IEEE CEDA Executive Committee March Meeting

DATE 2024

24 March 2024

Welcome - Luis Miguel Silveira

- Roll Call
- Approve February Minutes
- Approve Agenda

President’s Update - Luis Miguel Silveira

- Board of Governors Engagement
- Credentials/Badges
- Student Travel Grants
- IEEE AI Coalition

Updates

Miguel Silveira

March 24, 2024

BoG Engagement

- We have been trying to further engage with our sponsor S
  - Some Societies asked for the ability to name a secondary representative
    - We accepted on a "trial" basis
    - Do not see any disadvantage if more sponsor representatives are engaged with us
    - Propose we change the Bylaws to allow a secondary represenative (offer the Societies the possibility, can join the BoG, only one vote, expenses covered by Society)
- Computer Society requested a meeting to clarify expectations for BoG member representatives
  - Scheduled a Zoom call and discussed it: BoG participation, student activities
- There are a few other Bylaw changes that have been noted
  - Propose to have an item on the April EC meeting to present them all

Division I Engagement

- During the February TAB. Division I Director Yong “Peter” Liam pushed for increased activity coordination within Division S/C
  - In line with attempts by Gi-Joon at last year’s BoG and aligned with CEDA efforts
- CAS offered to organize a Division I meeeting in Singapore during ISCAS (May 19-22)
  - CAS 75th birthday!
  - Proposed activities targetting student engagement
  - Aligned with current CAS, SSCS, EDS and also CEDA efforts

   Discuss later on: Education Brainstorming / Update

Open to suggestions / ideas!!!

Publicity

- Many of CEDA activities are not very visible and not so well known
- CEDA itself is not so visible (people at our conferences are unaware…)

Increase visibility:

- Better use of the Web site (being revamped, update later on)
- More active use of Social Media
- Brochures
- Other ideas? Or is this not an issue at all?

Student Travel Grants

- Increase Publicity & Visibility
  - Publicise on conference web pages?

- Seem to have under spent in this item, which is strange
  - Again, is this a publicity/visibility issue or some other problem?

Credentials

- @Future Directions meeting at the February TAB presented program
  - IEEE can provide Certificates/Digital Badges
    - Interesting professionally, valued by professionals and students
    - Verifiable digitally, accessible online
    - Process managed electronically

- SSCS is currently using IEEE Credentialing for webinars certificates
- Contacted Educational Activities (EA) in March with an issue about their International Conference that needed certificates. (Normally they are issued manually).

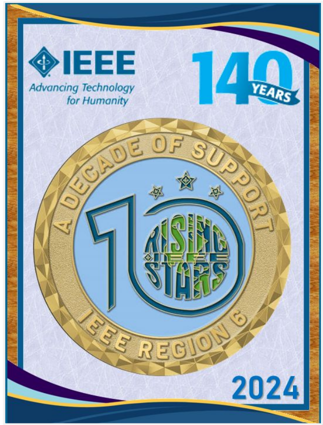
SSCS IEEE SOLID-STATE CIRCUITS SOCIETY™
IC Innovation

IEEE Electronic Packaging Society

- Uses Educational Activities for Webinars, Certificates of Achievement and Conferences
- EA works directly with Kitty Pearsall, President of EPS Board
- 2-4 Conferences a Year

EPS IEEE ELECTRONICS PACKAGING SOCIETY

Examples of IEEE Certificates and Digital Badges



IEEE

CERTIFICATE OF COMPLETION

This is to certify

John P. Smith

has completed

Project Management Framework

18 August, 2016
Piscataway, New Jersey

3 Professional Development Hours

Vice President, IEEE Educational Activities

PDH
IEEE CONTINUING EDUCATION

IEEE SA STANDARDS ASSOCIATION IEEE

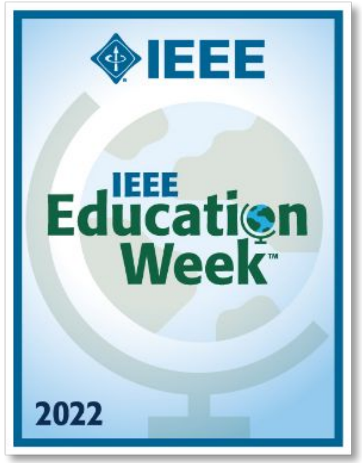
CERTIFICATE OF COMPLETION

Jordan Smith

HAS PARTICIPATED IN
IEEE CertifAIEd™ Assessor Training

This training completion certificate acknowledges the individual's completion of the CertifAIEd training. By itself it is not sufficient for and does not imply authorized status in exerting assessment or certification.

Konstantinos Karachalios
IEEE SA Managing Director



Credentials / Digital Badges

- **Digital Badges** are becoming increasing popular for events and courses. EA has experienced a 100% increase in badge requests this year alone.
- A great way to **differentiate** your conference and get in front of new audiences! (**Young professionals)**
- Helps you **advertise** next years event/conference
- **Easy to share** in email signatures and on social media profiles
- **Visual** way to highlight completion of a body of knowledge or attendance at an event
- An easy way to **continue the momentum of your learning event** after it ends

Affordable Pricing for IEEE OUs

- IEEE Sections, Societies and other Organizational Units **pay only a small fee to cover the costs** associated with issuing and maintaining credentials
  - $5 per certificate or digital badge
  - Often organizers will pass this fee along to learners
- For larger events, **volume discounts** are available

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New York State Sponsor Number: 117
Florida Provider Number [illegible]

Credentials & Badges

- Seems to be valued by students, **young** professionals
  - Used in social media, LinkedIn
- Could be used to increase visibility

- Propose to provide credentials / badges to Young Fellow Programs at DAC, DATE, etc
  - Cost estimate: $500 ~ $1000 (100 * $5 at each conference)
  - DAC is open to idea on their Young Fellows Program (could be used as test)

IEEE AI Coalition

- Another program announced at February Tab meeting
  - Specific meeting held, volunteers asked from S/C

IEEE AI Coalition Collaborative Opportunities

Christine Miyachi, Chair – IEEE Future Directions Committee
TAB Presidents' Forum
16 February 2024

IEEE AI Coalition Collaborative Opportunities

Christine Miyachi, Chair – IEEE Future Directions Committee
TAB Presidents' Forum
16 February 2024

IEEE FUTURE DIRECTIONS

IEEE
Advancing Technology for Humanity

AI Coalition - continued

Leadership team

Christine Miyachi
FDC Chair
Senior Software Engineering Manager,
Microsoft

Jim Keller
Past President Computational Intelligence Society,
University of Missouri Professor Emeritus

Grace Lewis
Computer Society
Principal Researcher, SEI at
Carnegie Mellon University

Stefan Mozar
Past Ad Hoc Chair for Digital Reality,
Past President IEEE Consumer Technology Society

Jeewika Ranaweera
Metaverse Co-chair,
Principal Hardware Engineer, Oracle
(Retired)

Work Items

- Be an Evangelist for AI @ IEEE
- Assess how IEEE uses AI
- Secure in & outside IEEE Experts / Speakers
- Curate website, blogs, podcasts
- Engage social media including very active "AI" Collabratec community
- Manage inventory of existing activity & what we should be doing
- AI Standards Champion
- Organize workshop in April / May

AI Coalition

"An alliance for combined action"

- Classify and index AI work across IEEE into one area, and identify any missing gaps
- Review how IEEE can use AI to enhance our services
- Leadership team formed and held four meetings
- Forming steering committee, with in-person meeting in Orlando
- Create schedule and plan for larger workshop in Boston, spring of 2024
- Present at Presidents' Forum, 16 February 2024

- Initial List of Key Areas (preliminary):

- Machine Learning
- Deep Learning
- Robotic / Process Automation (RPA)
- NLP (Natural Language Processing), LLM (Large Language Models)
- AI Hardware
- Robotic Hardware
- Algorithms
- Data
- Digital / Cognitive Twins
- Image / Signal Understanding and Recognition
- AI Ethics
- AI Accuracy and Trust
- Standards in AI
- AI in:
  - Space, non-terrestrial AI
  - Healthcare
  - Retail
  - Manufacturing
  - Transportation
  - Finance

AI Coalition

- Expecting a nomination from CEDA
  - Will schedule a virtual meeting for April that will serve as an introduction and overview for all reps.
  - Planning for an in-person workshop in May, most likely in Boston.
    - Individual societies/councils support their representative's travel.

- Goals & relation to representative support :
  - Create inventory of all AI-related activity and content across IEEE (in the various S/C), and develop a website to be the front door for that activity/content.
    - Representative needs to ensure all our related content/activities are accounted for

AI Coalition

- Analyze “inventory” and do a gap analysis
  - determine if anything is missing that IEEE should be covering.
  - Future Directions can launch new initiatives to fill the gaps
- Possibly create subcommittees to do add website content, prepare webinars, newsletters, educational activities, etc.

