculty members from WSU such as Dr F Gerber (Dean of Faculty of Engineering and Technology, Ibika Campus), Dr V Kumar (HoD, Electrical Engineering Department), Dr M Siswana (Dean of Faculty of Science, Engineering and Technology, East London Campus), Angaxola Matyolo (LOC Secretary), as well as Dr R Mbugua, Z Mkoko and Dr G Mwansa (LOC Member). Notable guests included representative from the South Africa Institute of Electrical Engineers (SAIEE), Bruce Munnings; IEEE Circuits and Systems Society (CASS) facilitator, Allan Koech from Autodesk Kenya; and the past chair of the South African IEEE chapter, Prof David Oyedokun.

Key activities during the event bothered around the role of IEEE in fostering professional development of its members in terms of networking, skills development and exposure to cutting edge research and industry trends. Other key discussions featured talks on the role



IEEE CASS Info Session Event (present in picture): Dean Faculty of Engineering & Technology (BTW Campus), Dr Ferdie Gerber; Dean Faculty of Science Engineering & Technology (BCC Campus), Dr Msimelelo Siswana; HoD Civil Engineering (BTW), Dr Rose Mbugua; HoD Electrical Engineering, Dr Vinod Kumar (BTW) and Dr Phmuzile Malindi (BCC); SAIEE representative Mr Bruce- Munnings; IEEE SA Section Past Chairman, Prof David Oyedokun; IEEE CASS Organising Committee Chairman, Dr Shadrack Mambo; Student representatives, and Faculty Members.

of IEEE CASS in shaping the future of Africa, opportunities and requirements of SAIEE membership, as well as networking session. **(continued on page 3)**

Call for Participation: IEEE Day 2023



TUESDAY OCTOBER 3, 2023

IEEE Day 2023 will take place on Tuesday, October 3, 2023. This is an annual event to celebrate the first time in history when engineers worldwide gathered to share their technical ideas in 1884. Members and OUs are encouraged to celebrate the event by planning technical or social events within their local communities: schools, libraries, companies and online. Activities can be planned with short presentation on IEEE activities and benefits, as well as the significance of IEEE Day, with opportunities for questions and answers.

Remember that all events are eligible for great prizes and there are also special offers such as membership discounts for existing and potential members. In summary, you can celebrate IEEE Day 2023 by promoting it on social and other media and later submit your event report in Vtools, participate in photo and video contests, vote to promote your entry and win great prizes. For more information about this, as well as downloadable toolkits for planning and templates to print to promote the celebrations, please visit: ieeeday.org. If you have further questions, feel free to reach out: udochukwu.akuru@ieee.org.

Chat GPT – AI Vision Continuity

AA Periola, *SMIEEE*, Cape Peninsula University of Technology (e: periolaa@cput.ac.za)

The Chat GPT platform has increased its media profile significantly since launch at the ending of 2022. The platform significantly utilizes advances in machine learning technology for language processing and query response. Currently, Chat GPT is being used by the general public without charges. However, the non-incurring of charges by those seeking to use Chat GPT does not imply that the Chat GPT is being executed without cost.

Open AI, the operator of the Chat GPT platform has noted the risks of the occurrence of a bankruptcy in a post on the Open AI forum - <https://community.openai.com/t/open-a-i-predicted-bankruptcy/323276>. The bankruptcy arises due to the high costs associated with the use of computing platforms for responding to user queries. Essentially, Chat GPT needs to reduce its associated computing costs, to enable continued access and service provisioning in the existing fashion. The existing fashion of using Chat GPT is that of enabling users to utilize this platform



Source: Google

without charges or minimal charges (in the non-ideal case).

