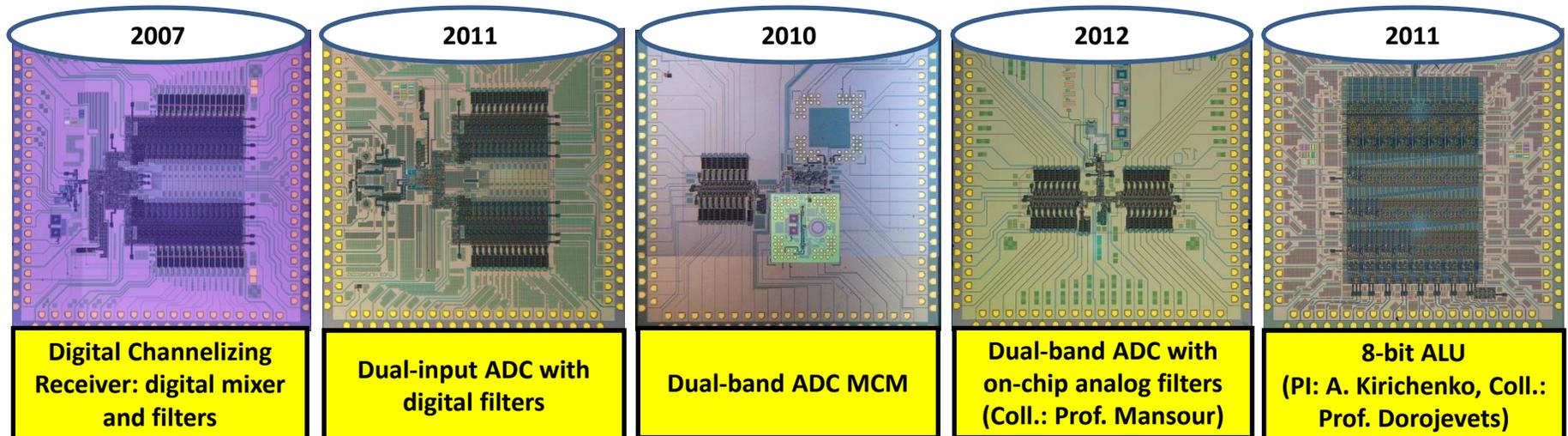❏ **HYPRES, RF Circuits and Systems Division**

❏ **Lead Investigator: Amol Inamdar**

❏ **Current Team Members:**

➤ **IC Design: Dr. Timur Filippov, Dr. Dmitri Kirichenko**

➤ **IC Test and Evaluation: Saad Sarwana, Anubhav Sahu, A. Erik Lehmann**

➤ **MCM and System Integration: Dr. Vladimir Dotsenko, Andrei Talalevskii, Jia Tang, Benjamin Chonigman, and Dr. Deepnarayan Gupta**

Qualification Summary

❑ **Expertise in Digital, Mixed-signal, and Analog superconductor IC/MCM Design**

➢ **Developed and delivered complete cryocooled products incorporating various superconductor ICs**

➢ **Built a dual-J_c design library* which has produced a number of high-speed ICs during the last decade**

| 2007	2011	2010	2012	2011
Digital Channelizing Receiver: digital mixer and filters	Dual-input ADC with digital filters	Dual-band ADC MCM	Dual-band ADC with on-chip analog filters (Coll.: Prof. Mansour)	8-bit ALU (PI: A. Kirichenko, Coll.: Prof. Dorojevets)

*ONR 6.2 D&I Contract, "Advanced Design Techniques For Superconducting Digital Electronics," 05/2005 – 05/2008 (PI: D. Gupta, ONR PM: Dr. D. Van Vechten)

Research Areas of Interest

- **Digital Circuits for Signal Processing and Computing**
- **Very High-speed Mixed-signal Circuits**
- **High-frequency Analog Circuits**
- **Superconductor Multi-chip Modules**
- **Fast, Energy-efficient Digital Data Links**
- **Digital Systems**
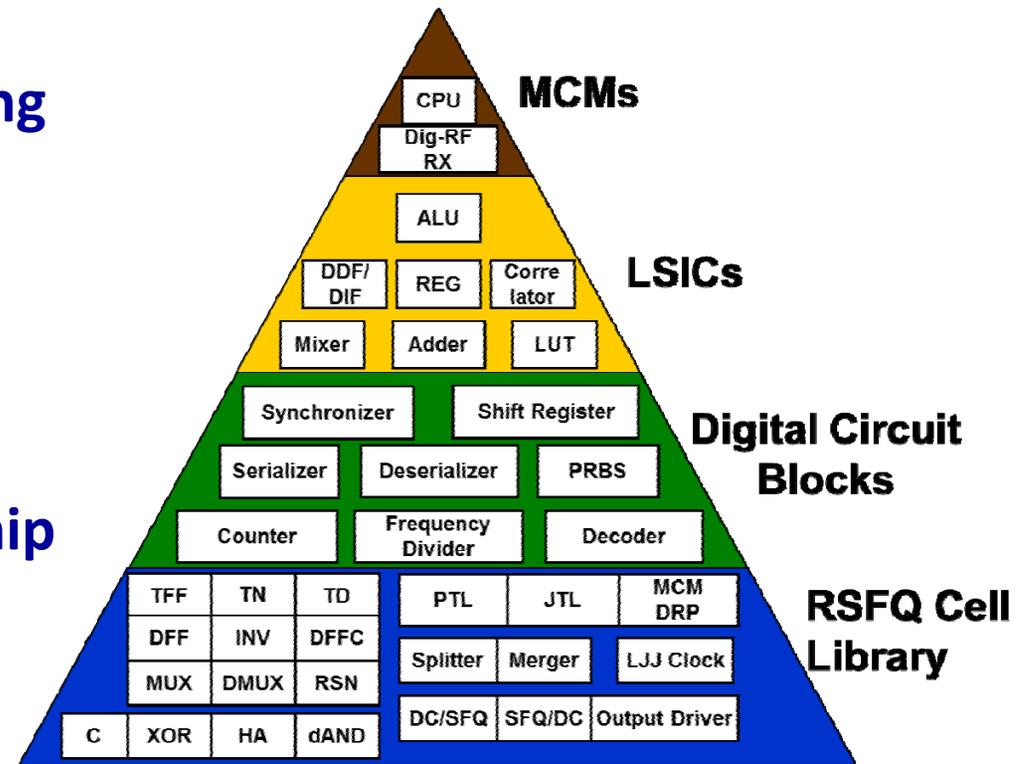
Collaboration

❑ **Our group seeks collaborators with expertise in**

➢ **Major CAD tool developers (to provide design infrastructure)**

➢ **Superconductor CAD specialists (to develop tools for inductance calculation, current distribution, etc.)**

➢ **Physicists (for development of JJ models)**

➢ **CMOS VLSI design specialists**

➢ **Computer Architects**

❑ **We are open to collaborating with any team looking for expertise in designing and testing superconductor ICs, especially those employing RSFQ/ERSFQ logic**

Contact Information

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