CEDA should be present and active

  - Aparna Dey showed interest to be part of the process, matches her current work and interests, could bring added value
  - Could be helped/complemented with other interested volunteers, connect with possible future standardization efforts from IEEE

CEDA Luncheon Keynotes (DAC 2024, etc)

- Pieter Abbeel, UCB Topic: Robotics, reinforcement learning
- Andrew Kahng, UCSD Topic: Open-Source EDA
- Diana Marculescu, UT Austin Topic: On-device learning
- Li-Shiuan Peh, NUS (Female) Topic: Next generation wearables
- Ingrid Verbauwhede, KU Leuven Topic: Hardware Security
- Jelena Vuckovic, Stanford Topic: Photonics
- Douglas Yu, TSMC Topic: 3D chiplets and heterogeneous integration

- Any other suggestions? Urgent need for DAC, should be publicizing NOW

WIE, Diversity

- Shao-Yun Fang represented CEDA in the IEEE (WIE) initiative and served as the Diversity and Inclusion Chair of CEDA since 2021
  - Has done an excellent job but recently asked to be replaced

- IEEE has been pushing for a nomination
  - Need an active participant

- Ayse Coskun has been managing DiVEDA Forum initiative
  - 4th edition happening Wednesday March 27th, 11am12:30pm
    Organizers: Nusa Zidaric & Marina Zapater Sancho

WIE, Diversity potential chairs (none invited yet)

- Anca Molnos, CEA-LIST, FR
- Laura Pozzi, USI Lugano, CH
- Aida Todri-Sanial, TU Eindhoven, NL
- Qinru Qiu, Syracuse University, US
- Tiziana Margaria, University of Limerick and Lero, IE
- Maria Méndez Real, IETR Nantes, FR
- Mariagrazia Graziano, Politecnico di Torino, IT
- Sybille Hellebrand, University of Paderborn, DE
- Sabine Glesner, Technische Universität Berlin, DE
- Angeliki Kritikakou, IRISA, FR
- Maria Mushtaq, Telecom Paris, FR

VP Finance - Marina Zapater

- Current Status
- Challenges

CEDA strategy @ EC

Georges Gielen

March 24, 2024

A self-assessment (1)

- CEDA’s vision is to be the leading provider of technical information & community services in Design & Automation of Electronic & Embedded Systems
- CEDA member societies:
  - Antennas and Propagation, Circuits and Systems, Computer, Electron Devices, Electronics Packaging, Microwave Theory and Techniques, and Solid- State Circuits.
- CEDA is open to all IEEE members – free subscription to CEDA

A self-assessment (2)

- a growing community

	2020	2021	2022
Fellow, Life Fellow	121	136	144
Senior Member	1035	1310	1418
Graduate Student Member	1104	1294	1559
Student Member	2237	3192	3836

- CEDA publications & conferences
  - 5 publications – TCAD; ESL; Design&Test; JxCDC, T-SUSC, TSPI
  - ~34 sponsored conferences including DAC, DATE, ICCAD, ESWEEK, ETS and ASPDAC
- CEDA community programs
  - 21 chapters and student branch chapters across the globe
  - Distinguished Lectures across its chapters

Objectives for strategic initiatives

- provide additional value to members
  - harvesting more on tutorials/videos/recordings/DLP
- expand targeted programs for youngsters / students / young members
- expand and be more active in more regions
  - additional chapters ? stimulate local activities
- flagship conference DAC financially challenging
- are we active in all emerging areas ?
- are we active in “open source” ?
- improve visibility of CEDA and its activities
  - newletter upgrade / social media …

Chapters

IEEE Council on Electronic Design Automation

About IEEE Council on Electronic Design Automation (CEDA)

Formed in 2005

- 20 years in 2025

What anniversary events/ actions do we plan ??

VP Conferences - Tsung-Yi Ho

- Current Status
- Challenges
- ICCAD Representative Discussion & Vote

Conferences

Tsung-Yi HO

March 24, 2024

Sponsored conferences/events (2024.1 ~)

- Financial Sponsorship (14)

MLCAD (50%)
DTTIS (25%)
LAD (100%)
ISLPED (15%)
DAC (50%)
CODAI (25%)
ETS (25%)
ICCAD (46.67%)
VLSI-SoC (25%)
LATS (25%)
SIES (50%)
ASP-DAC (12.5%)
SBCCI (5%)
MEMOCODE (25%)

- Technical Sponsorship (6)

FMCAD
GLSVLSI
ISPD
SMACD
FDL
ISEDA

The First IEEE International Workshop on LLM-Aided Design (LAD'24)

June 28-29, 2024
IBM Research
Almaden, San Jose, CA

- LLM-aided hardware/software design specification and code generation
- System-level design methodology development with LLMs
- Security and robustness of LLM-generated designs
- LLM-aided security verification and bug-fixing
- Finetuning of large foundation models for specialization in design automation
- New Datasets and Benchmarks of relevance to LLM-aided design
- LLMs for EDA, including HLS, physical design, and EDA scripting
- LLMs for reasoning and math used in design process
- Computational efficiency of LLM-aided design tools
- Privacy, copyright and other regulatory concerns around LLM-aided design
- Data science and data analytics for LLM-aided design
- Evaluation and testing of LLM-aided design models and methods

Organizing Committee

General Chairs	Ruchir Puri	IBM
	Deming Chen	University of Illinois Urbana-Champaign
Technical Program Committee Chairs	Haoxing (Mark) Ren	Nvidia
	Siddharth Garg	New York University
Finance Chair	Cong (Callie) Hao	Georgia Institute of Technology
Special/Invited Sessions Chair	Azalia Mirhoseini	Stanford University
Open Community Chair	Yingyan (Celine) Lin	Georgia Institute of Technology
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Publicity Chair	Jeff Goeders	Brigham Young University
Industry Outreach Chair	David Z Pan	University of Texas Austin
Publications Chair	Kanad Basu	University of Texas Dallas
Webmaster	Kaiwen Cao	University of Illinois Urbana-Champaign

CEDA
IEEE Council on Electronic Design Automation

Conference Representatives

- DAC
  - Automatically President-Elect (Cristiana) and Past President (Gi-Joon)
- ASP-DAC
  - Kazutoshi Wakabayashi has been the rep since 2020
- Design Automation & Test in Europe (DATE)
  - Donatella Sciuto 2016-2023 □ Cristiana
  - David Atienza has been the CEDA Liaison since 2016
  - SIGDA had two Liasons till 2019
- ICCAD
  - Tsung-Yi Ho has been the rep since 2013

Motion: ICCAD Conference Representative

MOTION: Tsung-Yi HO moves to approve the appointment of Jiang Hu as the new CEDA ICCAD Representative started in April 2024.

	Jiang Hu	TAMU
	Sung-Kyu Lim	Gatech
	Sherief Reda	Brown
	Luca Daniel	MIT
Female	Qinru Qiu	Syracuse University
Female	Yang (Cindy) Yi	Virginia Tech
Female	Peipei Zhou	Pittsburgh
Female	Hua Xiang	IBM

Motion - ICCAD Representative

- Tsung-Yi Ho moves to approve Jiang Hu as the 2024-2025 International Conference on Computer-Aided Design (ICCAD) Representative.

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CEDA Publications Update

J. Henkel, VP Publications

Contents:

-TCAS-AI
- T-SPI
- TCAD
- ESL
- D&T

IEEE TCAS-AI

EiC Yiran Chen

TCAS-AI –Status and Plans

- Recently approved; EiC works fast to get it started
- CEDA members in TCAS-AI editorial board (2-year term)
  - David Atienza, A-EiC
  - Four AEs: Sharon Hu, Qi Zhu, Ibrahim Elfadel, Ian O’Connor

Plans of the EiC:

- 1) Setting up the submission website
- 2) Inviting the contributions to the inaugural issue of the Transactions
- 3) Status of publication board -> to be finalized. Will send initial list to Managing Committee shortly
- 4) Target plans for first issue: September 2024.

IEEE T-SPI

Report by Luca Daniel

T-SPI status, action items

T-SPI submissions, acceptance, and publication updates (goal to get Impact factor asap)

- #papers published 2022: 18
- Total submissions 2022: 43
- Rejected 2022: 11
- Still in review/revision 2022: 10
- #papers published 2023: 5
- Total submissions 2023: 7 (a little bit concerning)

Action items

1. T-SPI launch tasks and achieving >20 published papers/year for impact factor

a. Marketing and advertising – > building awareness among readers and authors, developing materials

b. Developing submissions

   a. Selective and minimal invited (going through the normal review process) papers – 2-3/year?

IEEE TCAD

EiC David Atienza

Current Status & Achievements

1. Consolidating accept. rates (**34-35%**), top-tier journal for 3 consecutive quarters
   - Average decision time (1st revision): **74** days
   - Average final decision time: **85** days until March 2024
2. Submissions stabilizing (Sep. 2023 to Mar. 2024)
   - Similar number of submissions vs. same period in 2023
   - Accept Ratio: YTD is **38%** so far, it was **39%** in 2023, 2022 was **40.5%**
   - Oldest manuscript without decision: **143** days (it was **203** days in 2021)
3. Optimized TCAD review process and publication timeline with IEEE HQ
   - Fast desk-reject policy of IEEE implemented (fast reject: 1-2 weeks, for low-quality papers)
   - IEEE has claimed to remove backlog/publication delay in the first three months of 2024 completely as agreed with IEEE HQ (more pages for TCAD) but still not done

Current Status & Achievements (2/2)

1. Editorial board renewed in 2024, **25** new AEs
   - Limit of two terms (2 x 2 years) based on IEEE guidelines
   - Increased diversity (Region 10 – Asia and Pacific) and more industrial affiliated AEs (4 new Aes).
   - Editors-at-Large renewed - 40% women and 2 members replaced

3. Expanded nominations for IEEE TCAD Donald O. Pederson Best Paper Award
   - Authors-based/nominated papers in Manuscript Central still are very small pool (**6 in 2023, 5 in 2022**)
   - EiC added auto-nominated papers based on multiple criteria: Enhanced diversity in topics and regions this year (e.g., not any more only US-based papers, and broader scope than AI-related almost all of them).