Initiatives intended to reduce data center and computing platform operating costs are beneficial in this regard. The IEEE Computer Society Technical Committee on Cloud Computing addresses the technological aspects associated with the cloud computing technology. The committee has four working groups namely the: (i) P2301: Guide for Cloud Portability, and Interoperability Profiles, (ii) P2302: Standard for InterCloud Interoperability, and Federation, (iii) P2303: Standard for Adaptive Management of Cloud Computing Environment, and (iv) P2304: Standard for Cloud Computing Shared Function Model. In developing these standards, the IEEE Computer Society Technical Committee on Cloud Computing embraces the spirit of supporting innovation. Innovation in this case spans the areas of Cloud Computing Technologies, Application Support, Inter-operability, and ensuring cloud operation sustainability. (*continued on page 3*)

IEEE South Africa Section e-Newsletter

Editor-in-Chief: Udochukwu B. Akuru

IEEE South Africa ExCom

IEEE ZA website: www.ieee.org.za

Section Chair: Udochukwu Akuru
Vice Chairs: Komla Folly & Richard Millham
Secretary: Joyce Mwangama
Treasurer: Jacques van Wyk
Past Chair: David Oyedokun

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IEEE South Africa e-Newsletter is a quarterly newsletter, published by IEEE South Africa ExCom to keep its members within the Section updated on programmes, initiatives, events, and activities. This publication is here to showcase events, achievements, and news items from across the Section. It is also a medium for reporting on past events, meetings or stories, with the ability to promote future events. We welcome reports, stories and general content, including photos, which can be emailed to us. **The deadline for content submission for the next issue will be communicated.**



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The focus on enabling sustainability brings the question of the Chat GPT water footprint into focus. The question on if Chat GPT is a water behemoth comes into focus from a perspective of cloud sustainability. Therefore, it is important for the water footprint and power consumption of the data centers that support the execution of Chat GPT related processing to be minimized. An additional issue is the incorporation of data sovereignty in relation to user query. User queries being posted into the Chat GPT platform describe and can provide inference on individual profile. It is important that such data should be selectively available at different locations. This makes it important for data centers executing the user queries to be hosted within the concerned sovereign regions.

Therefore, future deployment of Chat GPT and other large language-based user query systems should consider the design of standards (and supporting technologies). The standards are intended to ensure a reduction in the computing platform operational costs and maintaining cyber-security via a conformance to data sovereignty.

New ExCom Inaugurated and holds First Meeting

J Mwangama, Secretary: IEEE ZA

The newly inaugurated ExCom for IEEE South Africa Section held its first meeting on August 16, 2023, with immediate past ExCom. Recall that the present ExCom started their term on July 30, 2023. In his acceptance note, current Section Chair, Udochukwu Akuru, congratulated all new ExCom members while thanking past ExCom members for their leadership over the last couple of years. Members of the immediate past ExCom whose two consecutive terms ran from 2020 to 2023 include David Oyedokun (Chair), Yanxia Sun (Vice-Chair), Jacques van Wyk (Treasurer), Wynand Lambrechts (Secretary), Albert Lysko (Past Chair) and Philip Strydom (Student Activity Committee Chair).

The new ExCom is made up of Section Chair: Udochukwu B. Akuru, Vice Chairs: Komla Folly and Richard Millham; Treasurer: Jacques van Wyk, Secretary: Joyce Mwangama and Past Chair: David Oyedokun. The highlight of the meeting which held on August 16, 2023, included a briefing on roles and responsibilities

of ExCom members by past chair, David Oyedokun, as well as motivations and plans by current Section Chair and other ExCom officers in attendance.

continued from page 1... WSU hosts IEEE CASS

The IEEE CASS event at WSU proved to be an enlightening experience for the participants. It highlighted the importance of professional societies like IEEE and SAIEE in shaping the future of electrical engineering education in Africa. Some key resolutions reached during the event include, among others, to establish an IEEE CASS student branch at WSU, to continue to promote IEEE membership for professional development of both staff and students at WSU and to champion the formation of IEEE CASS chapter within IEEE South Africa Section the long term.

“Key activities during the event bothered around the role of IEEE in fostering professional development of its members in terms of networking, skills development and exposure to cutting edge research and industry trends.”

