

“A Training from Idea to Product Design”

Department of Electrical Engineering at FAST-NUCES ISB offers an MS program with expertise in Integrated Circuits and Systems .Pioneer and most mature IC Design MS program in Pakistan, student will do the real-world tape out from project conception to the working silicon microchip.

WHY INTEGRATED CIRCUITS (ICs) DESIGN ?

- High demand for skilled IC designers in global 500 Billion \$ industry
- Recent IC design center established in the Public Sector Organizations.
- More than **six** IC startups in Pakistan over the last two years.

WHY from FAST NUCES ?

- First** and most established IC design program in Pakistan.
- 8 Projects taped out in TSMC 65nm in Fall-2022.**
- Fully developed ICD lab with licensed Cadence tools suite (worth: US\$ 35000/-) and **28nm, 65nm, 130nm, and 180nm TSMC PDKS**
- 23 students gradated in 2021 with 100% employment.
- Two full time PhD faculty members (with more than dozen tape out experience) and 04 Trained LAB engineers.

Feedback from Alumni and Industry

- The courses were specifically designed to provide the students with a strong knowledge of electronics and IC design skills. **(Dr. Nasir, Sr Director, NECOP)**
- This program is perfect for Engineers seeking in-depth training from concept to tape-out in analog and digital IC design. **(Aziz ur Rehman GM, NECOP)**
- One thing I must say! After working with the faculty, if you put your whole effort too, you will be a practical Chip designer. **(Hamza Saleem, MS IC)**
- The program offered me a variety of skills including design, plan, management, economy, and art of designing practical Integrated circuits, **(M Usman, MS IC)**

Teaching and Technical Staff

Prof. Dr. Rashad Ramzan
M.S. Royal Institute of Technology
Stockholm, Germany
Ph.D. Linkoping University, Sweden
Professor at Department of
Electrical Engineering
FAST, NUCES, ISB.

Dr. Hassan Saif
M.S. & Ph.D. Sungkyunkwan
University, South Korea.
Asst. Professor at
Department of Electrical
Engineering
FAST, NUCES, ISB.

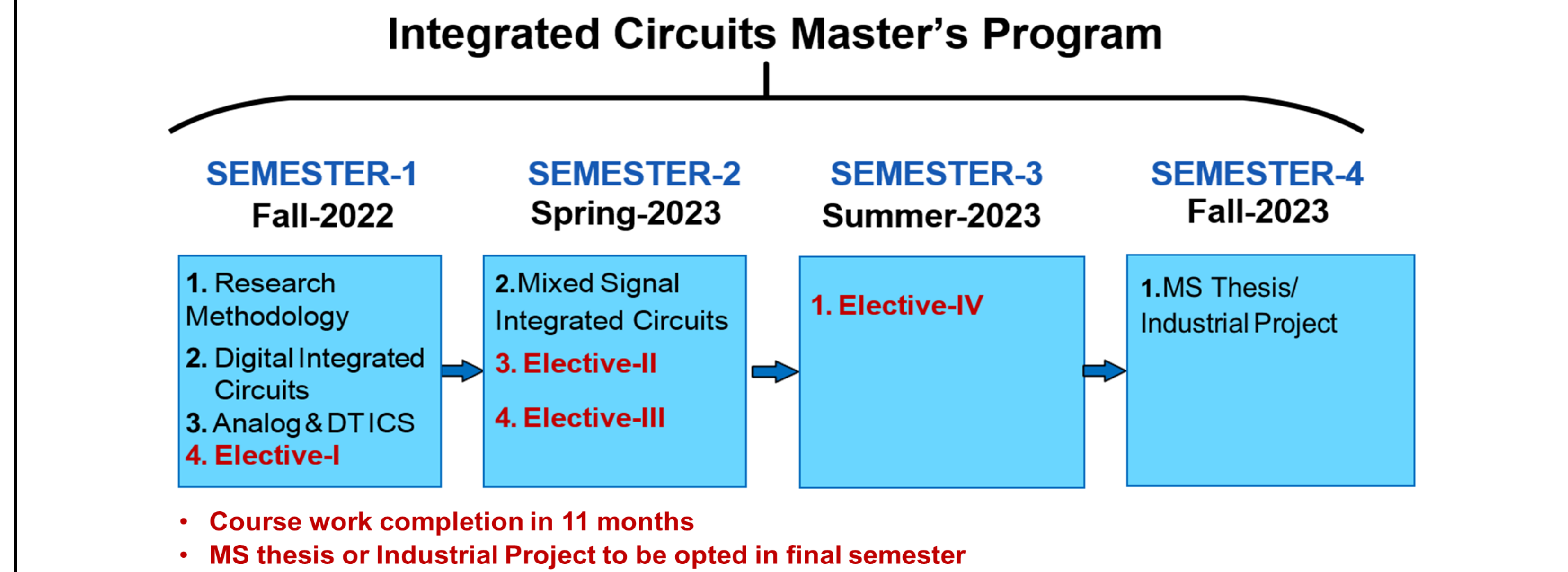
Engr. Hamza Atiq
MS (IC Design),
Design Engineer
FAST, NUCES, ISB.

