CES Activity Report

Term-2023/2024

Civil Engineering Society

Faculty of Engineering

University of Peradeniya

Prepared by: Isuru Jasin Arachchi (Vice President - Term 2023/24)

Overview of Activities and Initiatives

Term: Academic Year 2023/2024
Venue: EOE Pereira Theatre
Date: November 13, 2023 | **Time:** 4:00 p.m.

The Annual General Meeting (AGM) of the Civil Engineering Society for the academic year 2023/2024 was held on 13th November 2023 at the EOE Pereira Theatre, officially marking the commencement of a new chapter for the society. The meeting was attended by academic staff, outgoing committee members, incoming office bearers, and student members across multiple batches.

The event commenced with a welcome address by the outgoing President, Professor K.K. Wijesundara, who presented a detailed overview of the society's achievements during the previous term. He expressed his gratitude to all subcommittee members and supporters for their dedication and teamwork in executing a wide range of impactful events, which contributed significantly to student engagement, technical exposure, and professional development.

Following this, the Head of the Department of Civil Engineering, Professor J.J. Wijetunge, delivered a keynote speech in which he applauded the efforts of the outgoing committee. He highlighted the society's role in nurturing leadership, innovation, and industry-relevant skills among undergraduates and extended his encouragement to the incoming team.

The meeting concluded with the official appointment of the new Executive Committee for the 2023/2024 term, signaling the transfer of leadership and the beginning of a new cycle of initiatives, projects, and student-centered activities. Under the guidance of faculty advisors and the active involvement of its members, the Civil Engineering Society looks forward to another successful year of service, learning, and innovation.


CIVIL ENGINEERING SOCIETY
FACULTY OF ENGINEERING
UNIVERSITY OF PERADENIYA
Executive Committee - 2024
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Secretary
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Vice President
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E20 Representative
MR. SAMPATH UDAYATHUNGA

1. CES Talk #01: Australian Civil and Structural Engineering Viewpoint and Potentials for Sri Lankan Graduates

Date: December 14, 2023

Venue: Seminar Room 01

Speaker: Dr. Chanaka Abeysinghe, Engineering Design Manager – Infrastructure Products Australia; President – IESL Queensland Chapter Inc.

As part of our continued efforts to support the professional development and global readiness of our members, the Civil Engineering Society successfully launched its CES Talk series for the 2023/2024 academic year with an inspiring session on international career prospects for Sri Lankan civil engineering graduates.

The session was headlined by Dr. Chanaka Abeysinghe, a highly accomplished engineering professional and a respected leader in the Australian infrastructure sector. His keynote address, titled **"**Australian Civil Engineering Perspectives: Opportunities for Sri Lankan Graduates,**"** provided an in-depth analysis of the evolving global engineering landscape and its implications for young professionals from Sri Lanka.

In his presentation, Dr. Abeysinghe shared his personal career journey and insights into the current trends, demands, and expectations of the Australian civil engineering industry. He emphasized the importance of competency development**,** professional certification (such as CPEng and RPEQ), and effective adaptation to international standards and work cultures. The talk also explored themes such as sustainability in infrastructure design, digital transformation in engineering practice, and the increasing value of cross-disciplinary collaboration.

The session drew a large and enthusiastic audience of undergraduate students, academic staff, and CES committee members. Attendees engaged in a vibrant Q&A segment, raising questions on graduate employability, pathways to migration, and the balance between academic learning and industry needs. The interaction underscored the relevance of the topic and the thirst among students for actionable guidance on navigating global opportunities.

As the organizing committee, we had the privilege of coordinating the event, supporting logistics and communication with the guest speaker, and ensuring smooth delivery on the day of the session. The positive feedback we received reaffirmed the society's mission to serve as a bridge between academic learning and professional realities.

We are deeply grateful to Dr. Abeysinghe for his generosity in sharing his knowledge and for offering a pragmatic perspective that resonated strongly with our members. This event not only informed but also inspired many of our students to think ambitiously and strategically about their future careers.