Achievements

- Congratulations! University of Johannesburg forms new Student Branch. ExCom appreciates the effort of Thabang Moliane (organiser) and Prof OM Longe (SB counsellor) for this feat. The formation of the new SB was supported by the leadership of IEEE Smart Village (ISV) and ISV-AWG (Africa Working Group). We wish the new SB growth!
- Congratulations! Team wins "Runner-Up" Position in Innovation Challenge Track for 2023 Edition of IEEE YESIST12 for the project title “An Eco-Friendly Solar-Energy Based Insect Pest Trap”. Team members include Dr M Bharathi (CIET, India), Dr UB Akuru (TUT, South Africa) and Mr SD Prasad (CIET, India). The Team received a plaque and prize amount, while each member received a certificate of achievement. Dr Bharathi was on ground to receive the plaque on behalf of the team at Arab Academy for Science, Technology & Maritime Transport, Egypt, where the event held from September 2 to 3, 2023.

South Africa to host PowerAfrica 2024



South Africa has been selected to host the next year's edition of PowerAfrica Conference (PAC 2024). PAC is a flagship conference held in Africa and co-sponsored by two IEEE societies – Power & Energy Society (PES) and Industry Applications Society (IAS).

Prof Josiah Munda of Tshwane University of Technology, who is the General Conference Chair, is currently putting together the Organising, Technical and Steering Committees, and will call a meeting very soon. We call on all relevant members of our Section to support him and his team as it is PAC's tradition to actively collaborate with the IEEE section of its host Africa nation during its annual trademark conference. The last time South Africa hosted the conference was in 2018 in Cape Town, South Africa.

This year's edition (PAC 2023), which is the 10th in the series, will take place in Marrakech, Morocco, from November 6-10, 2023. The registration is currently open and more information can be found here: <https://ieee-powerafrica.org/registration/>

Members can reach out directly to Prof Munda should they want to volunteer in any capacity for PAC 2024: MundaJL@tut.ac.za

Call for Papers

The following conferences holding in South Africa are currently accepting papers:

- The 32nd Southern African Universities Power Engineering Conference (SAUPEC 2024) will be hosted by Stellenbosch University in Stellenbosch from 24 to 25 January, 2024. The Call for Papers

is open. SAUPEC is a flagship Southern Africa regional conference will be hosted by the Department of Electrical and Electronic Engineering, Stellenbosch University in conjunction with the South African Institute of Electrical Engineers (SAIEE). SAUPEC brings together experts from the industry, academics and students in engineering, computer science and information technology to present research papers, network, and expand the fraternity that has been built as part of the SAUPEC legacy. Full papers will be assessed by at least two reviewers in a peer double-blind review. Papers accepted by the review panel will be published in the conference proceedings. Papers not accepted by the review panel may be presented as posters but will not be included in the proceedings. The full review policy is available on the conference website. Accepted papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements. Deadline for paper submission is **October 16, 2023**. More information can be found here: <https://ti-nyurl.com/mjwufazv>

- Submissions of previously unpublished are invited to Information Communications Technology and Society (ICTAS) Conference taking place 7 to 8 March, 2024 in Durban, South Africa, in partnership with Durban University of Technology. After submission, papers will be double-blind reviewed by an international committee of reviewers selected by the Technical Committee and rated according to quality, relevance, correctness, and originality. Once paper has been accepted, you will be required to add author details and finalize your submission by incorporating reviewer comments to improve your paper. All papers will be submitted to a plagiarism service in order to check the originality of its contents and papers presented at ICTAS2024 will be submitted to IEEE Xplore for publication. Deadline for paper submission is **October 31, 2023**. More information can be found here: <http://www.ictas.org/index.html>

Call for Reviewers

EPICS in IEEE is looking for project proposal reviewers to help evaluate service learning proposals that enable students to solve local community challenges through technology. Since the Pandemic the number of individuals interested in positively impacting their community has grown and has led to an increase in

project proposal submissions. We are excited to expand our service learning community by inviting individuals to join us in the project review process. Deadline to respond is **October 15, 2023**. Follow link for more info: <https://tinyurl.com/4tk9rpnc>

Opportunities for Members

1. CALL FOR PAPER-IEEE REGION 8 STUDENT PAPER CONTEST 2024

Target Applicants: IEEE R8 graduate and postgraduate Student Branch (SB) members (excluding Doctoral level)

Highlights: IEEE R8 Student Activities Committee will invite authors of the top five papers to participate in the oral finals at the IEEE R8 flagship conference, MELECON 2024, to be held in Porto, Portugal, from June 25th to 27th, 2024. Exceptional cash prizes of \$800, \$500, and \$200 await the winners of the first, second, and third places, respectively! In addition, the student branch of the first prize winner will receive a reward of \$250! All five finalists' papers will be published in the conference proceedings and IEEE Xplore.