Engr. Ali Sabir
Lab Engineer
FAST, NUCES, ISB.

PROGRAM DETAILS

- For more details about MS IC design and our research group please visit <http://isb.nu.edu.pk/rfcs2/>
Info: hassan.saif@nu.edu.pk ; Hamza.atiq@nu.edu.pk

PROGRAM AND COURSES OUTLINE

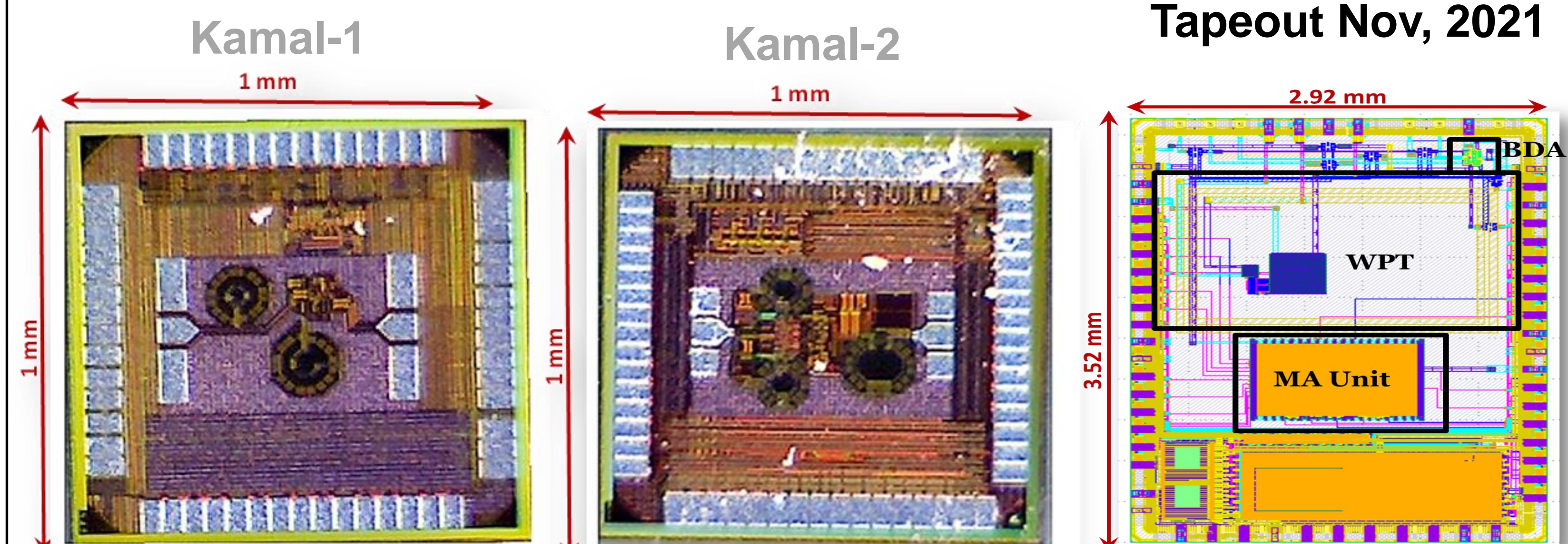


12 Tapeout Projects (Session-2021)

LNA, Approximate ALU, Phase Shifter, Turboelectric Energy Harvester and more

TSMC 65nm Tapeouts Sept,2021

**PICO 130nm
Tapeout Nov, 2021**



ELIGIBILITY

- Bachelor from PEC recognized University in: **(Min CGPA=2.0)**
 - Electrical Engineering
 - Electronics Engineering
 - Telecommunication Engineering
 - Computer Engineering

Scholarships

- Multiple Semester Scholarships Available with Full/ Partial Tuition Fee Wavier for Students with:**
 - Excellent Academic Records
 - Excellent Semester Performance during MS

HOW TO APPLY

- Apply Online at
- <http://admissions.nu.edu.pk/> ,visit <https://www.nu.edu.pk>



Potential Industries in Pakistan

