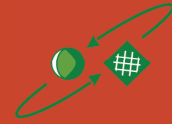
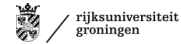


AI@Rug

Newsletter



Jaargang 5, nummer 1 (juli 2010)

www.ai.rug.nl/newsletter


Inaugural lectures at AI@Rug

Both **Niels Taatgen** and **Rineke Verbrugge** delivered their inaugural lectures last month.



Niels Taatgen is a full professor holding the chair of cognitive modeling at **AI@Rug**. On May 9th 2010, he delivered his inaugural lecture entitled 'Draden door de Geest: hoe de touwtjes in handen houden in een wereld van multitasking' ('Threaded cognition: How to pull the strings in a world of multitasking'). In his lecture he explained how the modules in the brain are able to work in parallel on different aspects of a task; comparable to a kitchen in a restaurant where different elements of the meals are processed simultaneously by different cooks. The claim in the theory of threaded cognition is that interference occurs as soon as more tasks, or threads, should be performed at the same time by the same module (i.e. the same cook); one module can perform only one task at a time. In his research, **Niels Taatgen** wants to show how threaded cognition can explain cognitive capacities, such as multitasking and learning.

www.ai.rug.nl/~niels/Oratie.html

Rineke Verbrugge is a full professor holding the chair of Logic and Cognition at **AI@Rug**. On May 25th 2010, she held her inaugural lecture entitled 'Denken over denken over denken: logica en sociale cognitie' ('Thinking about thinking: logic and social cognition'). In her lecture she presented her research program on higher order social cognition. She also presented recent work on the nature of higher order cognition, and on the question whether (and to what extent) adults, children and animals can perform tasks that involve higher order cognition. Her research program is interdisciplinary and combines logic, psychology, biology and AI.

www.rinekeverbrugge.nl (tinyurl.com/2wy2m8h)

AI@Rug docent van het jaar

Door de studenten is er weer een verkiezing georganiseerd voor docent van het jaar. **Arnold Meijster** is uitgeroepen tot docent van het jaar 2008-2009 voor Kunstmatige Intelligentie. De winnaar van het jaar ervoor, **Rineke Verbrugge**, is in 2009 uitgeroepen tot facultaire docent van het jaar.

ACT-R cognitive modeling workshop

The first European ACT-R workshop, held from April 12th to April 16th in Groningen, was organized by **Niels Taatgen** and former **AI@Rug** member Hedderik van Rijn. ACT-R is a cognitive theory and simulation system for developing cognitive models for tasks that vary from simple reaction time paradigms to driving a car and air traffic control. Three speakers were invited for the workshop: John Anderson (Carnegie Mellon University), Dario Salvucci (Drexel University), and Andrea Stocco (Carnegie Mellon University).

www.ai.rug.nl/actr-springschool/

Argumentation Interchange Format

In May 2010, a group of researchers on computational argument gathered at Dalmunzie castle in Scotland. The meeting's goal was to work on AIF 2.0, the second instance of the Argumentation Interchange Format, an initiative related to Semantic Web research. The University of Dundee argumentation group, headed by Chris Reed and recently joined by former AI@Rug associate Floris Bex, organized the event. **Bart Verheij** was one of the invited participants. He worked with Raquel Mochales (Katholieke Universiteit Leuven), David Glasspool (University of Edinburgh) and Simon Wells (University of Dundee) on the dynamics of argumentation.

www.arg.dundee.ac.uk

Book on teamwork

Recently the book 'Teamwork in Multi-Agent Systems: A Formal Approach' (Wiley, 2010; 244 pages) written by Barbara Dunin-Kępicz (University of Warsaw) and **Rineke Verbrugge** was published. The book discusses teamwork from a logical perspective and covers topics such as the nature of teamwork, the role of awareness, collective intentions and plan-based commitments.

eu.wiley.com (tinyurl.com/34k35cl)

How important is symmetry?

On May 17th, **Gert Kootstra** successfully defended his PhD thesis entitled 'Visual attention and Active Vision: from natural to artificial systems'.



In his research, Gert investigated the influence of symmetry on visual attention. He developed a visual-attention model based on local symmetry in the image. The model was shown to better predict human eye fixations than existing attention models based on contrast, and it was successfully applied in robotics. **Lambert Schomaker** was Gert's promotor and Bart de Boer (University of Amsterdam) was his co-promotor. **Gert Kootstra** is currently working as a post-doc at the Center for Autonomous Systems at the Kungliga Tekniska Högskolan (KTH) in Stockholm, where he focuses on the use of visual attention for the detection and segmentation of unknown objects in a scene.

www.csc.kth.se

International visitors MAS group and Grolog lectures

Three international scientists recently visited **AI@Rug** and the MAS group. All three delivered a Grolog lecture. Hans van Ditmarsch (University of Sevilla) visited for a couple of weeks and gave a talk entitled 'The art of lying'. Rohit Parikh (City University of New York) gave a talk on Measuring Belief and Can Baskent (City University of New York) gave a Grolog talk entitled 'Epistemic Investigations on Nabl Modality'. **Rineke Verbrugge** also delivered a lecture in the Grolog colloquium series: 'Everything you always wanted to prove about provability'.