Eligibility:

- Only IEEE Student and Graduate Student Members are permitted to author papers submitted to the Regional SPC in its initial phase.
- The work presented in the paper must have been completed during undergraduate or graduate studies.
- After the first R8 SPC phase is completed and the five best papers are selected, finalists' supervisors/mentors may be added as authors to the final versions (camera-ready papers).

Application link: Send the SPC submission packages by email to r8sac@ieee.org

More info: <https://tinyurl.com/mr34s4yh>

Deadline: December 1, 2023

2. IEEE IAS-IPCSD Engineering Student Chapter Design Contest (Africa)

Target Applicants: All IEEE Students Members of African Student Chapters.

Highlights: The goal of the contest is that IEEE student members belonging to any African Student Chapter design a prototype which proposes a practical engineering solution to common daily problems. There are three awards, \$2000 each.

Eligibility:

- IEEE Student Members of African Chapters.
- Teams: 4 to 6 IEEE student/graduate members, including Team leader.
- At least one student member of the IEEE IAS.
- Woman lead will have preference.
- Diverse team encouraged.
- The design must provide a practical solution and within the scope of the IEEE IAS.

Application link: <https://site.ieee.org/ias-ipcspd/>

More info: <https://site.ieee.org/ias-ipcspd/scdc-africa/>

Deadline: November 15, 2023

3. Call for EPICS (Engineering Projects in Community Service) in IEEE project proposals

Target Applicants: IEEE members, students and NPOs.

Highlights: EPICS in IEEE empowers students to collaborate with community organizations on leveraging technology to solve problems in their local community, in direct collaboration with the stakeholders. The program provides \$1,000-\$10,000 grants for prototyping and project materials for service-learning projects. EPICS in IEEE helps fulfil the IEEE core purpose of fostering technological innovation and excellence for humanity by providing support, mentorship, and visibility for engineering projects in four core categories of community improvement: Environment, Access and Abilities, Education, and Human Services. (View past projects here: <https://epics.ieee.org/projects/>).

Eligibility:

- IEEE members and students to collaborate.
- Project proposals should be developed working closely with a non-profit organization to identify and describe the community problem, proposed solution, budget, and assessment plan.

Application link: <https://tinyurl.com/42x8xzm>

More info: <https://tinyurl.com/yhrbh2mk>

Deadline: November 1, 2023

4. IEEE STEM Summit



Free virtual event that brings together pre-university STEM enthusiasts, instructors, parents, and volunteers to plan interesting and effective STEM outreach activities for school-aged children, 24-27 October. Follow link to register for free: <https://tinyurl.com/57ffr3bz>

Call for Volunteers

The position of Webmaster is currently vacant. We all agree that the Section's website is not befitting our status as is. Hence, the responsibility of a webmaster, will among other things, include redesigning and thereafter managing the Section's website. Although IEEE have the resources to assist volunteers to function in this position, experience will definitely be an advantage. We are therefore requesting for volunteer(s) to fill in this position. Please send your abridged CV to be considered: udochukwu.akuru@ieee.org.

Vacancies

WITS UNIVERSITY, JOHANNESBURG
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Enquiries: Professor Thokozani Majozi; Executive Dean: Faculty of Engineering and the Built Environment:

E-mail: Thokozani.Majozi@wits.ac.za or telephone: +2711 7177012

To Apply: External applicants are invited to apply by registering on the Wits i-Recruitment platform located at <https://irec.wits.ac.za> Internal employees may apply directly on Oracle Self-Service on the Wits Intranet by selecting "Apply for a job".

Closing date: 20 October 2023

The University reserves the right to verify all information provided by candidates and to verify credit rating. Please note that correspondence will only be entered into with the shortlisted candidates. The University reserves the right not to make an appointment or re-advertise.