2. CES Talk #02: Academic and Industrial Opportunities in Japan

Date: March 27, 2024

Venue: Seminar Room 01

Speakers: Professor Netra Prakash Bhandary, Head – Center for Disaster Management Informatics Research, Ehime University and Assistant Professor Toru Futagami, Ehime University

Continuing the CES Talk series for the 2023/2024 academic year, the Civil Engineering Society hosted its second major session titled **"**Academic and Industrial Opportunities in Japan**"** on March 27, 2024. The event aimed to expose undergraduate students to international academic pathways and innovative research in disaster resilience—a topic of growing relevance to civil engineers worldwide.

The session was graced by two eminent scholars from Ehime University, Japan, a partner institution with the University of Peradeniya.

- Professor Netra Prakash Bhandary, a distinguished expert in geotechnical and disaster risk management, introduced ongoing collaborative efforts between Ehime University and the University of Peradeniya. He highlighted opportunities for Sri Lankan students to engage in postgraduate studies, joint research projects, and academic exchanges, emphasizing the strategic value of international academic partnerships.
- Assistant Professor Toru Futagami presented cutting-edge approaches to disaster prevention and mitigation, showcasing how Japanese engineering practices integrate innovation and resilience to safeguard communities. His insights into research methodologies and practical implementations offered students a unique global perspective.

The event provided an enriching blend of academic insight and applied research, allowing participants to envision how they could contribute to impactful work on an international scale. Topics such as fully-funded scholarship opportunities (e.g., MEXT), graduate admission pathways, and cross-cultural collaboration were discussed, sparking keen interest and thoughtful questions from the audience.

The talk attracted a diverse group of undergraduates, final-year students, and faculty members, all eager to learn more about pursuing education and research abroad. The interactive Q&A segment was particularly engaging, reflecting the students' growing interest in global civil engineering challenges and solutions.

The success of this event reflects the society's strong organizational capacity and dedication to creating international exposure for civil engineering undergraduates. Through effective planning, seamless coordination, and enthusiastic participation, the talk served as a platform for students to explore opportunities beyond traditional career boundaries and to engage with cutting-edge research in disaster resilience.

We extend our heartfelt gratitude to Prof. Bhandary and Dr. Futagami for their valuable time, as well as to all the students and staff whose enthusiastic participation helped make the event a resounding success.

3. CES Talk #03: Design and Construction Methods of Bridges

Date: December 5, 2024

Venue: Seminar Room 01

Speaker: Eng. Ahmed Marsuik, Chartered Civil Engineer and Alumnus – University of Peradeniya

The Civil Engineering Society's Talk Series for the 2023/2024 academic year continued with a highly anticipated session on **"**Design and Construction Methods of Bridges**,"** delivered by Eng. Ahmed Marsuik, a respected alumnus and seasoned professional in bridge engineering. The event provided students with a comprehensive exploration of modern design principles, construction techniques, and real-world challenges in bridge projects.

Drawing from his extensive industry experience**,** Eng. Marsuik delivered an engaging and technically rich presentation covering three major topics:

- Design of Post-Tensioned Bridges – Explaining the fundamentals and benefits of post-tensioning in modern structural systems, with a focus on durability, load-carrying efficiency, and economic viability.