www.philos.rug.nl/grolog/

Multi-agent systems group meeting

Over the past year, the Multi-agent systems group has grown significantly, making it necessary to organize a group meeting. Current members are **Rineke Verbrugge** (team leader), **Piter Dykstra**, **Sujata Ghosh**, **Barteld Kooi**, **Ben Meijering**, **Ben Rodenhäuser**, **Sonja Smets**, **Elske van der Vaart** and **Bart Verheij**. On June 7, the group met to exchange ideas and experiences. There were short research presentations and 'scientific speed date sessions'. Being one of Rineke Verbrugge's

advisees, **Anja Lobanova** joined the meeting. The group's visitors Hans van Ditmarsch and Can Baskent also participated.

Lorentz Center workshop 'Formal theories of communication'

Johan van Benthem (University of Amsterdam, Stanford University), Ram Ramanujam (IMSc, Chennai; NIAS, Wassenaar) and **Rineke Verbrugge** organized the workshop 'Formal theories of communication' at the Lorentz Center in Leiden. **Ben Rodenhäuser**, **Sonja Smets** and **Bart Verheij** gave lectures.

www.lorentzcenter.nl (tinyurl.com/38qtkl9)

New KNAW programme 'Computational Humanities'

The KNAW (Royal Dutch Academy of Sciences) installed a programme committee in order to develop a new research programme for the KNAW institutes and university groups: Computational Humanities. The research area is part of the fast-developing field of Computational Sciences (cf. Computational Lifescience, etc.). The new general research agenda: 'Detecting patterns, motifs and themes' was presented by the programme committee at the International Conference on Computational Science 2010 in a specially organized workshop by prof. dr Rens Bod (University of Amsterdam), prof. dr **Lambert Schomaker** (ALICE), prof. dr Antal van den Bosch (Tilburg University) and others. The introduced research agenda enjoyed considerable support from the international experts ('best session of the conference'). The intended five-year programme will provide new roads for artificial intelligence research in the humanities domain.

Vogelexperimenten Elske van der Vaart in Cambridge

Elske van der Vaart, AiO bij Kunstmatige Intelligentie en Theoretische Biologie, is sinds januari 2010 op bezoek bij Nicola Clayton's Comparative Cognition Lab aan de University of Cambridge in Engeland. Zij doet daar gedurende een half jaar empirisch onderzoek naar het verstopt- en ophaalgedrag van Westerse struikgaaien. Deze blauwe kraaiachtigen staan erom bekend dat ze voedsel verstoppen om het later weer op te halen. Daarbij gaan ze erg sluw te werk: als er een andere vogel meekijkt, verstoppen ze hun voedsel het liefst ver weg en achter barrières, en later verplaatsen ze specifiek die lekkernijen die door een andere vogel gezien zijn. In haar promotie probeert Elske met computermodellen te onderzoeken hoeveel cognitie er bij dit gedrag komt kijken.

Logic, physics and belief revision

In her work, **Sonja Smets** applies logical methods to physics and to belief revision.

Recently she coedited a special issue of the journal *Studia Logica* 'The Contributions of Logic to the Foundations of Physics' (eds. D. Aerts, J.P. van Bendegem and S. Smets). In this

connection, she gave a lecture 'Redeneren over qubits: de logica achter quantum-teleportatie en quantum-communicatie' at the Koninklijk Natuurkundig Genootschap in Groningen (March 16th, 2010). The lecture dealt with the following questions: What kind of logic do we need to reason about the behavior of quantum systems? Do we really need to revise classical logical principles (such as bivalence) when dealing with standard quantum theory?

Sonja Smets gave an invited lecture on belief revision entitled 'Belief Dynamics Under Iterated Revision: From cycles of upgrades to doxastic fixed points' at the Second Colloquium on Mathematical Logic in the Netherlands, Utrecht, 27-28 May, 2010. She also gave a lecture on belief revision at the workshop 'Interactive Belief Revision Part II, Workshop on Alternative Approaches to Belief Change' at the University of Hyderabad, India, January 2010, organized by AI@Rug member **Sujata Ghosh**.

Naming ceremony for new Nao robots

On June 15, our five new Nao robots were ceremonially given names by **Lambert Schomaker**: Mies, Bep, Henk, Jan and Kees. To celebrate their naming, the Naos danced in a choreography prepared by **Sjoerd de Jong**. The names were chosen from 17 proposals. Tijn van der Zant's set of names won the competition. One slight change was made: when it turned out that no Nao could pronounce the name 'Gijs', it was replaced by 'Henk'. The names were chosen because of their typically Dutch/Groningen character and also because they are short names, hence practical.



