

## CTIT Newsletter – March 2013

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### News

# CTIT

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#### [Tuesday, June 4, 2013: Annual CTIT Symposium!!! Big Data & the Emergence of Data Science](#)

Big data is a term introduced in the early 2000's to refer to data sets whose size grew beyond the ability of the software tools of that time to process, typically in the order of many terabytes or petabytes for a single dataset. Big data sets are encountered by software architects in for instance web search and social media, by scientists in for instance meteorology, genomics, and politics and by analysts in for instance finance and business informatics. Data Science is an emerging field that is driven by the believe that scientific discoveries and commercial value are increasingly powered by our ability to explore big data sets.

Location: University of Twente, building Waaier, room 4  
(Prof.dr. G. Berkhoff-room).

[Program](#)

[Register now](#)



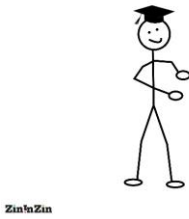
#### **EIT.ICT Labs Partner Event**

On 17 - 18 April 2013, the [EIT.ICT Labs Partner Event](#) will be organized in Paris. This is an important event for the Calls of 2014. Here you can meet members from other ICT Labs partners, and be able to build consortia.



#### **Co-funding Artemis, ENIAC, ITEA2 and CATRENE**

The Dutch government will invest 40 M-€ per year to stimulate [international technological cooperation within the Topsector HTSM](#). It concerns mainly co-funding EUREKA clusters ITEA2 and CATRTENE and JTI's Artemis and ENIAC, and continuing programmes under Horizon 2020.



## New storytelling training for PhDs

Researchers work very hard to obtain good results and new insights. How they **communicate** these results strongly determines the **impact** of their work. Good communication requires thorough preparation: building a **clear and convincing story** from **complex content** is not easy. Students from **eleven different UT research groups** have already participated in this [training](#).

## Agenda

- April 10, 2013: [Information session individual Marie Curie Fellowships & Grants](#) by AgentschapNL. Location: AgentschapNL, Prinses Beatrixlaan 2, The Hague.
- June 4: [Annual CTIT Symposium](#): Big Data & the Emergence of Data Science. Location: University of Twente, building Waaier, room 4 (Prof.dr. G. Berkhoff-room)
- July 3-5, 2013: [FUNEMS 2013](#) - Future Network & Mobile Summit (European Union). Location: Lisbon, Portugal
- November 25 – December 1, 2013: [European Robotics Week](#). Several locations.

## PhD defences

March 1 <sup>st</sup> , 2013:	Teun Lucassen (GW/CPE)
March 1 <sup>st</sup> , 2013:	Giovane Moreira Moura (EWI/DACS)
March 27, 2013:	Amir Ghaffari (EWI/ICD)
April 25, 2013	Bram Dil (EWI/PS)
May 24, 2013:	Mark Oude Alink (EWI/ICD)
May 30, 2013	Irwan Endrayanto (EWI/SOR&DACS)

## Information on research funding programs



### [Call 11 of EU/FP7](#)

Currently, [Call 11 of FP7](#) has been opened. Indicative budget is 236.5 M €.

Topics are:

- 1.1 Future Networks
- 3.1 Nanoelectronics
- 4.3 Scalable data analytics
- 6.1 Smart Energy Grids
- 8.2 Technology Enhanced learning
- 9.9 Flagship Initiatives

Deadline: **April 15, 2013**

[All Open Calls FP7](#)



### NWO Grants

#### **NWO Call Uncertainty reduction in Smart Energy Systems (URSES)**

The Call for [URSES](#) has been opened. Deadline is: **April 23, 2013**

#### **NWO TOP Grant Social and Behavioural Sciences**

The [NWO Top Grant](#) is meant for excellent research groups within the Social and Behavioural Sciences. It's goal is to reinforce groups with new excellent researchers.

**Closing date: June 17, 2013**

#### **Data Science: ICT Industrial Partnership Programme (ICT IPPP)**

[ICT Industrial Partnership Programme](#) (ICT IPP) is one of the public-private partnerships, funded by the programme "Data Science: Challenging Big Data". It concerns national or international cooperation between one company and at least two knowledge institutes/universities. It is connected to the ICT Roadmap theme: "Data, data, data".