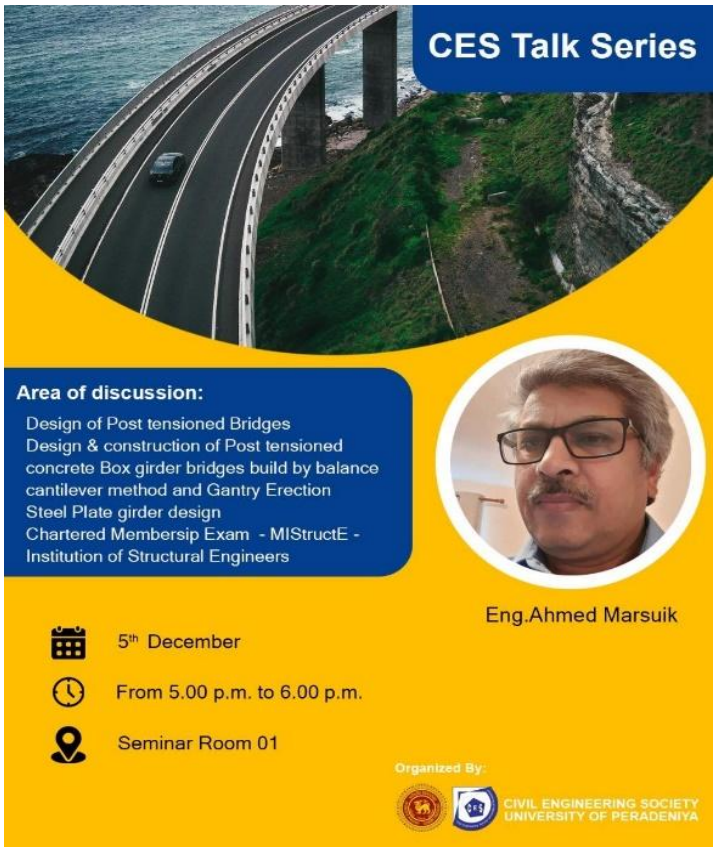
- Post-Tensioned Box Girder Bridges using the Balanced Cantilever Method – An in-depth look at this specialized technique for long-span bridges, highlighting its structural behavior, construction sequencing, and site constraints.

- Gantry Erection of Steel Plate Girders – A practical overview of the design and execution process for erecting steel girders using gantry cranes, emphasizing safety, precision, and project logistics.

The talk successfully bridged the gap between academic learning and field practice, allowing participants to gain a deeper appreciation of the complexities and innovations in modern bridge construction. Eng. Marsuik's use of case studies and project-based illustrations helped contextualize theoretical knowledge, making the session particularly beneficial for students preparing to enter the professional world.

The event saw strong attendance from undergraduate students, especially those specializing in structural engineering. The interactive Q&A session fostered technical discussion and critical thinking, further enhancing the educational value of the session.

This session reinforced the society's ongoing objective to expose students to industry-relevant knowledge and advanced engineering methodologies. We are deeply grateful to Eng. Marsuik for sharing his insights, and to all attendees for their active engagement, which contributed to the session's success.


CES Talk Series
Area of discussion:
Design of Post tensioned Bridges
Design & construction of Post tensioned concrete Box girder bridges build by balance cantilever method and Gantry Erection
Steel Plate girder design
Chartered Membersip Exam - MIStructE - Institution of Structural Engineers
Eng.Ahmed Marsuik
5th December
From 5.00 p.m. to 6.00 p.m.
Seminar Room 01
Organized By:
CIVIL ENGINEERING SOCIETY
UNIVERSITY OF PERADENIYA

4.Convening a Conference with Alumni Residing Overseas

Dates: September 26–27, 2024
Mode: Virtual (via Zoom)
Organized by: Civil Engineering Society (CES), University of Peradeniya
Target Group: Civil Engineering Undergraduates (E/18–E/20)
Collaborators: Department of Civil Engineering, Overseas Alumni
Special Acknowledgement: Dr. Panduka Neluwala (Webpage Facilitation)

In response to the continuing economic challenges in Sri Lanka and the resulting stagnation in the construction industry, the Civil Engineering Society of the University of Peradeniya successfully convened a groundbreaking International Alumni Conference on September 26–27, 2024. This virtual conference served as a critical initiative to connect undergraduate students with overseas alumni, offering insights into international job markets, academic opportunities, and strategies for career advancement in a global context.

Conference Objectives

- To raise awareness among alumni about the current economic and employment conditions within the Sri Lankan construction sector.
- To explore solutions for the declining job market for fresh graduates in Sri Lanka.
- To create new international pathways for employment, postgraduate education, and research through alumni networks.
- To empower students with the knowledge, skills, and contacts necessary to thrive in global engineering environments from an early stage in their careers.