Challenges (and Opportunities)

- TCAD requires new publications (30% new research) with previous papers
  - Adding experiments or more text while contribution does not expand, it is not acceptable
  - IEEE Regulations does not allow plain verbatim copy (self-plagiarism) – We fixed 40% as rule
  - Papers submitted with prior conf. papers (last 122 months): 219
    - 50% acceptance rate, much higher than typical TCAD average rate today,
    - No “complaints” (until recent exchanges with Yao-Wen Chang)

- New IEEE journals being proposed on AI/ML side - TCASAI
  - Checking overlapping with scope
  - Good collaboration started with current EiC – Prof. Yiran Chen

- Innovative ways to “reward” the reviewers, ideas from the TCAD Editorial Board
  - Offer one free page in TCAD published paper after 3 completed review processes
  - Offer conference registration discounts (e.g., at DATE, DAC, etc.) covered by CEDA

IEEE ESL

EiC Aviral Shrivastava

New Vision for IEEE ESL

To establish IEEE ESL as the *top venue* for *quick dissemination* of early research results in *easily digestible* format for the *embedded systems* research community.

Current state and **Target**

Quality Metric	In 2020	In 2023	By 2028
Impact Factor	2.17	1.6	4
Submissions per year	201	461	1000
Accepts per year	45	86	200
Submission-to-final decision	10.4 weeks	6.7 weeks	4 weeks
Submission-to-publication	11 weeks	10.4 weeks	8 weeks

- Main Goal: Get the **impact factor of IEEE ESL to 4** by 2028.
  - Reduce submission-final-decision time to 6 weeks
  - Reduce submission-to-publication time to 8 weeks

Plan 1 – Change to bimonthly publication

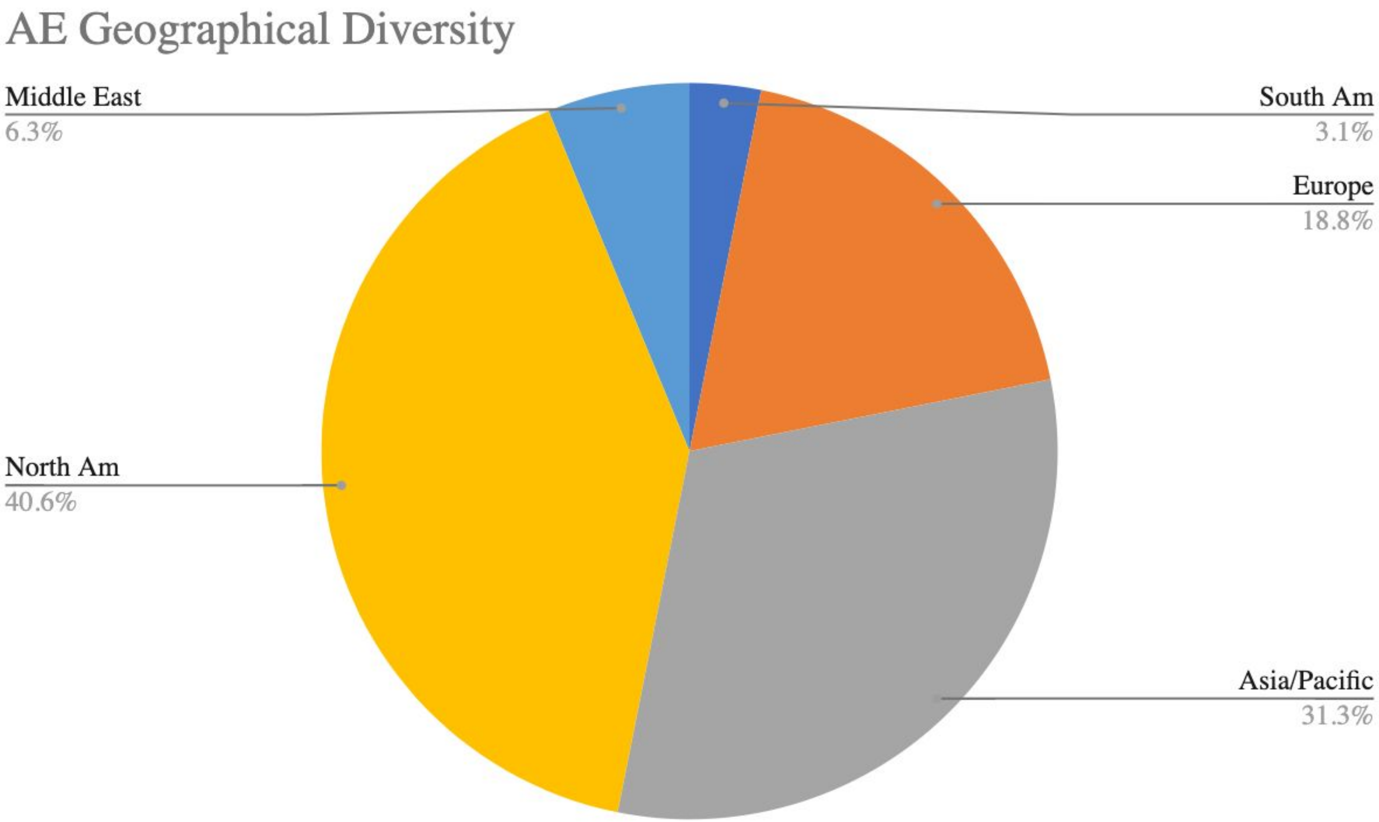
- “Submission-to-publication time” is the most important metric for the authors of IEEE ESL.
  - Frequent publishing will enable fresh content to the readers
  - Will increase IEEE ESL citations.
  - Especially important for short-form papers, which can be read/gleamed quickly.

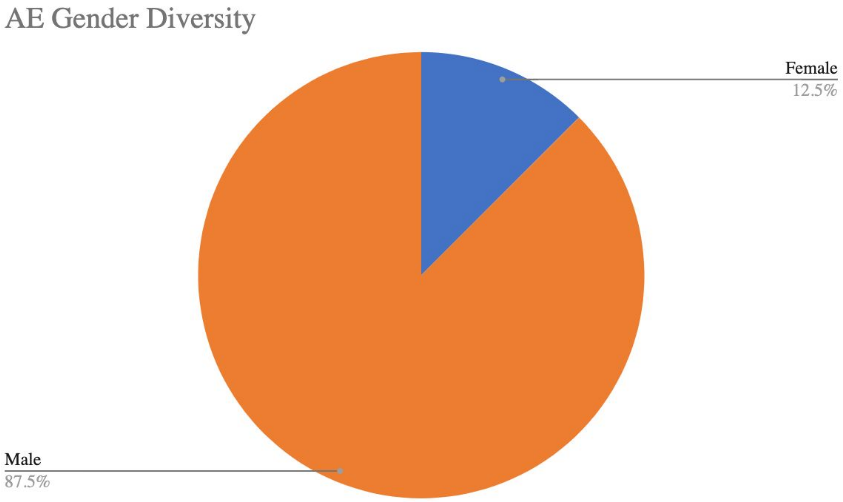
Plan 2 – Streamline review process

- Accelerated Review Process
  - Associate Editors will directly review submitted manuscripts.
    - Improve the quality of reviews
  - Given the concise nature of the IEEE ESL manuscripts (4 pages)
    - It takes more time to find reviewers and get reviews from them, than direct review
  - To Address the diversity concerns, we plan to enlarge the Editorial Board

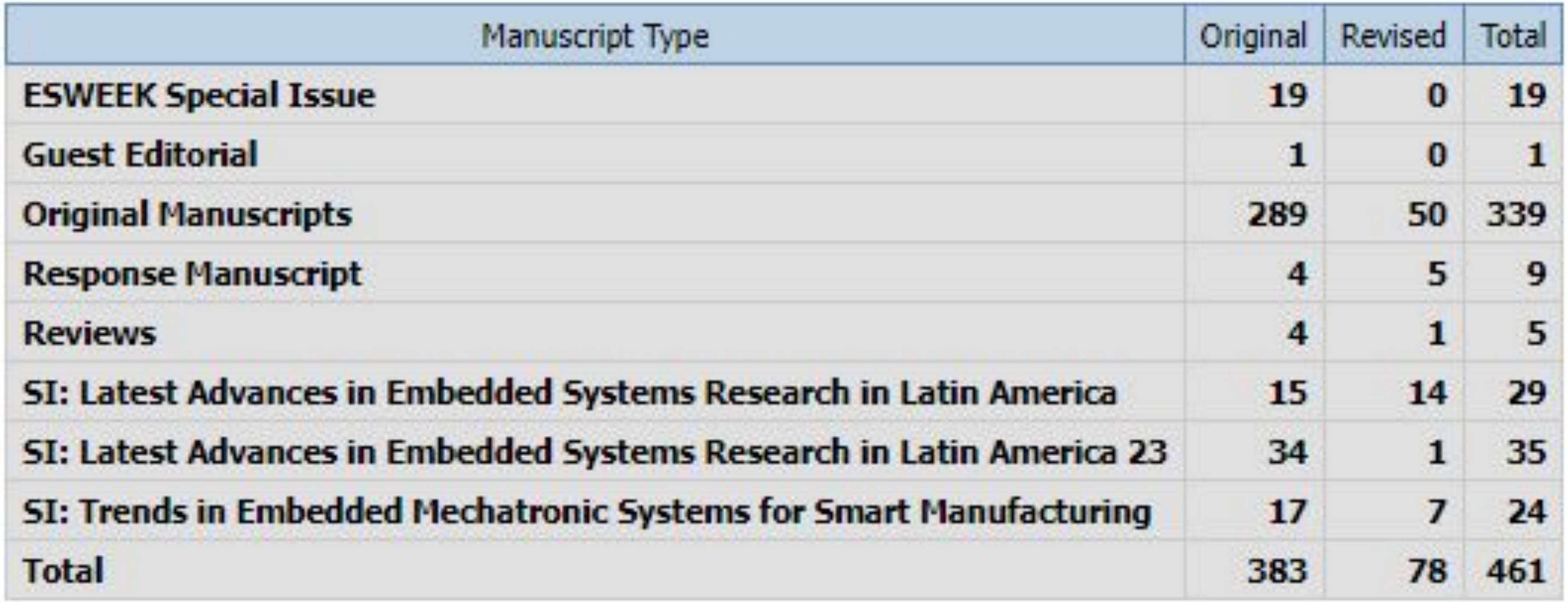
Goal: Promise IEEE ESL authors a one-month review cycle

