

CEDA Publications

- Report by VP Publications -

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Antwerp, April 16th. 2023

Report Overview

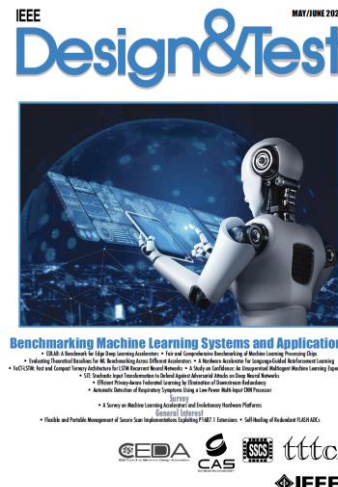
- Misc
 - PRAC on ESL and TCAD earlier this year in NYC: went smooth with minor comments only
 - TCAD: EiC term ends by 12/2023; EiC has indicated availability for a further term (will provide a report at DAC CEDA meeting)
 - ESL: 2nd term of EiC ends by 12/2023; call by mid this year and forming a selection committee
- Status reports:
 - D&T (Partha Pande)
 - TCAD (David Atienza)
 - ESL (Preeti Panda)

IEEE Design&Test Update

EiC: Partha Pande

Design and Test Magazine Magazine Issues in 2022

- Jan/Feb: Autonomous Systems Design, 5 SI papers, 4 general interest papers (plus 3 reports, last byte, TTTC newsletter and from the EiC).
- Mar/Apr: SBCCI 2020 and SI on Near Memory; 12 total SI papers, 3 general interest (plus last byte, TTTC newsletter, and from the EiC)
- May/Jun: SI on ML Benchmarking; 10 SI papers, 2 general interest (plus last byte, TTTC, and from the EiC)
- Jul/Aug: SI on 2021 Top Picks in Hardware and Embedded Security, 6 SI papers, 4 general interest papers (plus a report, last byte, from the EiC)
- Sept/Oct: Design and Test of Multi-Chip Packages, 5 SI papers, 4 general interest (plus last byte, from the EiC, TTTC newsletter)
- Nov/Dec: NOCS 22 (Network-on-Chips)



Design and Test Magazine

New Special Issues in Development

- Post-Quantum Cryptography for Internet-of-Things (IoT)
- Silicon Lifecycle Management (SLM)
- 2022 HW-Security Top Picks
- Approximate Test
- Special issue on VTS 2022
- Ethics in computing
- NOCS Journal first publication

Design and Test Magazine New Initiatives

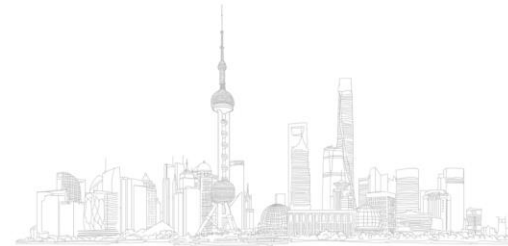
- Journal first publication model with NOCS : Networks-on-Chip
 - All NOCS papers will be published in D&T

[NOCS 2022 »](#) [HOME](#) [CALL FOR PAPERS](#) [CALL FOR SPECIAL SESSIONS](#) [SUBMISSION](#) [PROGRAM](#) [REGISTRATION](#) [COMMITTEE](#)

NOCS 2022

16th IEEE/ACM International Symposium on Networks-on-Chip

October 13-14, 2022, Virtual Conference



- Special issue for VTS
 - Extended version of selected papers from VTS will be published in D&T

Tutorials and Interviews in D&T: The Future Plans

Future Tutorial Articles (Tentative)

- Sayeef Salahuddin et al., “***Design with Post-10nm CMOS: Challenges and Solutions***”, UC Berkeley, [Invitation planned]
- David Pan, “***AI for Automated Design: Current Practice and Future Promises***”, UT Austin, [Invitation Planned]
- Guru Prasad Venkataramani, Jason Fung, “***Timing Side-channel Attacks: Spectre, Meltdown and Beyond***”, George Washington University and Intel Corporation, [Invitation Planned]
- Shobha Vasudevan and Debjit Pal, “***Assertion based Verification***”, Goggle Brain and UIUC, UIC [Invitation Planned]
- Sandip Ray, “***Automotive safety and security***”, U. of Florida
- Zhiru Zhang et al., “***AI Acceleration in FPGA, CPU and GPU***”, Cornell U.