Structure of the Conference

🌏 Day 1 – Alumni from Australia, New Zealand & Japan

Date: September 26, 2024 | **Time:** 9:00 a.m. – 12:40 p.m. (SLT)
Alumni based in Australia, New Zealand, and Japan shared perspectives on:

- **Job Opportunities and Career Growth**
  Talks focused on region-specific job markets, industry demands, required certifications, remote work trends, and early-career strategies.
- **Higher Education and Research Collaborations**
  Alumni provided guidance on postgraduate programs, scholarships (e.g., MEXT, Australia Awards), and collaborative research opportunities available for Sri Lankan graduates.

🌍 *Day 2 – Alumni from UK, Europe & Middle East*

Date: September 27, 2024 | **Time:** 2:30 p.m. – 6:10 p.m. (SLT)
Speakers from the UK, Europe, and the Middle East discussed:

- Career development pathways in fast-evolving infrastructure sectors.
- Graduate entry options and university-industry partnerships.
- Funding opportunities, such as Erasmus+ and Commonwealth scholarships.

Each session featured 12-minute focused talks followed by interactive discussions, providing a rich exchange of ideas and practical advice between alumni and students.

Supporting Infrastructure: Dedicated Alumni Web Portal

Ahead of the conference, a special alumni-student engagement webpage was launched under the Department of Civil Engineering website, coordinated with the help of Dr. Panduka Neluwala. This platform enables overseas alumni to continuously share:

- Job openings
- Internship programs
- Higher education opportunities
- Research and project collaborations

Submissions are vetted and shared with undergraduates by a dedicated committee, fostering long-term alumni-student engagement and resource sharing.

Key Outcomes and Impact

- Participation from over 150 students across E/18–E/20, with high engagement in Q&A sessions.
- Alumni expressed strong commitment to continue mentoring and referring students for international opportunities.
- Students gained a clearer understanding of global employability expectations, critical technical skills, and application procedures for overseas studies.
- The launch of the dedicated web platform established a sustainable communication mechanism for continued alumni support.

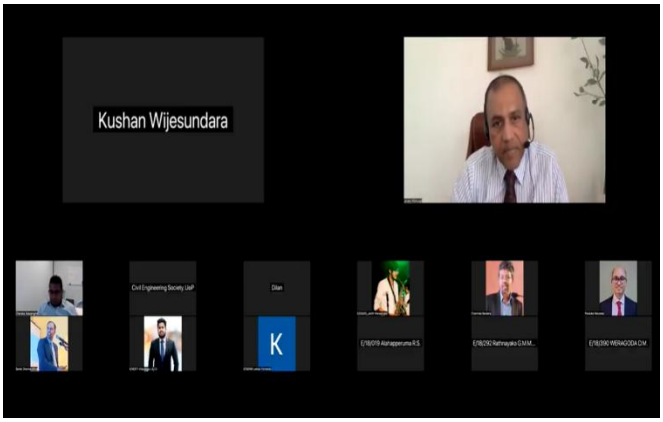
Special Thanks

CES extends sincere gratitude to our academic leadership and organizers, whose unwavering support turned vision into action:

- Prof. J.J. Wijetunge – Head, Department of Civil Engineering
- Prof. K.K. Wijesundara – Coordinator of the department subcommittee on Enhancing Career Opportunities for Civil Engineering Graduates
- Dr. W.R.S.S. Dharmarathna – President, Civil Engineering Society and member of the department subcommittee on Enhancing Career Opportunities for Civil Engineering Graduates
- Dr. Panduka Neluwala – Technical Support and Webpage Coordination (member of the department subcommittee on Enhancing Career Opportunities for Civil Engineering Graduates)
- Entire organizing committee, whose collective effort enabled this landmark initiative.