AE Diversity – Better matches the author diversity



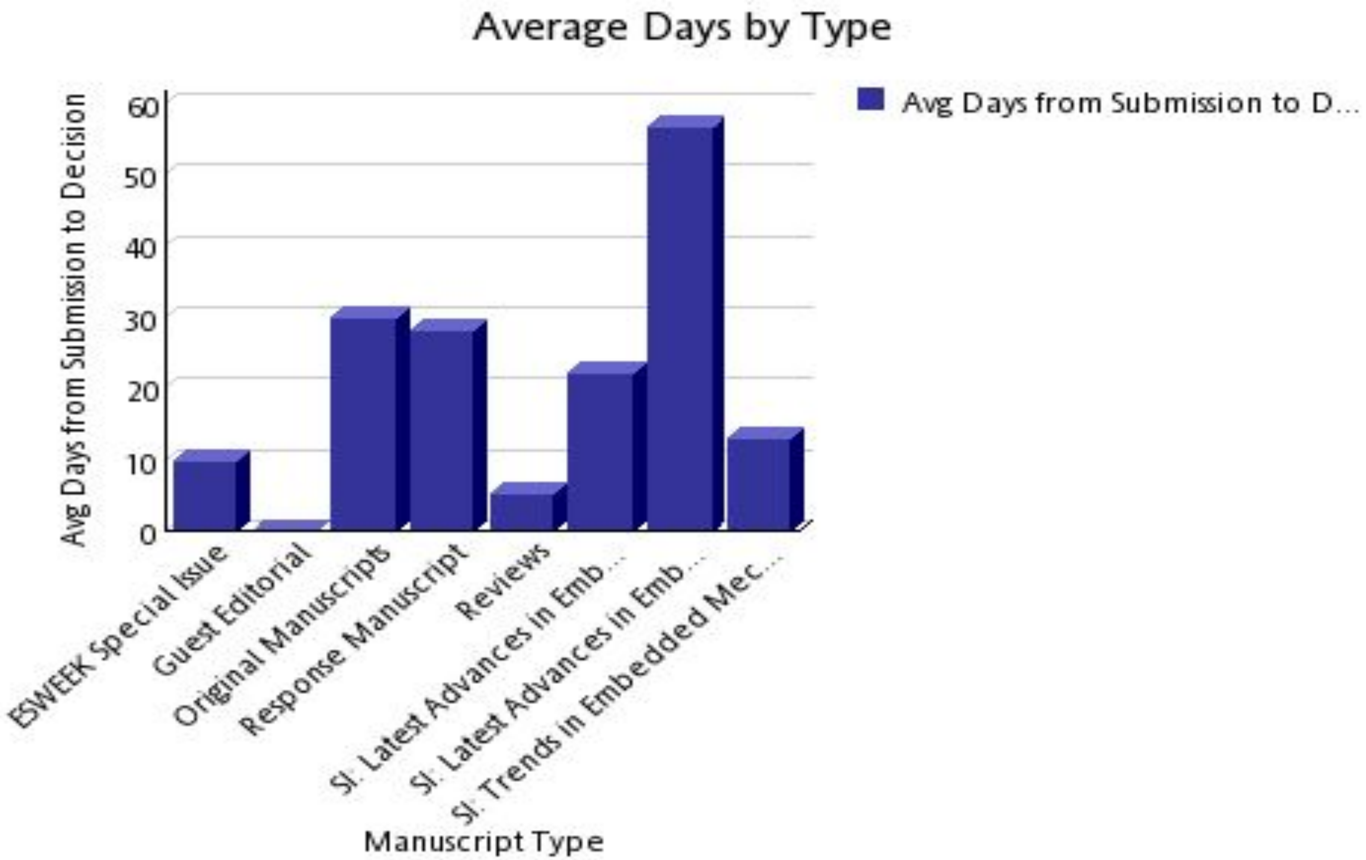


Submission Statistics

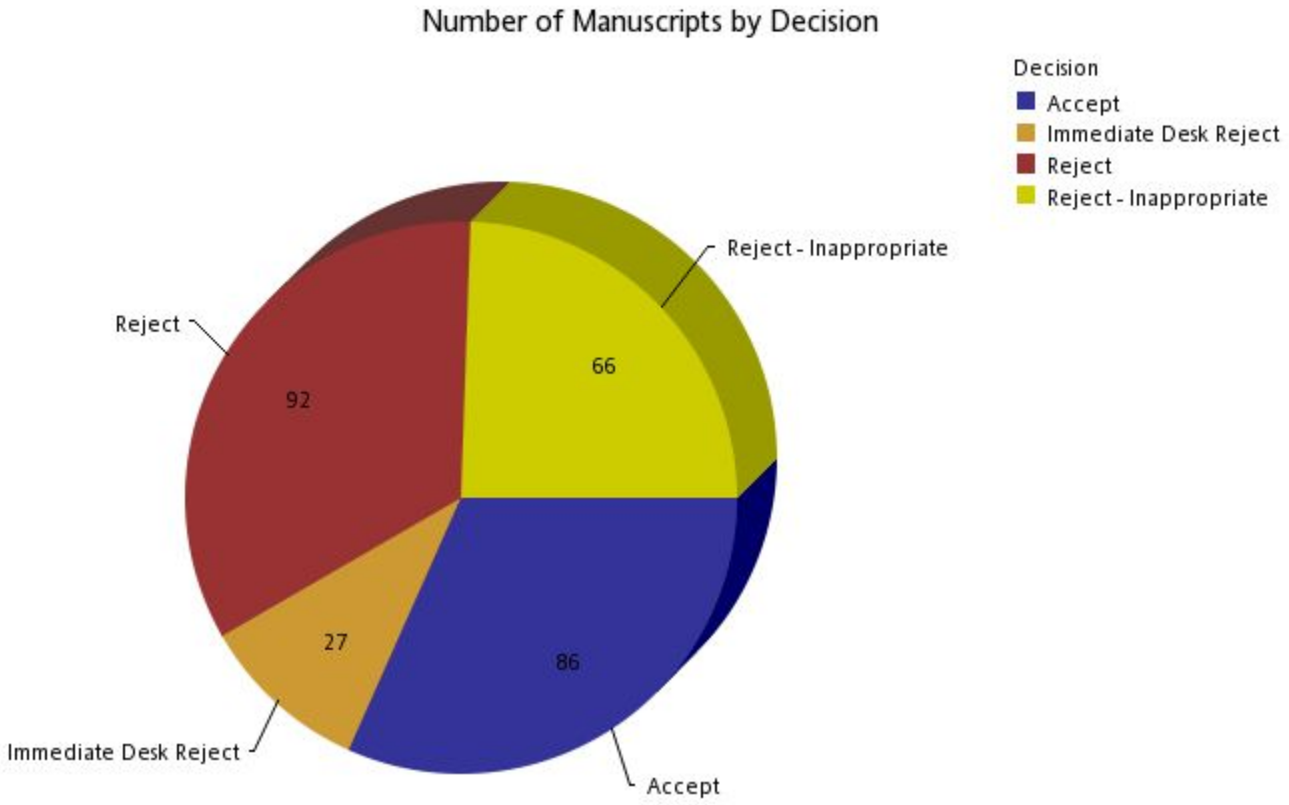


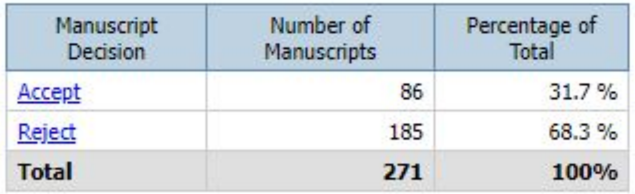
Manuscript Type	Original	Revised	Total
ESWEEK Special Issue	19	0	19
Guest Editorial	1	0	1
Original Manuscripts	289	50	339
Response Manuscript	4	5	9
Reviews	4	1	5
SI: Latest Advances in Embedded Systems Research in Latin America	15	14	29
SI: Latest Advances in Embedded Systems Research in Latin America 23	34	1	35
SI: Trends in Embedded Mechatronic Systems for Smart Manufacturing	17	7	24
Total	383	78	461