Interviews (Nicola Nicolici, McMaster University Canada)

- Janet Olson, Cadence
- Steve Kang, UCSC

IEEE Design and Test Video Roundtables

D&T Lead: Ramesh Karri, NYU

- A series of quarterly events as D&T zoom-based video roundtables with a focus on *making it lively*.
- Share IEEE D&T roundtable videos via IEEE D&T website
- 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
- **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

D&T Highlights

Year	Papers Submitted	Papers Published	Pages	Downloads	Pub/Rank
2018	168	88	604	48353	176
2019	180	71	544	67414	176
2020	266	87	696	57442	178
2021	177	73	712	59290	170
2022	156	99	748	69757	173

Pages published per year (2018-2020)	Impact Factor	Immediacy Index	Citation Half-Life	Eigenfactor	Article Influence
Average of 660	2.223	0.459	8.7 years	0.00149	0.669



Source: IEEE PRAC review of D&T Magazine, 2021 and IEEE updated data February 15, 2023

IEEE TCAD Update

EiC: David Atienza

One Year of Service At A Glance

1. Completed changes in members and review process
 - Editorial board significantly changed (34 new AEs out of 61)
 - Updated review and feedback process (**More detailed feedback** to authors on reject cases - **5% of papers** are later resubmitted, from 10% in 2021)
2. Submissions statistics of first year (From Jan 1st to December 31st, 2022)
 - Increase of **39%** in number of submissions (mainly from Asia) vs. same period in 2021
 - Manuscripts Received: 1143 (New: 702, From conf: 305, Survey: 5, Brief: 53)
 - Average decision time (1st revision): **64.8** days
 - Average final decision time: **85.3** days in 2022
 - Accept Ratio: 351/1143 (**30.71%**) in 2022, YTD in 2021 was 40.63%
 - Oldest manuscript without decision: **213** days

Important Points to Discuss (1/2)

- Editorial board significantly “refreshed” in 15 months (34 new AEs out of 61)
 - Increased diversity, and removed long-term AE pool (serve <4 years).
 - Editors-at-Large renewed after 4 years (3 new members out of 6, 50% women presence)
 - Still **heavy load on Editorial Board** due to increase in number of submissions
- Changes in topics have consolidated areas and expand new topics
 - Topics merged with others: “Human Factors in Design” and “Embedded Intelligence”.
 - New area of Quantum is very popular (“Automation for Emerging Tech.” and “Emerging Tech.”)
 - PRAC asked CEDA to identify “new topics”, really needed? More danger from **new IEEE Journals “taking over” TCAD scope!**
- Needed automation of editorial activities and enhanced feedback process
 - Significant **resubmission of rejected or out-of-scope papers (~20%)**: to be addressed with new desk reject process approved by IEEE HQ (decision taken by AE/Deputy EiC + EiC)

Important Points to Discuss (2/2)

- Successful IEEE PRAC Review (thanks Joerg and Miguel!), feedback to be addressed
 - Even more diversity needed in Editorial Board: More members **from Region 10 and Industry**
 - Try to reduce backlog with “innovative ideas”: Short papers, etc.
 - Consider to move IEEE TCAD to Open Access
- New IEEE TCAD Donald O. Pederson Best Paper Award process implemented
 - Authors-based and AE-nominated papers in Manuscript Central very small pool (**5 in 2022**)
 - EiC added auto-nominated papers based on multiple criteria: **Little diversity in topics and regions (e.g., US-based papers, and in AI-related almost all of them).**
 - Final selection committee to be updated for next year (30% rotation recommended by IEEE every two years)