The International Alumni Conference 2024 was more than just a series of talks—it was a strategic response to national challenges, designed to redefine career development for civil engineering undergraduates. By facilitating real-time interaction with globally positioned alumni, CES has created a bridge between academic potential and international opportunity. This initiative has laid the foundation for a sustainable alumni-student network, ensuring that civil engineers from the

University of Peradeniya are not only prepared for the local job market—but are ready to thrive globally.



05. CES Field Visit to Anuradhapura

Date: January 20, 2024
Program: Evolucionar 2.0
Organized by: Civil Engineering Society (CES) – University of Peradeniya
Participants: E/20 Batch

As part of the **Evolucionar 2.0** initiative, the Civil Engineering Society organized a field visit on January 20, 2024, for the E/20 batch to the historically and culturally significant city of Anuradhapura. The visit aimed to expose students to the remarkable engineering achievements of ancient Sri Lanka and to reinforce the connection between historical construction techniques and contemporary civil engineering education.

This hands-on educational experience enabled students to examine key ancient structures that embody the architectural brilliance, material innovation, and hydraulic mastery of early Sri Lankan engineers. The selected locations highlighted both the ingenuity and sustainability of ancient practices, offering students a platform to observe, analyze, and reflect.

Key Sites Visited:

- **Abhayagiriya**

  The Abhayagiriya Stupa, a monumental structure within the Abhayagiriya Monastic Complex, stands as one of the largest brick edifices in the world, reaching a height of over 75 meters. Built during the reign of King Valagamba in the 1st century BCE, it exemplifies the advanced engineering capabilities of ancient Sri Lanka. The stupa features a dome structure that effectively channels vertical loads through basal rings into the foundation, ensuring structural stability. Constructed using specially fired bricks bonded with lime-based mortar, it demonstrates impressive compressive strength and long-term durability. Additionally, its precise alignment, believed to be guided by astronomical principles, reflects the integration of spiritual, architectural, and engineering wisdom. This visit provided students with valuable insight into how ancient engineers achieved enduring strength, symmetry, and functionality without the aid of modern technology.

- **Jethawanaramaya**

  Jethawanaramaya, constructed under King Mahasena in the 3rd century CE, is one of the tallest ancient brick stupas in the world, originally rising to 122 meters. It showcases some of the most advanced structural engineering techniques of ancient Sri Lanka, including a multi-layered dome system comprising an outer layer of burnt bricks for compressive strength, a middle layer of half-burnt bricks to absorb stress, and a compacted core to accommodate settlement. A unique internal star-shaped wall was employed to resist lateral expansion caused by Poisson's effect, while vertical brick columns were reinforced with eight radial walls to distribute loads effectively to the bedrock. The use of precisely dimensioned bricks with specialized binding properties further ensured the stupa's long-term durability. Through this visit, students engaged in geometric documentation and studied ancient bonding methods and reinforcement strategies, drawing valuable connections between historical construction techniques and modern structural engineering concepts.

- **Western Monastery Complex–1**

  The Western Monastery Complex – 1, though lesser-known, offered valuable insights into the urban planning and spatial organization of ancient monastic life. Characterized by a central courtyard surrounded by residential and religious buildings, the site demonstrated a high degree of symmetrical planning, with aligned pathways and boundary walls indicating precise site layout. Features such as stone-paved floors and integrated drainage systems reflected thoughtful environmental design and infrastructure planning. This visit provided students with a practical case study in the integration of functionality, sustainability, and spatial efficiency—principles that remain fundamental in modern urban civil engineering.

- **Mahakanadarawa Stone Bridge**

  Constructed during the reign of King Mahasena (276–303 A.D.), the Mahakanadarawa Stone Bridge is a remarkable example of ancient transportation and hydraulic engineering. Spanning 24.4 meters in length and 3 meters in width, it is supported by 42 stone columns (300×300 mm) embedded in bedrock, with stone beams (370 mm wide × 1760 mm long) forming the deck. The bridge utilizes both simply supported and three-supported beam

systems, effectively managing tensile and compressive stresses to support carts, pedestrians, and even the load of a full-grown elephant. Built with high-quality granite and precision-fitted stone slabs, the structure minimizes seepage and exhibits exceptional durability under environmental exposure. The visit provided students with practical understanding of load path mechanics, tension-compression dynamics, and the resilience of ancient engineering solutions developed without modern equipment.

