

# Laboratory for Quality Software

## – Research Themes Nijmegen –

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<http://www.laquso.org>

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### Security

- Security analysis of special purpose systems (passport / smart cards / chipknip / smart power meter (NUON) / election systems / firewalls)
- Second opinion for security related decisions
- Risk analysis of browser based threats
- Penetration testing
- Assessment security policies

For more information visit:

<http://www.sos.cs.ru.nl/>

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### Enterprise Architecture

- Formulation & rationalisation of guiding principles
- Languages for enterprise modelling and architectural blueprinting
- Architecture level analysis of designs
- Quality assessment of enterprise architectures

For more information visit:

<http://www.cs.ru.nl/iris/am/>

Contact Person:

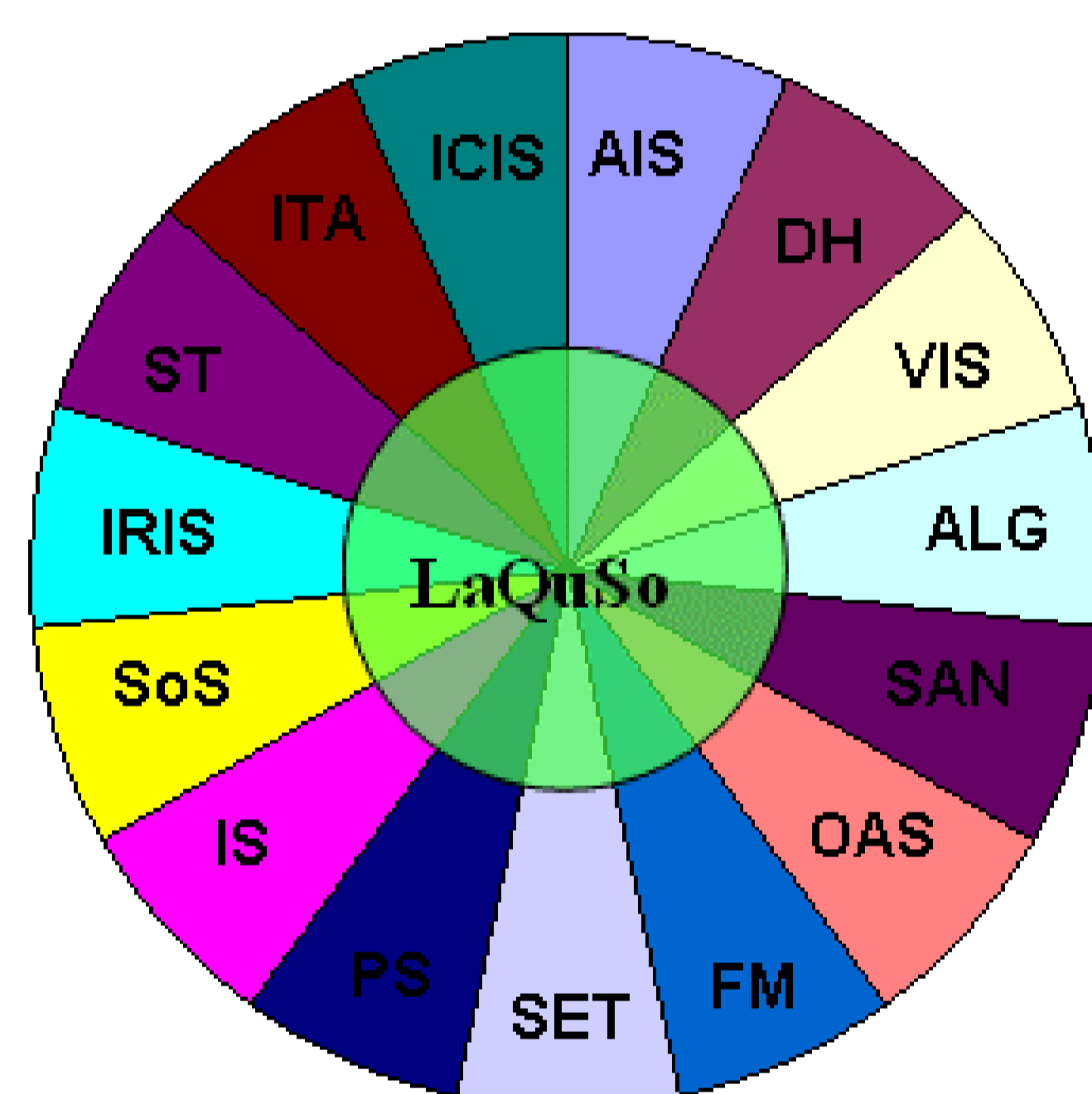


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### Laboratory for Quality Software

“LaQuSo’s mission is to be recognised as one of the leading scientific institutes for quality software in Europe”

LaQuSo aims to measure, quantify, and predict the quality of designed software in order to increase the predictability of the development process by (1) Publications on case studies and new methods, (2) Development of software tools (or patents on tools), and (3) Quality certificates for industrially designed or developed software.



- TU/e Architecture of Information System (AIS)
- TU/e Databases & Hypermedia (DH)
- TU/e Visualisation (VIS)
- TU/e Algorithms (ALG)
- TU/e System Architecture and Networks (SAN)
- TU/e Design and Analysis of Systems (OAS)
- TU/e Formal Methods (FM)
- TU/e Software Engineering & Technology
- TU/e Probability Theory en Statistics (PS)
- TU/e Information Systems (IS)
- RU Security of Systems (SoS)
- RU Information Retrieval and Information Systems (IRIS)
- RU Software Technology (ST)
- RU Informatics for Technical Applications (ITA)
- RU Foundations (ICIS)

LaQuSo is a joint activity of the Technische Universiteit Eindhoven and the Radboud University Nijmegen with over 20 chairs ranging from areas such as requirements analysis and architecture modelling to validation and verification of software systems.

Themes focused on by Nijmegen researchers are security, architecture, model based testing, and health care decision support. For these areas, some keywords and contact persons are given for possible projects with other research partners or with industry (including the option of innovation vouchers through SenterNovem).

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### Model Based Testing

Model based testing checks the conformance of the behaviour of an actual system with a model of that system. Given a formal specification of the desired behaviour the test tool GAST automatically

- Generates test cases on-the-fly;
- Executes these tests;
- Gives a verdict about the system under tests.

Application areas: passport, computation units for insurance and pension systems, election software, smart cards (chipknip), embedded systems (controllers), web-applications, etc. See also

<http://www.cs.ru.nl/~pieter/gentest/gentest.html>

### Health care decision support

- Quality checking of medical guidelines (<http://www.protocol.org>)
- Bayesian network modelling
- Computer-assisted patient management
- Bioinformatics
- Datamining in health care

For more information visit:

<http://www.cs.ru.nl/~peterl/>