



xTCA for  
Instrumentation

A. Piotrowski

Mixdes Conference

RFTech - Special  
Session

Summary

# Summary of Mixdes 2011 Special Session xTCA for Instrumentation

A. Piotrowski

Technical University of Lodz, Poland  
Department of Microelectronics and Computer Science

December 12, 2011



Technical University of  
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Department of  
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# Agenda

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# Mixed Design of Integrated Circuits and Systems

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The Mixdes conference is organised yearly in different Polish cities. This is international conference with more that 170 participants.

- MIXDES conference started in Debe near Warsaw in 1994
- MIXDES conference provides an annual Central-European forum for the presentation and discussion of recent advances in electronics and microelectronics MIXDES conference papers are indexed in Thomson Reuters Conference Proceedings Citation Index and available in IEEEXplore since MIXDES 2005
- More information can be found: [www.mixdes.org](http://www.mixdes.org)



# The Topics Covered by MIXDES Conference

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- Design of Integrated Circuits and Microsystems
- Thermal Issues in Microelectronics
- Analysis and Modeling of ICs and Microsystems
- Microelectronics Technology and Packaging
- Testing and Reliability
- Power Electronics
- Signal Processing
- Embedded Systems
- Medical Applications
- Accelerator research (special session)
- Student Projects



## Next Mixdes

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The MIXDES 2012 Conference will be organised in Warsaw in the frame of 5th Microwave and Radar Week multi-conference. A joint scientific meeting was organized to embrace three Conferences:

- 19<sup>th</sup> International Conference on Microwave, Radar and Wireless Communications, MIKON-2012, May 21-23, 2012
- 13<sup>th</sup> International Radar Symposium, IRS-2012, May 23-25, 2012
- 19<sup>th</sup> International Conference "Mixed Design of Integrated Circuits and Systems", MIXDES 2012, May 24-26, 2012



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## Deadlines:

- January 15<sup>th</sup>, 2012 - Receipt of papers
- March 1<sup>st</sup>, 2012 - Notification of acceptance
- April 1<sup>st</sup>, 2012 - The final paper versions and one page abstracts



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# Special Session Concerning Electronics for HEP

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- Since Mixdes is not devoted directly to High Energy Physics and its applications, we decided to organise Mixdes Special Session
- The first special session was organised in 2005 within CARE project (Coordinated Accelerator Research in Europe)
- This year we have xTCA for Instrumentation session



# RFTech - xTCA for Instrumentation

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- Papers concern new xTCA standards: MTCA, ATCA or AMC
- MIXDES special session gathers interesting projects based on xTCA standards, developed for LLRF FLASH and XFEL (DESY) and CODAC (ITER)
- Session is organized in collaboration with WP4 AccNet RFTech of European Coordination for Accelerator Research and Development project
- Partially sponsored by RFTech network of European Coordination for Accelerator Research and Development FP7 Research Infrastructures grant agreement no. 227579





# Participants

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- 7 papers presented during the session
- Phd students received Trainee Grants
- They had to prepare professional presentation, write paper and submit report after the Mixdes Conference



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# Presented Papers

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- *AMC Vector Modulator for the LLRF System*, K. Czuba, S. Bou Habib, D. Sikora (WUT, POLAND)
- *Automated Generation of FRU Devices Inventory Records for xTCA Devices*, J. Wychowaniak, P. Perek, D. Makowski, A. Napieralski (TUL, POLAND)
- *EPICS-based Visualisation and Control in DAQ Systems*, P. Predki, A. Piotrowski, M. Orlikowski, T. Kozak, G. Jablonski, D. Makowski, A. Napieralski (TUL, POLAND)



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- *Low Phase Noise PLL Based LO Generation Module for Femtosecond Precision RF Field Detection*, L. Zembala, K. Czuba (WUT, POLAND), M. Hoffmann, F. Ludwig, H.-C. Weddig (DESY, GERMANY), M. Zukocinski (WUT, POLAND)
- *Module Management Controller for MicroTCA-based Controller Board*, P. Perek, A. Mielczarek, P. Predki, D. Makowski, A. Napieralski (TUL, POLAND)
- *Performance Optimisation in Software for Data Acquisition Systems*, A. Piotrowski, M. Orlikowski, T. Kozak, P. Predki, G. Jablonski, D. Makowski, A. Napieralski (TUL, POLAND)
- *uTCA-based Controller*, A. Mielczarek, D. Makowski, G. Jablonski, A. Napieralski, P. Perek, P. Predki (TUL, POLAND), T. Jezynski, F. Ludwig, H. Schlarb (DESY, GERMANY)



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- RFTech session during Mixdes was very successful
- We had a good opportunity to meet and discuss problems concerning hardware and software for accelerators
- All PhD-Authors or co-authors could attend the session (thanks to RFTech support)
- We are planning to have also special RFTech session during Mixdes 2012



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Thank You