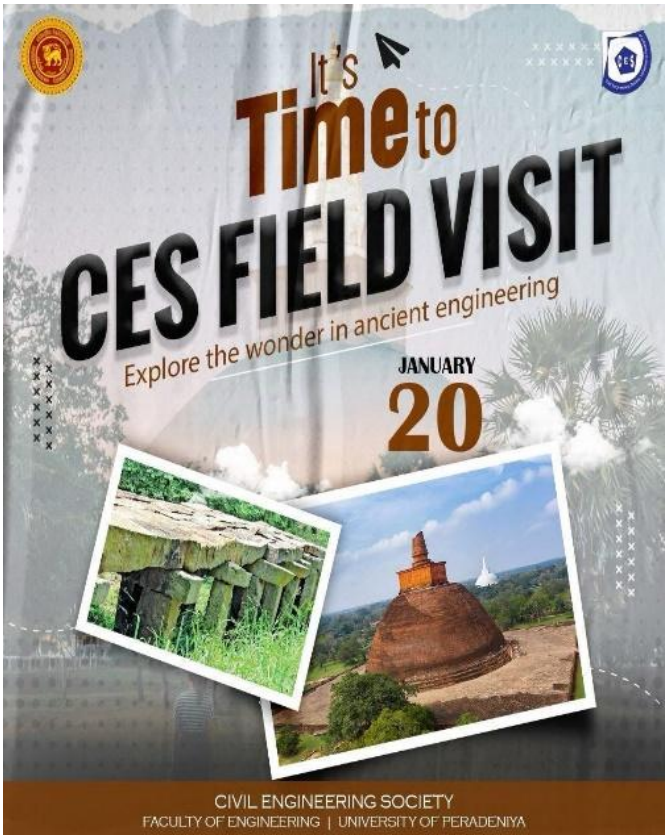
Learning Objectives and Outcomes*:*

- **Practical Analysis:**
  Students collected structural and material data, took geometric measurements, and used photogrammetry techniques to estimate dimensions. These data sets will be used in further academic analysis, helping connect historical theory to modern application.

- **Sustainable Design Principles:**
  Ancient engineering practices observed—such as moisture control via star walls, material layering in stupas, and sluice-based water management—emphasized durability, environmental adaptation, and efficient resource use.

- **Cultural Appreciation and Professional Growth:**
  Engaging with Sri Lanka's engineering heritage reinforced the value of preserving traditional knowledge. It also provided a platform for students to enhance their teamwork, leadership, and observational skills in a real-world context.

The E/20 field visit to Anuradhapura under Evolucionar 2.0 was not only an academic exercise but also a deep cultural immersion into the foundations of civil engineering in Sri Lanka. By studying structures like Jethawanaramaya and the Mahakanadarawa Stone Bridge, students gained meaningful insights into historical engineering innovations and their ongoing relevance to modern sustainable construction. The activity was a powerful example of experiential learning—where history, theory, and practice intersect to inspire the next generation of engineers.


It's
Time to
CES FIELD VISIT
Explore the wonder in ancient engineering
JANUARY
20
CIVIL ENGINEERING SOCIETY
FACULTY OF ENGINEERING | UNIVERSITY OF PERADENIYA


CES FIELD VISIT
ANURADHAPURA

6. Mock Interview Session for E/18 – Shaping Tomorrow, One Step at a Time

Collaborators: IESL Young Members Chapter & IESL Students Chapter
Target Group: Final-year Undergraduates – E/18 Batch

In a strategic collaboration with the IESL Young Members Chapter and IESL Students Chapter, the Civil Engineering Society organized a Mock Interview Session exclusively for the final-year E/18 students. The initiative, titled **"**Shaping Tomorrow, One Step at a Time**,"** was designed to bridge the gap between academic training and professional expectations by simulating real-world job interview environments.