IEEE ESL Update

EiC: Preeti Panda

Editorial Board Composition (2022-23)

Editor-in-Chief

Preeti Ranjan Panda, IIT Delhi

Deputy Editor-in-Chief

Aviral Shrivastava, Arizona State University

Associate Editors

Hiroyuki Tomiyama
Ritsumeikan Univ

Ramesh Karri
New York Univ

Catherine Gebotys
Univ of Waterloo

Priyadarshini Panda
Yale Univ

Partha S. Roop
Univ of Auckland

Ganapati Bhat
Washington State Univ

Donatella Sciuto
Politecnico Di Milano

Debayan Roy
Huawei

Jingtong Hu
Univ of Pittsburgh

Swaroop Ghosh
Penn State Univ

Rasit Topaloglu
IBM

Ruben Salvador
CentraleSupelec

Takuya Azumi
Saitama Univ

Annelie Heuser
CNRS

Jingwen Leng
Shanghai Jiaotong Univ

Namita Sharma
Intel

Akash Kumar
TU Dresden

Ozgur Sinanoglu
NYU Abu Dhabi

Luciana De Micco
UNMDP

Amit Singh
Univ of Essex

Partha Pratim Pande
Washington State Univ

Francesca Palumbo
Univ of Sassari

Reiley Jeyapaul
ARM

Mirjana Stojilovic
EPFL

Srinivas Katkoori
Univ of South Florida

Dip Goswami
Eindhoven Univ of Tech

Aritra Hazra
IIT Kharagpur

Mengying Zhao
Shandong Univ

Soontae Kim
KAIST

Anupam Chattopadhyay
Nanyang Tech. Univ

John Jose
IIT Guwahati

Alfredo Arnaud
Univ Católica del Uruguay

ESL Editorial Board Geographical Distribution



USA: 26% Europe+: 29% Asia/Pac: 29% LatAm: 6%

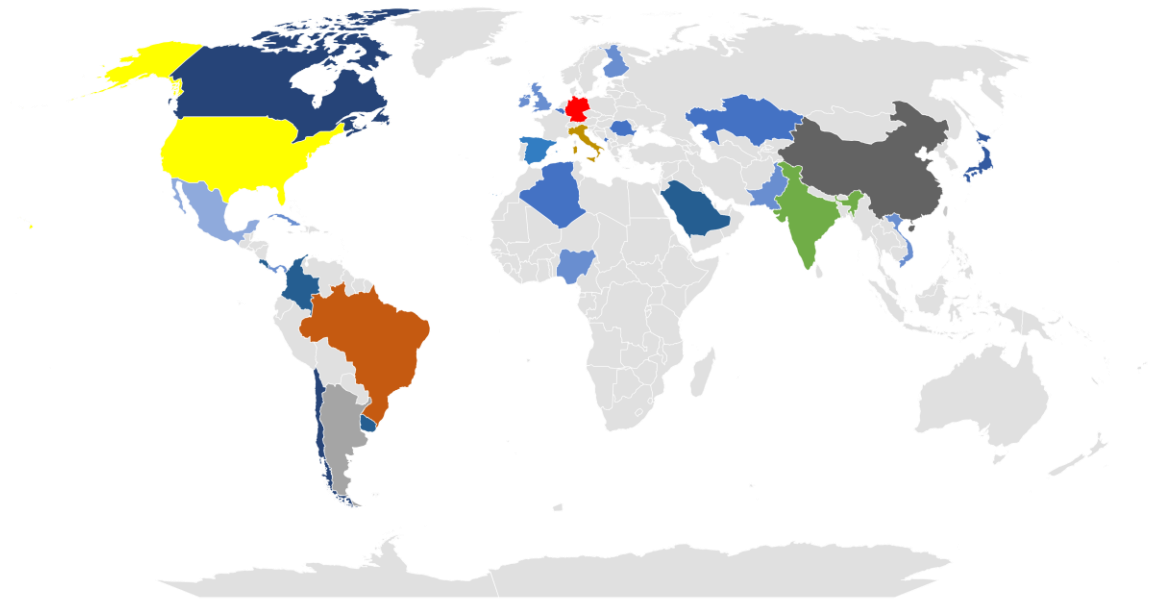
Male: 76% Female: 24%

Academic: 85% Industry: 12% Govt. Lab: 3%

Submission Statistics (2022)