Submission to Decision Time



Final Decisions





Manuscript Decision	Number of Manuscripts	Percentage of Total
Accept	86	31.7 %
Reject	185	68.3 %
Total	**271**	**100%**

Statistics

- Current Impact Factor: 1.6
- 5 Year Impact Factor: 1.589
- Total Citations: 392
- Downloads: 60,430

Top 10 Papers

Article Title	First Author	Online Publish Year	Print Publish Year	HTML Views	PDF Downloads	Total Usage	Paper Citations to Date
Embedded Systems Education: Experiences With Application-Driven Pedagogy	Sudeep Pasricha	2022	2022	975	797	1,772	2
Three-Stage Power Supply System Model for a Wearable IoT Device for COVID-19 Patients	Ricardo Álvarez-González	2022	2023	977	692	1,669	1
Deep Learning Inference Parallelization on Heterogeneous Processors With TensorRT	EunJin Jeong	2021	2022	692	593	1,285	37
CHISEL: Compression-Aware High-Accuracy Embedded Indoor Localization With Deep Learning	Liping Wang	2021	2022	622	651	1,273	20
Methodology for CNN Implementation in FPGA-Based Embedded Systems	Federico G. Zacchigna	2022	2023	657	602	1,259	0
Iterative Histogram-Based Performance Analysis of Embedded Systems	Boris Dreyer	2018	2019	633	415	1,048	1
A Remote Control System for Emergency Ventilators During SARS-CoV-2	Michael Barrow	2021	2022	456	288	744	9
Design of Leading Zero Counters on FPGAs	Stefania Perri	2022	2023	297	419	716	0
Predicting Failures in Embedded Systems Using Long Short-Term Inference	Tianyi Zhang	2020	2021	422	282	704	1
Multipliers With Approximate 4–2 Compressors and Error Recovery Modules	Minho Ha	2017	2018	391	273	664	136

IEEE D&T

EiC Partha Pande

A-EiC Mehdi Tahoori

Overview

- Issues in 2023
- Future issues
- New initiatives
- Publication Statistics

Issues in 2023

- Jan/Feb: SI Machine Learning for CAD/EDA (7 papers), 1 tutorial, 1 general interest, 2 reports, 1 interview, Last Byte, From the EiC
- Mar/Apr: SI Testability and Dependability of Artificial Intelligence Hardware (6 papers), 3 general interest, 1 report, Last Byte, From the EiC
- May/Jun: SI Approximate Computing (3), 3 general interest, Report, Interview, Last Byte, From the EiC
- Jul/Aug: SI 40th IEEE VSLI Test Symposium (6), 2 general interest, 1 report, Last Byte, From the EiC
- Sept/Oct: SI SBCCI 2022 (5), 4 general interest, 1 keynote, 2 reports, Last Byte, From the EiC
- Nov/Dec: SI NOCS 2023 (15), From the EiC

New Special Issues

- Ethics in Computing (2024 publication)
- 2021 Workshop on Top Picks (2024 publication)
- Silicon Lifecycle management (2024 publication)
- Post-Quantum Cryptography for Internet-of-Things
- Open-Source Silicon
- Wearable IoT Devices
- Top Picks 2022
- tinyML

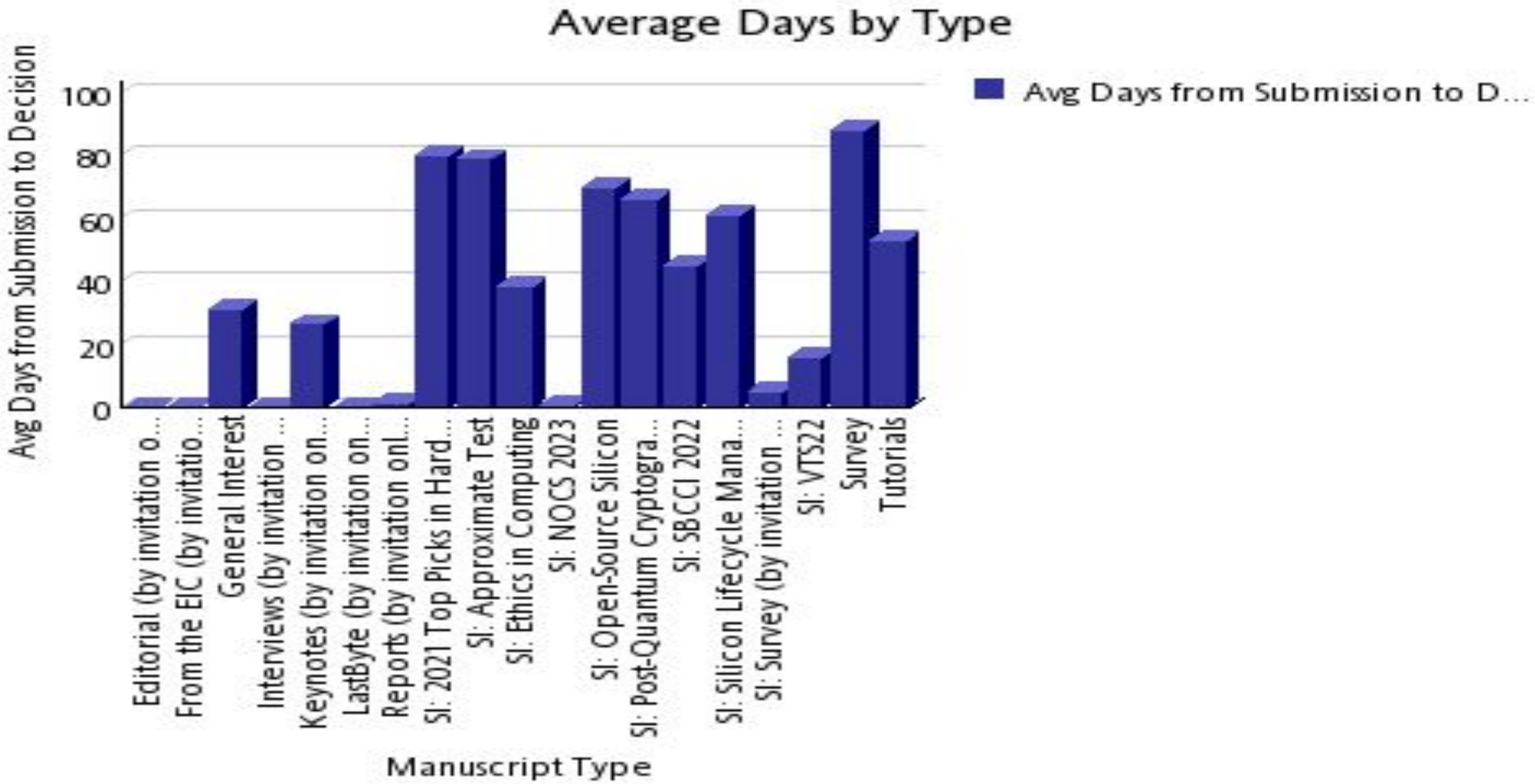
New Initiatives

- Journal first publication model with NOCS
    - All NOCS papers will be published in D&T
- Special issue for VTS
    - Extended version of selected papers from VTS will be published in D&T

Submission Statistics

Manuscript Type	Original	Revised	Total
Editorial (by invitation only)	5	0	5
From the EIC (by invitation only)	8	0	8
General Interest	87	24	111
Interviews (by invitation only)	1	0	1
Keynotes (by invitation only)	2	0	2
LastByte (by invitation only)	7	0	7
Reports (by invitation only)	9	0	9
SI: 2021 Top Picks in Hardware and Embedded Security	6	5	11
SI: Approximate Test	3	0	3
SI: Ethics in Computing	3	3	6
SI: NOCS 2023	15	0	15
SI: Open-Source Silicon	7	1	8
SI: Post-Quantum Cryptography for Internet-of-Things	2	6	8
SI: SBCCI 2022	0	6	6
SI: Silicon Lifecycle Management	0	7	7

Submission to Decision Time



Challenges

- The most important challenge is to increase the number of general interest papers
- Also, improving the quality of general interest papers is necessary
- Getting editors' notes for accepted papers promptly

IEEE Design and Test (Video) Roundtables (Ramesh)

- A series of quarterly events as D&T zoom-based video roundtables making it lively.
- Plan for 3-4 roundtables (is this too many?)
- Maybe open it to the public or keep it closed? (try both options?).
- Share IEEE D&T roundtable videos via IEEE D&T website. (create a place for IEEE D&T roundtable videos; could be one of the free IEEE D&T resources?).
- Each D&T roundtable may include 3 visionaries + moderator. 1-2 visionaries from industry; 1-2 from academia; last for 60 minutes. Q&A type format (similar to the current roundtables)
- Sample topics:
  - Test vs Trust (Rob Aitken, Serge Leef, M. Tehranipoor and S. Mitra; Moderator Ramesh;
  - ML for EDA; Moderator Y. Chen or Hai Li.
  - Resurgence of High-Level Design Paradigms: Moderator Luca Carloni; HLS leads from Cadence, Synopsys and Mentor, Jason Cong UCLA
- Any feedback?

Perspectives (Mehdi)

- Covers general interest topics, 4-8 pages, with very few references.
- Retrospective and forward-looking
- It is usually from senior people in academia and industry
- Potential topics and authors
  - Reliability
    - Jacob Abraham
    - Ravi Iyer
    - ?
  - Testing
    - Janusz Rajski
    - John Hayes
    - Hans-Joachim Wunderlich
    - ?