**Deadline pre-proposals: April 11, 2013**

#### **Data Science: Technology Area (TA)**

This [programme](#) is intended for the national or international cooperation between one company and at least two knowledge institutes/universities. It is connected to the ICT Roadmap theme: "Data, data, data".

**Deadline pre-proposals: April 11, 2013**

#### **Data Science: Kennis – Innovatie Mapping MKB projects (KIEM)**

This [programme](#) is intended for public-private cooperation between SME's and Universities/colleges. It is connected to the ICT Roadmap theme: "Data, data, data".

**Closing date: January 28, 2014.**

#### **Digging into Data Challenge**

The international "[Digging into Data Challenge](#)" is an international cooperation programme for computer science, humanities, cultural heritage social & behavioural science.

**Closing date: May 13, 2013**



#### **[Artemis Call 2013](#)**

The Artemis Call 2013 has recently been opened.

**Deadline proposal submission: June 6, 2013.**

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### ITEA2 Call 2013

Also, the [ITEA2 Call 2013](#) has recently been opened.

**Deadline submission Project Outlines: 24 May 2013**

**Deadline submission Full Project Proposals: 31 October 2013**

We will keep our [website](#) updated with the latest news; you may always contact us for information ([Wilma Hiddink](#), a.o., for EPSS (A2 forms for proposal submission), ECAS, NEF and GPFs (A2 forms for Grant Preparation).

### Upcoming deadlines

Continuously:

- [NWO Free Competition Exact Sciences](#) (*information in Dutch; currently temporarily closed*)
- [NWO TOP Subsidies](#) (*information in Dutch*)
- [NWO Brain & Cognition: an integrated approach](#) (*Social Sciences, ZonMW - information in Dutch*)
- [NWO Free Competition Humanities](#) (*information in Dutch*)
- [NWO Aspasia](#) (*Female researchers in science / by nomination*) (*information in Dutch*)
- [NWO Big Grid computing and data facilities](#) (*information in Dutch*)
- [ZonMW TOP-subsidies](#) (*innovative research in health / for excellent groups*)
- [STW Open Technology Programme](#) (*information in Dutch*)

April:

- 2-4-2013: [CATRENE](#) project outline submission
- 11-4-2013: [NWO Data Science: ICT Industrial Partnership Programme](#) (pre-proposal)
- 11-4-2013: [NWO Data Science: Technology Area \(TA\)](#) - (pre-proposal)
- 15-4-2013: [FP7 ICT Call 11](#)
- 15-4-2013: [FET Open Scheme](#)
- 23-4-2013: NWO [URSES](#) (Uncertainty reduction in Smart Energy Systems)
- 24-4-2013: [Call for proposals for ERC Proof of Concept](#)
- 30-4-2013: [Alain Bensoussan fellowships](#) (for Mathematics and Computer Science, to spend time at leading European centres outside their own country)

May:

- 15-5-2013: [Digging into Data Challenge](#)
- 23-5-2013: [ENIAC Call 8 \(project outline\)](#)
- 24-5-2013: [ITEA2](#) project outlines

June:

- 6-6-13: [Artemis Call 2013](#)
- 17-6-13: The [NWO Top Grant](#) Social & Behavioural Sciences, Declaration of Intention.

August:

- 16-8-2013: Marie Curie Individual Fellowships (opening Call: March 14, 2013)
- 27-8-2013: NWO [TOP Grant Exact Sciences](#) (NWO) – full proposals Compartment 1

September:

- 12-9-2013: [ENIAC Call 8 \(full project proposals\)](#)
- 12-9-2013: [CATRENE](#) full proposals

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- 30-9-13: The [NWO Top Grant](#) Social & Behavioural Sciences, Research proposals.