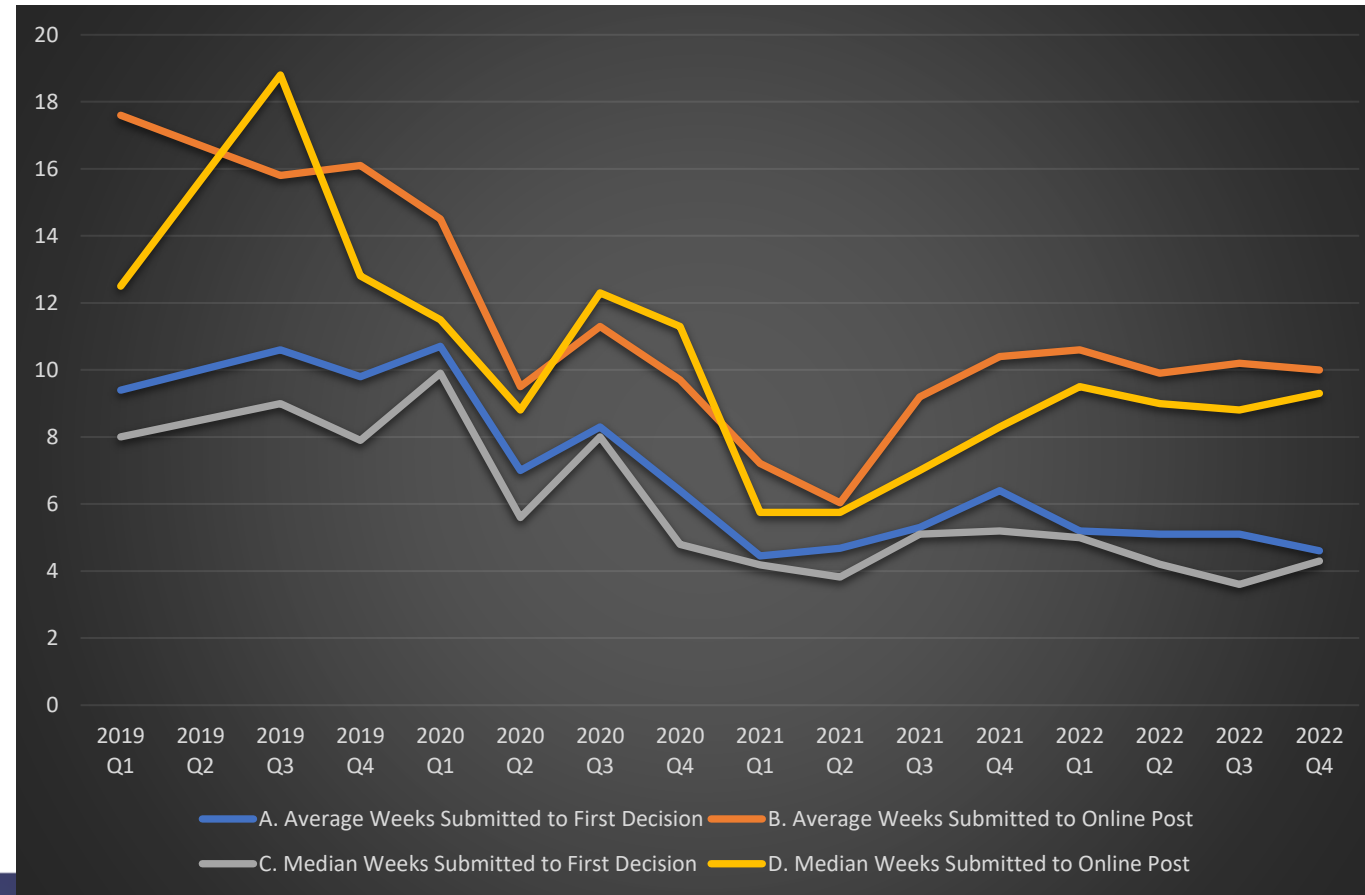
- Original Submissions: **283**
 - [2021: 190]
 - [2020: 184]
 - [2019: 152]
- Why the huge increase?
 - Latin America Special Issue
 - Additional minor revisions to submit video preview
- Accepted: **69**
 - [2021: 40]
 - [2020: 49]
 - [2019: 39]