  - EDA
    - Masoud Pedram
    - Alberto Sangiovanni-Vincentelli
    - ?

Interviews (Nicola)

- Vishwani Agrawal (transcribed, with Nicola for editing)
- Janusz Rajski (transcribed, with Nicola for Editing)

VP Initiatives - Qi Zhu

- Current Status
- Challenges

Young Professionals Coordinato
Iris Hui-Ru Jiang

- Co-sponsor the YP events with SIGDA
- DAC

Event	Lead
PhD Forum	CEDA
University Demo	CEDA
Early Career Workshop	SIGDA
System Design Contest	SIGDA

- ICCAD
  - SRC
- ESWEEK
  - Fair

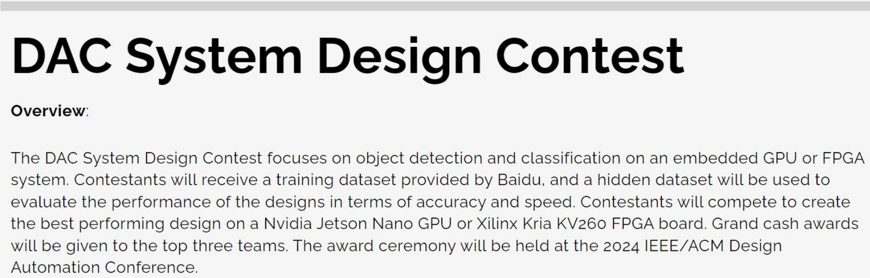
Ph.D. Forum at DAC

The Ph.D. Forum at the Design Automation Conference is a poster session hosted by ACM SIGDA and IEEE CEDA for Ph.D. students to present and discuss their dissertation research with people in the EDA community. It has become one of the premier forums for Ph.D. students in design automation to get feedback on their research and for industry to see academic work in progress: hundreds of people attended the last forums. Participation in the forum is competitive with acceptance rate of around 30%. Limited funds will be available for travel assistance, based on financial needs. The forum is open to all members of the design automation community and is free-of-charge. It is co-located with DAC to attract the large DAC audience, but DAC registration is not required in order to attend this event.

34th ACM SIGDA/IEEE CEDA University Demonstration

Date: June 24, 2024

Location: Moscone Center West, San Francisco



DAC System Design Contest

Overview:

The DAC System Design Contest focuses on object detection and classification on an embedded GPU or FPGA system. Contestants will receive a training dataset provided by Baidu, and a hidden dataset will be used to evaluate the performance of the designs in terms of accuracy and speed. Contestants will compete to create the best performing design on a Nvidia Jetson Nano GPU or Xilinx Kria KV260 FPGA board. Grand cash awards will be given to the top three teams. The award ceremony will be held at the 2024 IEEE/ACM Design Automation Conference.

Lunch Break

- 12:00 - 1:00 PM

VP Publicity - Sri Parameswaran

- Current Status
- Challenges
- Proposed Promo Items

Publicity Update

Sri Parameswaran

- Website
- Mail (Mailchimps)
- Social Media
- Conferences

Website

- Being migrated to Catalyze 2.0
  - Expected launch May 2024
  - Featured posts on homepage
  - Announcements section
  - Upcoming events
  - Adding Member Society news/conferences to the website and in the newsletter
- Possible addition – interviews with EiCs, Distinguished Speakers, Conference Chairs and Events.

Mail

- Standalone
  - Awards Call for Nominations
  - Kaufman Press Releases
- Currents Newsletter - sent on the even months February
  - April
  - June
  - August
  - October
  - December
- Community Calls - sent on odd months
  - January
  - March
  - May
  - July
  - September
  - November

Social Media

- LinkedIn
- Facebook
- Twitter
- YouTube
- Possible Tiktoks of interesting excerpts?

DAC 2024 - Luis Miguel Silveira/ Gi-Joon Nam/Ian O'Connor

- Current Status
- Challenges
- DAC Distinguished Luncheon Speaker Discussion & Vote

CEDA Technical Activities

Ian O'Connor, Vasilis Pavlidis

March 24th, 2023

Agenda

- CEDA Chapters:
  - News, budget, Chapter award
- Distinguished lecturer program
  - Class 2023-2024 + Call for class 2024-2025
- DAC luncheon keynote
- CEDA representation in Women in Engineering (WIE)

CEDA Chapters

13 active Chapters

Chapters with no 2024 funding request

- Central Texas
- Japan
- Montreal
- Morocco
- Russia
- Seoul
- Tunisia

2023

- Bangalore
- Beijing
- Central Illinois
- Chengdu
- Guangzhou
- Hong Kong
- Japan
- Pennsylvania
- Russia
- Shanghai
- South Brazil
- Spain
- Switzerland
- Taipei
- Tunisia
- Kenya

2024

- Bangalore
- Beijing
- Central Illinois
- Chengdu
- Central Penn.
- Guangzhou
- Hong Kong
- Kenya
- Shanghai
- South Brazil
- Spain
- Switzerland
- Taipei

Potential new Chapters?

- Boston
- San Francisco Bay area
- France
- Germany
- Italy
- Portugal
- Turkiye

CEDA Chapters

- Financial Sponsor
  - Support 12 proposals (10 in 2023)
- Chapter Report
  - vTools
- Budget Allocation
  - Group event: seminars, meetings, summer course, DL, etc.
  - Special event: contest, awards, etc.
  - General expense: banner, local travel, souvenir, etc.
- Role Rotation
  - Chair, Vice Chair, Treasurer/Secretary
  - Term of service

Chapter budget

- Funding guidelines:
  - New chapters – funding capped around 5k$ (maximum for active chapters)
  - Funding reduction for events that can be funded through other means
- Total funding for all chapters around 40k$ - wiring process completed

Name	Country	IEEE Region	Code	Chair	Member count (Feb 2024)	2023 activity	Number of planned events	Funding request (USD)	Approved funding (USD)
Bangalore	India	10	CH11092	Mr. Aloke Kumar Das	1444	New in 2024	11	14950	4750
Beijing	China	10	105100	Wenjian Yu	169	Not active	2	4998	3749
Chengdu	China	10		Letian Huang	33	Pending	2	0	0
Central Illinois	USA	4	400500	Rakesh Kumar	9	Will send activity report	3	3000	3000
Central Pennsylvanie	USA	2	203700	Baris Taskin	9	Pending	3	3780	3060
Guangzhou	China	10		Hongce Zhang	138	Activity report received	5	1400	1400
Hong Kong	China	10		Chak Chung Cheung	82	Activity report received	3	5000	4000
Kenya	Kenya	8	804300	Stephen Okwiri	37	New in 2024	6	10000	5000
Shanghai	China	10		Xuan Zeng	60	Activity report received	11	6426	4956
South Brazil	Brazil	9	CH09096	José Luis Guntzel	107	Activity report received	6	2000	2000
Spain	Spain	8		Francisco V. Fernandez	73	Activity report received	3	272,5	273
Switzerland	Switzerland	8		Andreas Burg	32	Pending	4	1897,5	1898
Taipei	Taiwan	10		Ing-Chao LIN	116	Pending	10	6000	4800
								59724	**38884,5**

Chapter of the Year Award

- **Description:** To recognize the CEDA Chapters with the best yearly activities in the categories of chapter-sponsored technical activities. Award will recognize their contribution with consideration of quantity and quality of the activities implemented by the chapters.
- **Prize:** $500 and Certificate to the Chapter of the Year. Presented to the chapter chair and must be used to fund chapter activities.
- **Funding:** Funded by the IEEE CEDA. Award is funded via CEDA Award Fund in the IEEE Foundation.
- **Presentation:** Annually at ICCAD
- **Basis for Judging:** The awards criteria include number and quality of chapter activities, percentage of attending sponsored events, membership development activities and chapter growth, local conferences/symposia/workshops, participation in the Distinguished Lecturer Program, involvement of students and YP members, contributions to newsletter, and timeliness of reporting of prior year.
- **Eligibility:** The winning chapters must be IEEE CEDA chapters. Self-nominations are allowed.
- **Nomination Details:** Previous winners of are not eligible for the same award within 3 years from the receiving the last award.

Call for Proposals 2025

- Activity Planning Proposal for 2025
  - https://ieee-ceda.org/about/chapter-resources
  - Due: **January 2025**
  - **Please send it to Ian and Amanda**

Seed Grants

A Seed Grant is for funding innovative or pilot projects that require US$40,000 or less and take 12 months or fewer to complete.

Innovation Seed Grant Opportunity

An Innovation Seed Grant is for projects that require higher levels of funding than the US$40,000 typically associated with Seed Grants. Projects that have a high potential to have a positive impact across the entire IEEE are welcome to submit an application for Innovative Seed Grant funding for experimental, pilot projects and initiatives of up to US$100,000. These projects typically take 12 months or less to complete.

New Initiatives

Typical New Initiatives are large-scale projects that are in line with IEEE's strategic direction, support the vision and mission of IEEE, and require significant funding. These proposals typically require funding of US$100,000 or more for up to three 12-month periods.