October

- 3-10-2013: [Call for proposals for ERC Proof of Concept](#) (Final)
- 10-10-2013: [NWO Data Science: ICT Industrial Partnership Programme](#) (full proposal)
- 31-10-2013: [ITEA2](#) full proposals

December:

- 10-12-2013: ICT Call (o.a. Pervasive and Trusted Network and Service Infrastructures)

January 2014:

- 28-01-2014: [Data Science: Kennis – Innovatie Mapping MKB projects](#) (KIEM)

[FP7/ICT Workprogramme 2013](#)

[Information on research programmes \(EU; /NWO/STW\)](#)

### *Projects*

#### **NASCENCE**

##### **NAAnoScale Engineering for Novel Computation using Evolution (EU/FP7 STREP)**

Project Number: 317662 / together with MESA+

Project Manager: Prof. dr.ir. Hajo J. Broersma

Faculty of [Electrical Engineering, Mathematics and Computer Science](#)

Tel.: +31-53-4893716

Email: [h.j.broersma@utwente.nl](mailto:h.j.broersma@utwente.nl)

#### **Summary**

The aim of this project is to model, understand and exploit the behaviour of evolving nanosystems (e.g. networks of nanoparticles, carbon nanotubes or films of graphene) with the long term goal to build information processing devices exploiting these architectures without reproducing individual components. With an interface to a conventional digital computer we will use computer controlled manipulation of physical systems to evolve them towards doing useful computation. During the project our target is to lay the technological and theoretical foundations for this new kind of information processing technology, inspired by the success of natural evolution and the advancement of nanotechnology, and the expectation that we soon reach the limits of miniaturization in digital circuitry (Moore's Law). The mathematical modelling of the configuration of networks of nanoscale particles combined with the embodied realisation of such systems through computer controlled stochastic search can strengthen the theoretical foundations of the field while keeping a strong focus on their potential application in future devices. Members of the consortium have already demonstrated proof of principle by the evolution of liquid crystal computational processors for simple tasks, but these earlier studies have only scraped the surface of what such systems may be capable of achieving. With this project we want to develop alternative approaches for situations or problems that are challenging or impossible to solve with conventional methods and models of computation. Achieving our objectives fully would provide not only a major disruptive technology for the electronics industry but probably the foundations of the next industrial revolution. Overall, we consider that this is to be a highly adventurous, high risk project with an enormous potential impact on society and the quality of life in general, including medicine, everyday household items, energy-saving policies, security, and communication.

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**Project duration:** 1 November 2012 – 1 November 2015

**Project budget:** 3.7 M-€ / 2.9 M-€ funding

**Number of person/months:** 368 person months

**Project Coordinator:** University of Twente

**Participants:** University of Twente, University of Durham, University of York, NTNU, SUPSI-IDSIA

**Project budget CTIT:** 1.257 k-€ / 1 M-€ funding

**Number of person/years CTIT:** 98 person months

**Involved groups:** Formal Methods and Tools /Programmable Nanosystems

**CTIT Strategic Research Orientations:** [Dependable Systems and Networks](#)

### TENETS

#### **Towards efficient simulation of non-Markovian queueing networks (NWO)**

Project Number: 613.001.105

Project Manager: Dr.ir. Werner R.W. Scheinhardt / Dr.ir. P.T. de Boer

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#### **Summary**

This project develops provably efficient techniques for the simulation of rare events in non-Markovian queueing networks, motivated by the need to accurately estimate failure probabilities in practical systems. This project will move into an unexplored area of stochastic discrete-event simulation, and is challenging as it is a novel combination of three aspects: the non-Markovian nature of the systems, the study of networks of queues rather than single queues, and the aim of achieving provably efficient results. These three aspects have been studied separately before, but not in combination.'

This project follows the importance sampling approach, in which a so-called change of measure is applied to make the event of interest less rare, and aims for three major advances: (i) establishment of relations between non-Markovian queueing networks and other problems; (ii) strategies to decide when and how the change of measure needs to be state-dependent; (iii) construction of good changes of measure with efficiency proofs. The proposed research is highly relevant – because most realistic models are non-Markovian – and timely in the sense that comparable advances for the Markovian-network case have been obtained only recently, and study of the non-Markovian case constitutes a natural, yet highly challenging, next step.

**Project duration:** 2012-2016

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**Project budget:** 185 k-€ funding

**Number of person/years CTIT:** 1.2 fte/year

**Involved groups:** [Stochastic Operations Research \(SOR\)](#) / [Design and Analysis of Communication Systems \(DACS\)](#)

**CTIT Strategic Research Orientations:** [Dependable Systems and Networks](#)

### ***CTIT Newsletters***

In case you have input for the newsletter, about workshops, PhD defences or other events, please send the information to [Secretariaat-CTIT@utwente.nl](mailto:Secretariaat-CTIT@utwente.nl).