### Contact details

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<tr>
<th>Name</th>
<th>Foundations and Applications of Advanced Software Technology – Research Group</th>
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<tr>
<td>Acronym</td>
<td>FAAST</td>
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<td>Logo</td>
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### Areas of expertise

**Software Engineering:**
- Formal Methods, Object-Oriented Methods

**Software Solutions for Smart City:**
- eBusiness, eAdministration, eHealth, Medical Databases
- Smart Traffic, Urban Traffic Image Processing

**Semantic Models and Technologies**
- DNA Computing, Membrane Computing
- Global Computing (GC), Image Processing in GC Context

### Team

**Prof. Dr. Eng. Eneia Nicolae Todoran, Assoc.Prof.Dr. Paulina Mitrea, Eng. Dorin Simina**

### Representative projects

- ProcessPlayer, “Platform for the optimization of process flows for and between the public authorities”, collaboration with ARXIA SRL & UBB (Contract POSCCE No.1CLT/800.003/8/29.04.2014 / Subproject SP1)
- “Software services design for intelligent routing in urban road traffic in Smart City context” (Contract POSCCE No.1CLT/800.003/8/29.04.2014 / Subproject SF1)


**DFA@eInclusion**, “Design for All for e-inclusion”, FP7 project no. 033838, (2008-2010)

Significant results

The most representative publications of the past 5 years:


Significant solutions:
Continuation semantics for concurrency, Denotational semantics for models of natural (membrane, DNA) computing, Denotational semantics for multiparty interaction, Denotational semantics for models of global computing

Products and technologies:
1. Prototype interpreter for mobile objects with multiparty interaction in peer to peer systems
2. Prototype interpreter for a control flow subset of BPMN 2.0
3. Prototypes for medical image processing in global computing context
4. Communication prototypes for smart sensor networks

The offer addressed to the economic environment

Research & development
Formal design of reliable distributed software systems and programming languages

Consulting
Formal design of reliable distributed software systems and programming languages

Training
Software Engineering: software development paradigms, requirements engineering, UML class diagrams and OO analysis, modeling interaction and behavior, architecting and designing software, software testing techniques and strategies, PRISM probabilistic model checking
Advanced Topics in Software Engineering and Programming Languages: formal methods, denotational and operational semantics, stochastic process algebras, type systems