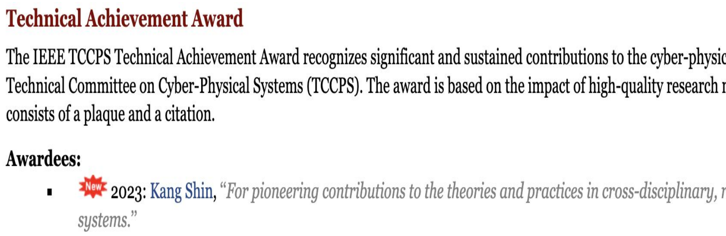
CEDA Technical Committees

- DATC (Design Automation Technical Committee)
  - Chair: Jinwook Jung, IBM
- SVDTC (System Validation and Debug Technology Committee)
  - Chair: Chinna Prudvi, Intel Inc.
- TCCPS (Technical Committee on Cyber-Physical Systems)
  - Chair: Shiyan Hu, University of Southampton
- TTTC (Test Technology Technical Council)
  - Chair: Peilin Song, IBM
- Hardware Security and Trust Technical Committee (HSTTC)
  - Chair: Gang Qu, University of Maryland

- Awards, Tools, Standards, Outreach, etc.

56: IEEE CEDA DATC: Emerging Foundations in IC Physical Design and ML-CAD Research

Jinwook Jung (UCSD)
Andrew Kahng (UCSD)
Sayak Kundu (UCSD)
Zhiang Wang (UCSD)
Dooseok Yoon (UCSD)



Technical Achievement Award

The IEEE TCCPS Technical Achievement Award recognizes significant and sustained contributions to the cyber-physic
Technical Committee on Cyber-Physical Systems (TCCPS). The award is based on the impact of high-quality research r
consists of a plaque and a citation.

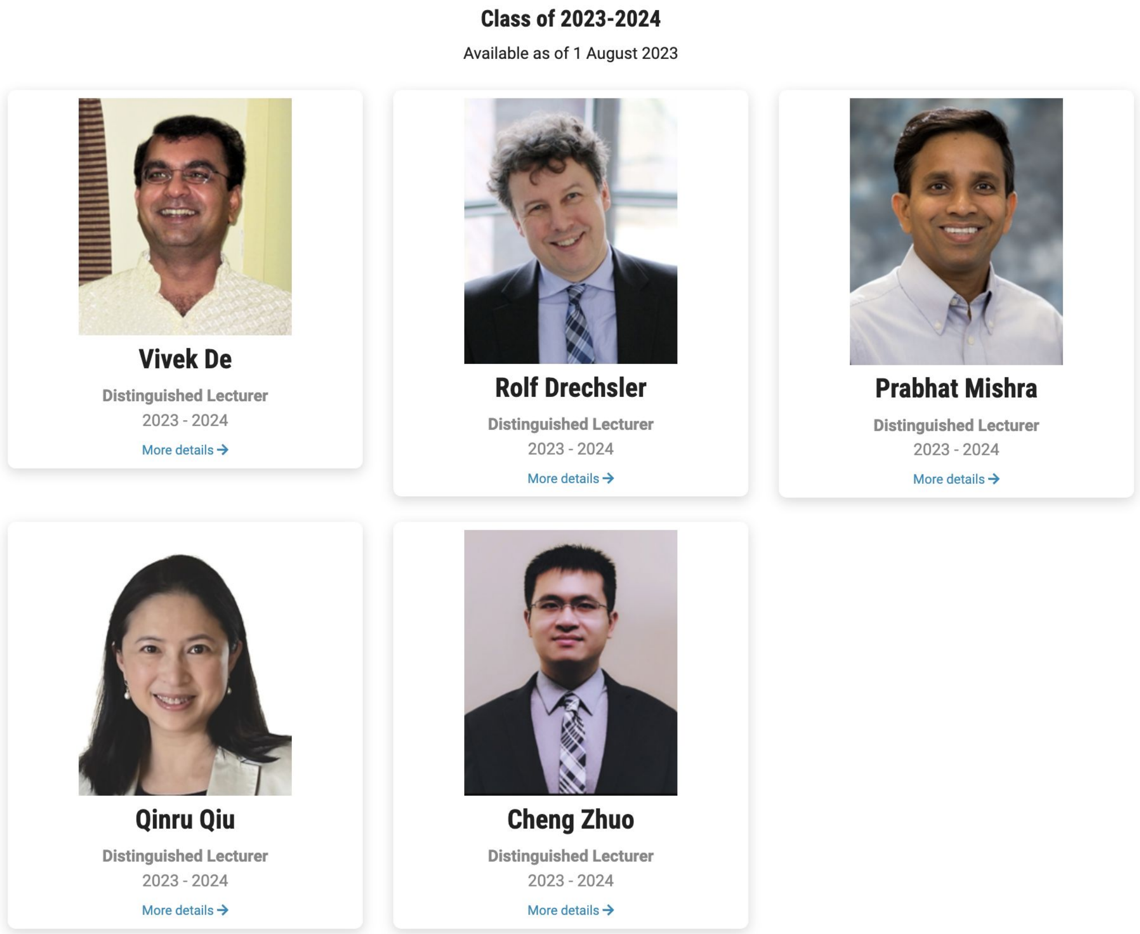
Awardees:

- New 2023: Kang Shin, *"For pioneering contributions to the theories and practices in cross-disciplinary, r systems."*

Attacks on Logic Locking, Obfuscation, Fine-grain Hardware Redaction, & Routing Table Configuration

HeLLO: Capture The Flag 2023

Distinguished Lecturer Program



Class of 2023-2024

Available as of 1 August 2023

Vivek De
Distinguished Lecturer
2023 - 2024
More details →

Rolf Drechsler
Distinguished Lecturer
2023 - 2024
More details →

Prabhat Mishra
Distinguished Lecturer
2023 - 2024
More details →

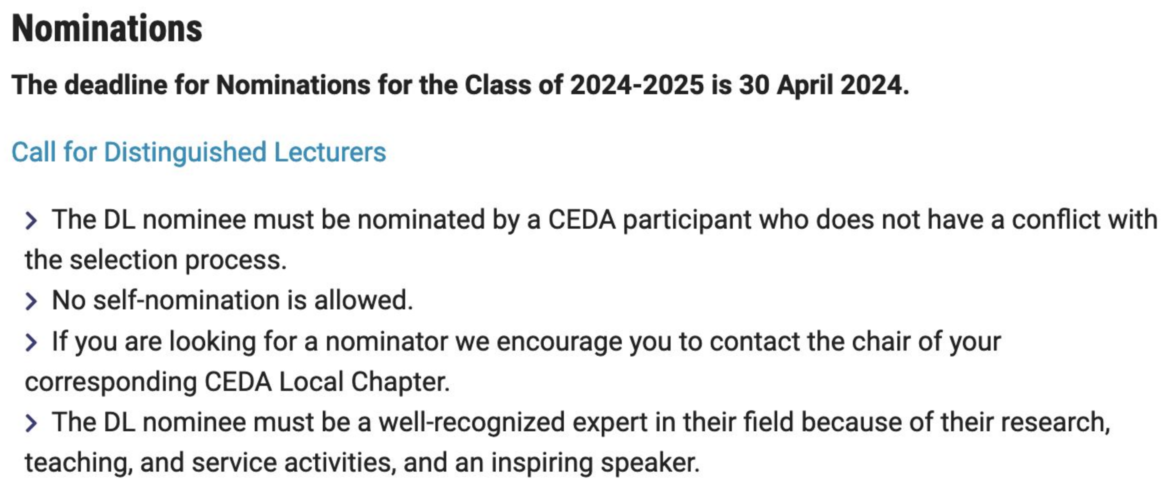
Qinru Qiu
Distinguished Lecturer
2023 - 2024
More details →

Cheng Zhuo
Distinguished Lecturer
2023 - 2024
More details →

Class of 2024-2025

To be available as of 1 August 2024

https://ieee-ceda.org/call-distinguished-lecturer-nominations



Nominations

The deadline for Nominations for the Class of 2024-2025 is 30 April 2024.

Call for Distinguished Lecturers

- The DL nominee must be nominated by a CEDA participant who does not have a conflict with the selection process.
- No self-nomination is allowed.
- If you are looking for a nominator we encourage you to contact the chair of your corresponding CEDA Local Chapter.
- The DL nominee must be a well-recognized expert in their field because of their research, teaching, and service activities, and an inspiring speaker.