ESL Submissions by Country



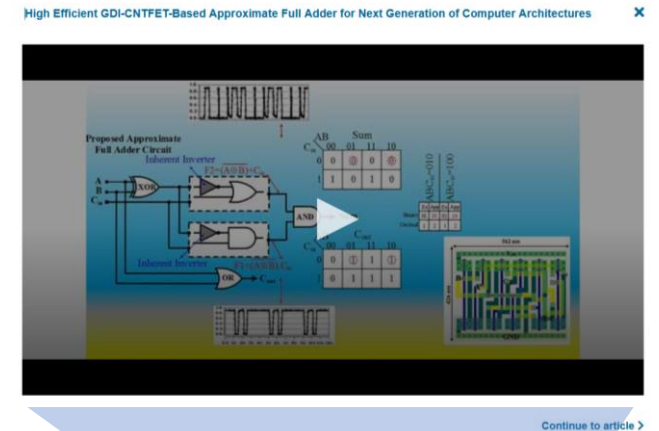
Processing Times [2019-22]

- Processing times (Submission to 1st Decision) trending downwards
 - Average (2022 Q4): 4.6 weeks
 - Median (2022 Q4): 4.3 weeks
- Online post times were increasing (but now corrected with additional pages)
- Target processing time: Aim to reach 3 weeks



ESL Video Preview Feature

- All accepted papers accompanied by **3-minute video preview**
 - Reviewed by AE
 - Hosted at IEEE Xplore
 - 2022 onwards all published papers have the video preview thumbnail in IEEE Xplore listing
- Also posting Video Previews on LinkedIn
 - Attract new readers and drive interest



□ **High Efficient GDI-CNTFET-Based Approximate Full Adder for Next Generation of Computer Architectures**

Ayoub Sadeghi; Razieh Ghasemi; Hossein Ghasemian; Nabiollah Shiri

Publication Year: 2023 , Page(s): 33 - 36

✓ Abstract HTML PDF ©

IEEE Xplore Listing

IEEE Council on Electronic Design Automation

Video
Thumbnail

Special Issues

- Special Issue on [Trends in Embedded Mechatronic Systems for Smart Manufacturing](#)
 - Completed 2021, Status: [Published](#)
 - [Guest Editors](#): Muhammad Attique Khan (HITEC University, Pakistan), Ammar Armghan (Jouf University, KSA), Seifedine Kadry (Noroff University College, Norway)
- Special Issue on [Latest Advances in Embedded Systems Research in Latin America](#)
 - Completed 2022, Status: [Published](#)
 - Almost Completed 2023, Status: [Early Access](#)
 - [Guest Editors 2023](#): Maximiliano Antonelli (UNMDP, Argentina), Maria Liz Crespo (ICTP, Italy), Luciana De Micco (UNMDP, Argentina), Carlos Meza Benavides (Hochschule Anhalt and Inst.Tecnológico de Costa Rica), Rosa Maria Woo Garcia (Universidad Veracruzana, Mexico)
 - [Approved for 2024](#) also
- Submissions Under Evaluation
 - Embedded Reconfigurable Systems
 - Adaptable Network-on-Chip framework for Brain-Machine-Interface Applications
 - Robotics and Bioengineering Applications of Embedded Systems
 - The Unification of Embedded Complex Architectures Connections and Interactions