The session brought together industry professionals and HR experts who conducted mock interviews in a structured setting. Each student participated in a tailored interview experience that covered both technical evaluation and HR assessment, providing a comprehensive simulation of actual recruitment processes.

Key learning outcomes and benefits for participants included:

- ✔ Mastery of technical and HR interview strategies through personalized mock interviews.
- ✔ Confidence-building via realistic Q&A practice, enabling students to express themselves effectively under pressure.
- ✔ Actionable feedback from experienced professionals, helping students improve communication, technical articulation, and overall professional demeanor.

The initiative significantly boosted the career readiness of participating students, equipping them with the confidence and practical skills needed to face competitive job markets. It also fostered a deeper understanding of what employers seek in early-career civil engineers, helping students reflect on their own professional goals and development areas.

The session was met with enthusiastic participation and appreciation from students, who acknowledged the event as a transformative learning experience. Many remarked that the hands-on nature of the session offered insights that academic assessments alone could not provide.

We extend our sincere thanks to the industry mentors and collaborating chapters for their invaluable guidance, and to the participating students for their proactive engagement. This initiative reflects the society's ongoing commitment to empowering its members with the tools, skills, and mindset necessary for success in the professional engineering world.


MOCK INTERVIEW SESSION FOR E/18 CIVIL ENGINEERING UNDERGRADUATES
Organized by Civil Engineering Society Collaborating with IESL Young Member Section, IESL
Kandurata Chapter, IESL Wayamba Chapter, IESL Students Chapter University of Peradeniya
IESL
YMS


MOCK INTERVIEW SESSION FOR E/18 CIVIL ENGINEERING UNDERGRADUATES
Organized by Civil Engineering Society Collaborating with IESL Young Member Section, IESL
Kandurata Chapter, IESL Wayamba Chapter, IESL Students Chapter University of Peradeniya
IESL
YMS

7. CES Annual Cricket Encounter

Date: November 25, 2023
Time: 8:00 a.m. onwards
Venue: University Ground
Participants: Batches E17 to E20 and Academic Staff

The Annual CES Cricket Encounter 2023, held on November 25th at the University Grounds, was one of the most anticipated and vibrant extracurricular events of the academic calendar. Organized by the Civil Engineering Society, the tournament was designed to foster interaction, promote camaraderie, and build community spirit among undergraduates and academic staff in a relaxed and engaging environment.

With thirteen teams participating—including three teams each from the E17 to E20 batches and one enthusiastic staff team—the event brought together a broad cross-section of the department. The day featured a spirited series of matches where teamwork, sportsmanship, and friendly rivalry were on full display. Players demonstrated impressive prowess in batting, bowling, and fielding, adding a competitive edge to the event while maintaining the integrity and fun of the game.

The tournament served multiple purposes beyond recreation:

- Strengthened student–staff relationships through informal collaboration and mutual respect.
- Encouraged inter-batch bonding and collaboration through friendly competition.
- Showcased hidden talents and built a stronger sense of departmental identity.

More than just a cricket match, the event reflected CES's commitment to holistic student development, underscoring the importance of interpersonal skills, leadership, and balance between academic rigor and personal growth.

The energy and enthusiasm on the field throughout the day exemplified how extracurricular engagement can contribute meaningfully to the professional values of civil engineers. Team spirit, resilience, adaptability, and mutual support-core traits of successful engineers-were naturally reinforced in this collaborative and competitive setting.

The success of this year's encounter reaffirmed the tradition of the CES Cricket Tournament as not just a game, but a celebration of community, character, and collaboration within the Department of Civil Engineering.


LANKA
CES Annual Cricket Encounter 2023


CES Annual Cricket Encounter 2023


CES Annual Cricket Encounter 2023