CALL FOR PARTICIPATION

2nd International EDS MEMS Student Challenge

Two Tracks: Fabrication Technologies + AI for MEMS

In conjunction with IEEE DTDA 2026 | Sapporo, Japan | October 11–14, 2026

Organized by the IEEE EDS MEMS Technical Committee

The IEEE Electron Devices Society (EDS) is happy to announce the **2nd International EDS MEMS Student Challenge (ISMC 2026)**. Building on the success of the first challenge, this year's competition grows to **two parallel tracks**: the returning **MEMS Fabrication Technologies** track, which focuses on hands-on work in microfabrication, and a new **AI for MEMS** track, which looks at how artificial intelligence and machine learning are changing the design, modeling, and operation of MEMS devices. Student teams worldwide are invited to take part, gain international recognition, and connect with leading MEMS researchers and industry professionals.

ELIGIBILITY (both tracks)

- Teams of **1–3 students**.
- Each team must have a faculty or industry mentor who is **IEEE-affiliated**.
- If the submitted work is published, it should be within the **past one year**.
- Each team enters **one track**. A team may submit to both tracks only with separate, distinct projects.
- (Finalists) Presentation at the DTDA2026 poster session (Oct. 13)

TRACK 1 — MEMS FABRICATION TECHNOLOGIES *(returning)*

Push MEMS fabrication beyond traditional approaches through hands-on innovation. Teams present their process flows, microscopy documentation, and functional MEMS devices, showing creativity in both technique and application.

Submission Requirements

1. **One-Page Pitch** — Highlight novelty, fabrication sophistication, functional capability, and potential applications.
2. **Process Flow Document** (max. 2 pages) — Step-by-step fabrication plan with parameters and diagrams.
3. **Image Portfolio** (max. 2 pages) — High-resolution SEM or optical microscope photos with annotations.
4. **Functional Device Demo** — Pictures or video showing novel MEMS functionality.

Evaluation Criteria

Criteria	Weight
Fabrication Novelty	25%
Novel Functional Capability	25%
Technical Depth & Complexity	25%
Image & Documentation Quality	15%
Presentation & Pitch Delivery	10%

TRACK 2 — AI FOR MEMS *(new)*

Use artificial intelligence and machine learning to improve the **design, modeling, fabrication, characterization, or operation** of MEMS devices and systems. Teams show how data-driven methods can bring new capabilities, better efficiency, or new insight for microsystems. Example topics include:

- ML-driven device and structure **design & optimization** (inverse/generative design).
- AI-accelerated **multiphysics modeling and surrogate simulation**.
- Data-driven **process & yield optimization** and defect detection from fab/microscopy images.
- **Smart sensing** — AI-enhanced signal processing, sensor fusion, and edge intelligence for MEMS sensors.
- **Reliability** — predictive maintenance, auto-calibration, and fault diagnosis.
- Open **datasets, benchmarks, and tools** for the MEMS + AI community.

Submission Requirements

1. **One-Page Pitch** — Problem statement, the AI approach, novelty, and impact on MEMS.
2. **Technical Report** (max. 3 pages) — Methodology, datasets, model architecture, and results.
3. **Results & Validation** — Quantitative metrics with comparison to baselines; a demo, video, or interactive notebook is encouraged.
4. **Code & Data Availability Statement** — Repository or dataset link strongly encouraged for reproducibility.

Evaluation Criteria

Criteria	Weight
AI / Methodological Novelty	**25%**
Relevance & Impact to MEMS	**25%**
Technical Rigor & Validation	**25%**
Reproducibility & Data/Code Quality	**15%**
Presentation & Pitch Delivery	**10%**

KEY DATES

Milestone	Date
Submission Deadline (full documentation)	**August 21, 2026**
Finalist Announcement	**August 31, 2026**
Finalist Presentations & Award Ceremony	**Oct 13–14, 2026 @ DTDA 2026**

AWARDS (per track)

- **1st Prize:** USD 1,000 + certificate
- **2nd Prize:** USD 600 + certificate
- **3rd Prize:** USD 400 + certificate
- **Finalists:** USD 300 + certificate (for finalists not receiving a top-three prize)
- **Travel support** and **free registration** for finalists to attend DTDA 2026 †

† One quota per team; valid for EDS members.

HOW TO PARTICIPATE

Submission email: eds.mems.tc@gmail.com
Event Secretary: melody0508h@gmail.com
Conference: https://ieee-dtda.org/

We warmly invite student teams worldwide to take part. Show your work, gain international recognition, and connect with the global MEMS community. We look forward to your participation!