DAC 2024 CEDA Luncheon Keynote

- Scheduled for Tuesday June 25th
- List of 7 names sent to EC members for vote preparation:
  - Pieter Abbeel, UCB - Topic: Robotics, reinforcement learning
  - Andrew Kahng, UCSD - Topic: Open-Source EDA
  - Diana Marculescu, UT Austin - Topic: On-device learning
  - Li-Shiuan Peh, NUS (Female) - Topic: Next generation wearables
  - Ingrid Verbauwhede, KU Leuven - Topic: Hardware Security
  - Jelena Vuckovic, Stanford - Topic: Photonics
  - Douglas Yu, TSMC - Topic: 3D chiplets and heterogeneous integration
- complementarity to DAC keynotes already scheduled

Scheduled DAC keynotes

- Mon June 24th: Jim Keller (CEO, Tenstorrent) Jim Keller (engineer) - Wikipedia: Future of Architecture/Design
- Tue June 25th: Dr. Gary Patton (Corporate VP, Intel) Gary Patton - Wikipedia: Future of Systems Foundry
- Wed June 26th: Alan Lee (CTO, Analog Devices Inc.)
- Thu June 27th: Sarita Adve (Professor, U Illinois) - generalizable and scalable specialization for domain-specific systems, with a focus on systems for extended reality or XR (including virtual, augmented, and mixed reality)

CEDA representation in WIE + CEDA D&I Chair

- Prof. Shao-Yun Fang (NTUST, TW) represented CEDA in the IEEE (WIE) initiative and served as the Diversity and Inclusion Chair of CEDA since 2021
  - Has done an excellent job but recently asked to be replaced

- IEEE has been pushing for a nomination
  - Need an active participant

- Ayse Coskun has been managing DiVEDA Forum initiative
  - 4th edition happening Wednesday March 27th, 11am12:30pm
    Organizers: Nusa Zidaric & Marina Zapater Sancho

WIE, D&I potential chairs (none invited yet)

- Anca Molnos, CEA-LIST, FR
- Laura Pozzi, USI Lugano, CH
- Aida Todri-Sanial, TU Eindhoven, NL
- Qinru Qiu, Syracuse University, US
- Tiziana Margaria, University of Limerick and Lero, IE
- Maria Méndez Real, IETR Nantes, FR
- Mariagrazia Graziano, Politecnico di Torino, IT
- Sybille Hellebrand, University of Paderborn, DE
- Sabine Glesner, Technische Universität Berlin, DE
- Angeliki Kritikakou, IRISA, FR
- Maria Mushtaq, Telecom Paris, FR

CCLLC Digital Solutions - Rob Sembrat

- CAT2 Web Updates

VP Awards - Deming Chen

- Current Status
- Challenges
- Chapter of the Year Proposal
- Increase Chapters/Participation/Initiatives

Education - Cristiana Bolchini/Enrico Macii/ Luis Miguel Silveira

- Education Initiatives
- Division I Efforts
- Future Coordinator/VP Education Position

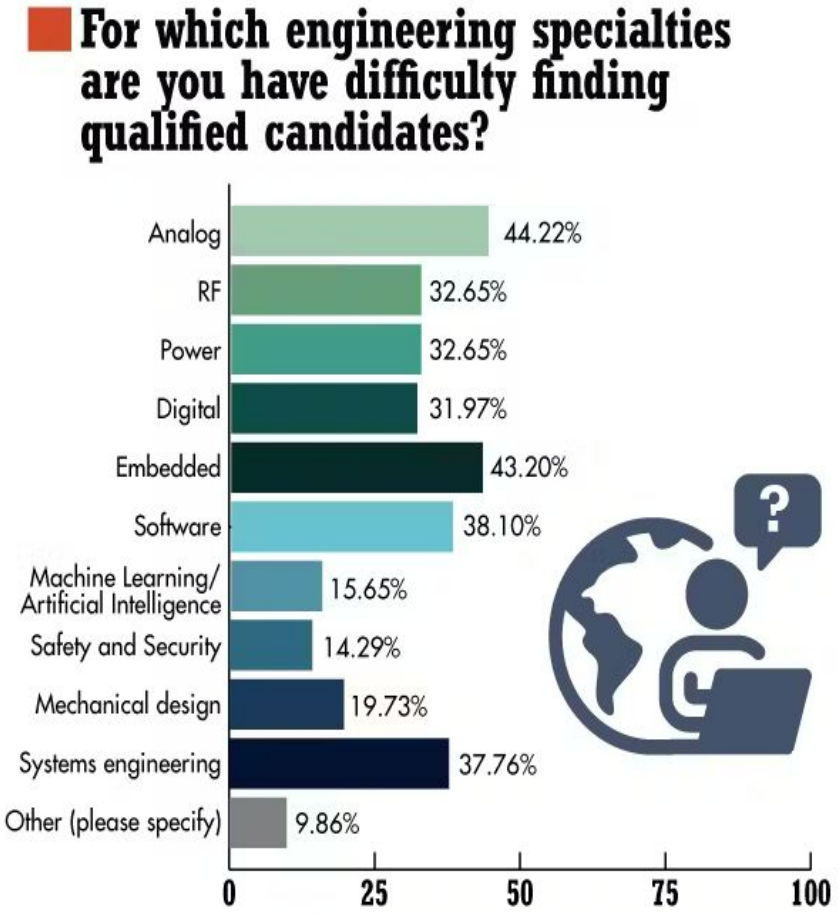
CEDA for Education in EDA

Cristiana Bolchini, Enrico Macii

March 23, 2024

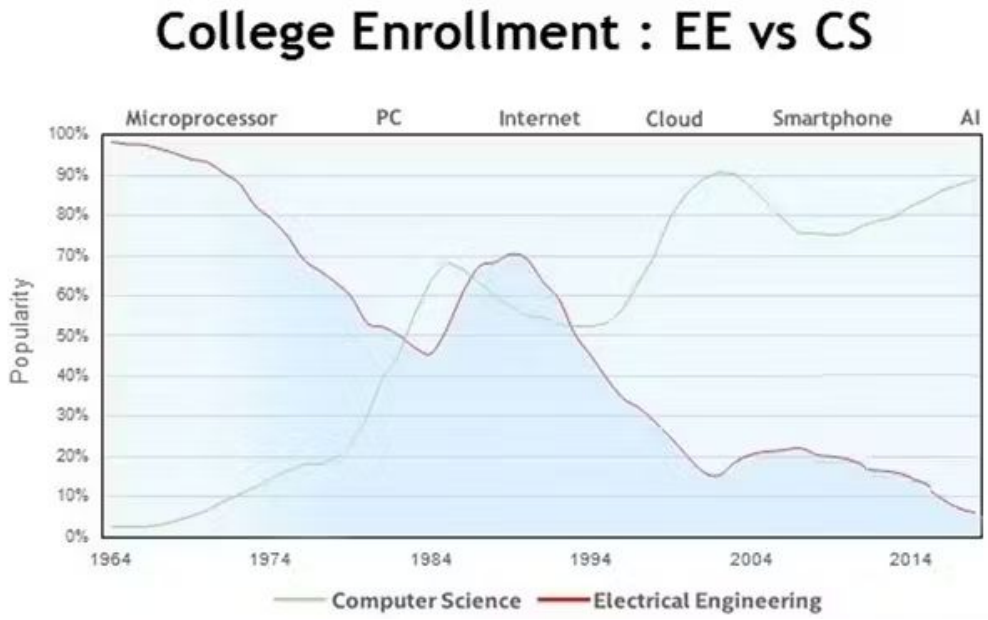
design skills shortage

- The semiconductor industry needs hundreds of thousands of new employees
- Circuits and systems designers are the most critical human resources to be found


For which engineering specialties are you have difficulty finding qualified candidates?

EE vocational crisis

- The world is facing an electronics “vocational” crisis
- In the ICT domain, “electronics” is not as appealing as other subjects (e.g., AI, Data Science, Cloud, IoT)


College Enrollment : EE vs CS

Existing initiatives

- Specific programs to attract youngsters to the discipline of IC design are undertaken worldwide
- Within IEEE:
  - SSCS PICO program:
    - Democratizing circuit design
  - CASS UNIC program:
    - Universalization of IC Design

IEEE CEDA to play a leading role in the game

- Leverage the fact that AI, ML, and Data Analytics are technologies that are being increasingly exploited and incorporated in EDA methods and tools
  - Offer a “modern” look at circuit design
- Develop a program to address young people (target: high-school students)
  - A portfolio of initiatives:
    - Customizable seminar/course/lab available worldwide
    - Visit to selected schools by professionals
    - Scholarships and awards
    - EDU program by EDA vendors
    - Promotional events sponsored by EDA and semiconductor companies
    - ....

Timeline

- Winter 2023-2024:
  - Set up of customizable “syllabus” for the seminar/course/lab.
  - Share material with international experts for feedback collection
- Spring 2024:
  - Submit workplan for approval to CEDA ExCom
- Summer 2024:
  - Define KPIs to measure the impact of the initiative
  - Present implementation plan to CEDA ExCom
- Fall 2024:
  - Run a dedicated promotional event at ICCAD 2024?
  - **Execution of pilot program (at selected local high schools) for testing and tuning**
- Winter 2024-2025:
  - Launch of initiative at world scale

course/seminar/lab

- Goal:
  Introduce young students to microelectronics design
- Constraints:
  - Attendees have no EE and CS background
  - Max duration: 25 hours, including lab sessions
  - Design tool with simple GUI and simulation capabilities
  - Teaching by example, very little theory, practical experience
  - Free (or EDU) licenses
- Availability of computer lab
  - Alternative: Students have personal notebook/laptop

contents - preliminary

- Introduction to microelectronics (1hr)
- Basics in digital circuits (6hr)
- Design principles and examples (8hr)
  - alternative designs with different power/performance/… characteristics
- Lab (10hr) - tunable
  - Design exploration and comparison of different solutions
  - Design examples:
    - Audio player
    - Video player
    - Drone controller
  - Mapping on FPGA for practical measurements (optional)

Afternoon Break

- 3:05 - 3:20 PM

Old/New Business - Luis Miguel Silveira/CCLLC

- CEDA Website - Status Update
    - Rob Sembrat, CCLLC Digital Solutions
- Brainstorming Session
- Administrative Updates
    - CEDA Google Calendar
    - Dinner - 7:00 PM

Racó de L ' Arnau | Restaurante con terraza en Valencia

Av. de les Corts Valencianes, 39, Campanar

46015 València, Valencia, Spain

Adjourn

- 4:00 PM