The Nao robots are a significant acquisition for the robot lab. They have an increased dexterity compared to their predecessors, the Aibo dogs, allowing good walking and grasping behavior. The Naos have four microphones, which enables them to determine the direction of a sound source. Their loudspeakers allow interaction through 'speech'.

www.aldebaran-robotics.com/en

Radical dudes

AI@Rug participated in RoboCup in Singapore. One of the teams, called the 'Radical Dudes', is a cooperation between AI@RUG and INSERM from Lyon, where former AI@Rug researcher

Tijn van der Zant works. The Radical Dudes participated in the RoboCup@Home league of RoboCup which is the largest coordinated effort in the field of domestic service robots. 24 Teams from 15 countries participated in @Home. The Radical Dudes are the first team that participated in @Home with a full humanoid (meaning a walking, not a driving platform). Very few people believed that a Nao could accomplish anything, but the 'Radical Dudes' came in second from all the new teams (10).

The Radical Dudes took 12 robots into the shopping mall for shopping in the Toys 'r Us. This is the first time that such a large amount of robots was taken into the real world while the robots had no idea where they actually were. Also the team scored very well in this year's Demo Challenge 'In the restaurant'. Our Nao (we call him 'Pedro') was selling flowers in a restaurant and singing and dancing. The song was chosen by the customer, using speech recognition. Another first is that Pedro could perform rudimentary action recognition, which was also never before demonstrated in RoboCup@Home.

www.robocup.org , www.robocup2010.org
www.robocupathome.org

Cover

Lezingen bij studievereniging Cover

Op donderdag 24 juni gaf Henry Prakken een lezing over 'Argumentatie: logica of spel?'

Op woensdag 30 juni was er een middag over game AI met een lezing van Joost Westra en een lezing van Sander Bakkes. Na afloop is er een borrel.

www.svcover.nl

Stichting Nationaal Informatica Congres (SNIc)

De acht informaticaverenigingen in Nederland, waaronder Cover, werken samen in de Stichting Nationaal Informatica Congres (SNIc). Het SNIc-symposium is een jaarlijks terugkerend landelijk symposium over een informaticagerelateerd onderwerp. Op woensdag 24 november vindt het jaarlijkse symposium opnieuw plaats, dit keer met als thema 'Hyperience', over High Performance Computing.

www.hyperience.nl

Goodbye and hello

We said goodbye to **Sjoerd de Jong**, **Renante Violanda** and **Frank Noorman**. Renante Violanda went back to the Philippines where he returned to his work as a teacher.

We welcomed a lot of new faces as well. **Geertje Steendam** started at the Onderwijsbureau. In the cognitive modeling group two new researchers were introduced. On February 1st, 2010 **Enkhbold Nyamsuren** (in Mongolian: **Энхболд Нямсүрэн**) started his PhD research in the cognitive modeling group on 'cognitive modeling and game playing software agents'. Also **Marieke van Vugt** will start soon in the cognitive modeling group. In the handwriting recognition group, **Tapan Kumar Bhowmik** started on June 1st as a postdoc. He

will work in the Target project of handwritten text retrieval and recognition for historical manuscript collections that has been developed in the handwriting group. In this project the initial focus will be on approaches based on nearest-neighbor matching with powerful shape features on word level. When word labels become more dense during the project, a critical mass of training data will be attained allowing to explore Markovian methods. The project will lead to a better insight in the importance of information sources (shape, language) at all levels in a reading system.

Lastly, **Aswin van Woudenberg** and **Edzer Laweman** both started as scientific programmers.

Afgestudeerden

Bachelor

Daniel Karavolos
Margreet Vogelzang
Jaap Oosterbroek

Master

Kai van Amsterdam

Integration of visual metaphors in an anesthesia interface

Heiko Harders

How grounded defeasible rules and exceptions emerge: Conceptualizing the environment in a population of agents

Rixt Hielkema

A context-based approach to reduce the amount of unknown words in user search queries

Jeroen Kuipers

The influence of differently shaped behavioral zones on the shape and structure of fish schools

Bram Neyt

Learning to predict the quality of classifiers. Subset selection for multiple classifier systems based on a single set of features

Ted Schmidt

Robotics: Environmental Awareness Through Cognitive Sensor Fusion

Sander Foekema

In the Search of Texture Integration in the Early Visual Cortex

Laurens Koelewijn

Optimizing fact learning gains: Using personal parameter settings to improve the learning schedule

Colophon

AI@Rug Newsletter is een nieuwsbrief voor studenten en stafleden van de afdeling Kunstmatige Intelligentie van de Rijksuniversiteit Groningen. Het archief van de nieuwsbrief is te vinden op www.ai.rug.nl/newsletter. U kunt zich voor de verzendlijst opgeven bij Hanneke Niessink (J.H.Niessink@rug.nl).

Redactie:

Bart Verheij, Bea Valkenier, Hanneke Niessink, Lambert Schomaker.