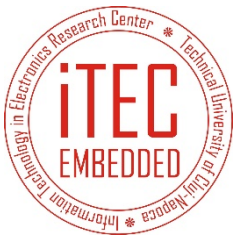


ITEC – EMBEDDED GROUP

Contact details

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Areas of expertise

Embedded systems for Automotive

- **Circuit design:** modeling, simulation and cross-simulation of electronic circuits (analog, digital, power, RF/EMI) using: Multisim, Pspice, Matlab, Pcad;
- **System design:** modeling and simulation for electro-mechanical systems: power devices, actuators, mechatronics; using: Matlab, Simulink, LabVIEW;
- **HW Application design:** fast-prototype design, PCB design for mass production, BOM/AVL design, DfT and testability for embedded applications, power supplies, interface/signal conditioning boards;
- **SW Application design:** embedded control applications for OS and non-OS targets, broad range of targets (from small 8bit up to TriCore), V-modell development for SW, SW re-use;
- **TW Application design:** testing and design of testing systems: SW and HW testing process, HiL and SiL, design of test-cases for SW;
- **Training services:** LabVIEW trainings, Embedded Systems trainings, TW and HiL operation;

Power systems

- design, simulation and testing of power supplies with power factor correction
- PLC (Power Line Communication) for energy measurements equipment
- inductive heating technologies

SCADA systems

- control for automotive systems
- heating/oven control
- control systems for electrical motors
- data loggers for power industrial control, medical apps

Certifications

LabVIEW Certified Developer

FMEA Specialist

Zuken Sch & PCB

Mentor Graphics PI & SI

Team

Prof. Eng. Dan Pitica, PhD; Prof. Eng. Ciascai Ioan, PhD; Assoc. Prof. Eng. Gabriel Chindriș, PhD; Assoc. Prof. Eng. Ovidiu Pop, PhD; Assoc. Prof. Eng. Liviu Viman, PhD; Assoc. Prof. Eng. Septimiu Pop, PhD; PhD; Assist. Eng. Vlad Bande, PhD; Assist. Eng. Mihai Dărăban, PhD; Assist. Eng. Raul Fizeșan, PhD; Assist. Eng. Rajmond Jánó, PhD; Assist. Eng. Adrian Tăuț, PhD; Assist. Eng. Monica Zolog, PhD; Eng. Ionel Baci, PhD student Eng. Alexandra Fodor, MSc student; Mat. Mihail Avram; Mat. Delia Ghiranl Eng. Aurelia Haragus;

Representative projects

“Test environment development for ECU/TCU software for Continental AG, Germany” – director Assoc.Prof. Gabriel Chindriș, PhD;
“Development and maintenance of a SIL/HIL testing model for automotive ECU/TCU for Continental AG, Germany”
 – director Assoc.Prof. Gabriel Chindriș, PhD;
“Induction Cooking Project”, research project no. 3/5.03.2008, Diehl-AKO Stiftung&Co.Kg Germany – director lect. eng Ovidiu Pop, PhD;
“Stop/Start System for double clutch TCU” - Continental AG, Germany – director Assoc.Prof. Gabriel Chindriș, PhD;
“Embedded Data Logger for Heart Rate” – Blatand GmbH, Germany - director Assoc.Prof. Gabriel Chindriș, PhD;

Significant results

The most representative publications of the past 5 years:

1. Pop, Septimiu, Pitica, Dan, Bande, Vlad, Analyzing a Vibrating Wire Transducer using Coupled Resonator Circuits, *Advances In Electrical And Computer Engineering*, Vol.15, Issue:3, pp.87-92, 2015
2. Fodor Alexandra, Jano Rajmond, Pitica Dan, Thermal Influences on IC Packages During Manual Soldering Process Conference: Proceedings Of The 2014 37th International Spring Seminar On Electronics Technology (ISSE)- *Advances in Electronic System Integration*, Dresden, Germany Date: May 07-11, 2014, pp. 54-57
3. Daraban, Mihai, Pitica Dan, Progressive Transmission Line Matching When Encountering Via Mismatching, *IEEE 19th International Symposium for Design and Technology in Electronic Packaging (SIITME)*, Galati, ROMANIA, Oct 24-27, 2013, Pp.135-138
4. Bande Vlad, Ioan Ciascai, Charging time indicates capacitor value, *EDN*, USA, vol. 56, issue 15, p.45, 2011 (ISI)
5. Raul Fizesan, Pitica Dan, Efficient Strategies to Optimize a Power Distribution Network, *Acta Technica Napocensis-Electronics And Telecommunications*, ISSN 1221-6542, vol. 52, no. 1, pg. 40-46, 2011 (B+)
6. Rajmond Jano, Dan Pitica, *Investigating Capacitor Lifetimes under Thermal Stress*, ESTC 2012, The Electronics System Integration Technology Conference, Amsterdam, Holland, 17-20 September 2012 (ISI Proceedings)
7. Gabriel Chindris, Dan Pitica, Marius Muresan - Dynamic Re-Configuration Model for System-On-Chip Design for Test and Testability – 1st Electronics Systemintegration Technology Conference, Dresden, Germany - ISBN 1-4244-0553x, catalog 06EX1494C, IEEEExplore
8. Mihai Daraban, Dan Pitica, *Coding Technique for Information Sent Through a PCB Parallel Data Bus for Avoiding Crosstalk*, *Acta Technica Napocensis-Electronics And Telecommunications*, ISSN 1221-6542, vol. 53, no. 2, pg. 17-22, 2012 (B+)
9. Rajmond Jano, Dan Pitica, *Accelerated Ageing Tests of Aluminum Electrolytic Capacitors for Evaluating Lifetime Prediction Models*, *Acta Technica Napocensis-Electronics And Telecommunications*, ISSN 1221-6542, vol. 53, no. 2, pg. 36-41, 2012 (B+)
10. Adrian Taut, A PSpice Study Regarding the Design of the Equivalent Electric Circuit Used in Functional Magnetic Stimulation, *ACTA ELECTROTEHNICA*, ISSN 1841-3323, vol. 53, no. 4, pg. 333-336, 2012 (B+);

The offer addressed to the economic environment

Research & development	Calculus, design, simulation and analysis of power electronics circuits; Numerical methods of analysis; Control algorithms; Transducers physics; Electronic materials; Software, hardware and testware for embedded systems; Real-time measurements; Power electronics; Power dam SCADA systems; Applied electronics for white-goods;
Consulting	Electronics circuits and devices modeling and simulation; IP and patent analysis; Test equipment proof-of-concept; Design for technological transfer (DFx); EMI/EMC in PCB; PCB/PWB design; Software for embedded; Measurement, analysis and simulation for electronics; Real-time systems calibration; Design of electronics systems;
Training	LabVIEW training; Training for modeling and simulation; Training for embedded and real-time systems; Training for PCB design; Training for measurements, analysis and testing;