NTNU – Trondheim
Norwegian University of Science and Technology

Prof. Mila Vulchanova
NTNU – Mila Vulchanova, Terje Lohndal, Valentin Vulchanov

- Language Acquisition and Language Processing Lab group and Research Group of Excellence in Linguistic Complexity in Individual and Society, NTNU
- Research on language acquisition, language processing and spatial categorization and language
  - Language development in typical mono-lingual and bilingual children
  - Language trajectories in developmental disorders
  - Figurative and spatial language in autism
  - Eye-tracking and neuroscientific methods
  - State of the art eye-tracking and EEG laboratory
- Collaborations in LanPercept
  - Secondment of NTNU students: Seville University, UBI, Tobii, Lingit, Aston
  - Secondments hosted by NTNU: Aston, Seville, Tobii
Local training

- Eye tracking and statistics training
- Colloquia
  - Research group seminars – LALP Lab seminar and LCIS group seminar
  - Research Journal Seminar
- National Graduate School in Linguistics training courses and seminars, local PhD courses and workshops
Highlights

Cognitive Neuropsychology
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/pcoa20

Morphology in autism spectrum disorders: Local processing bias and language
Mila Vulchanova a, Joel B. Talcott b, Valentin Vulchanov a, Margarita Stankova a & Hendrik Ehruls a
a Language Acquisition and Language Processing Lab, Norwegian University of Science & Technology, Trondheim, Norway
b Aston Brain Centre, Aston University, Birmingham, UK
c Department of Biomedical Sciences, New Bulgarian University, Sofia, Bulgaria
Published online: 22 Mar. 2013.

Links between phonological memory, first language competence and second language competence in 10-year-old children
Mila Vulchanova a,b, Camilla H. Foyt a,b, Randi A. Nilsen a,b, Hermundur Sigmundsson c
a,b Language Acquisition and Language Processing Lab, Norwegian University of Science & Technology, 7491 Trondheim, Norway
c Department of Psychology, Norwegian University of Science & Technology, 7491 Trondheim, Norway

Phrase Structure and Argument Structure
A Case Study of the Syntax-Semantics Interface
Terje Lohndal
• Pushes forward research into the syntax-semantics interface
• Shows that conjunctive semantics can have a formal syntactic basis
• Proposes new ways of looking at phrase structure and argument structure
Aston University – Prof. Joel B. Talcott

- Professor of Developmental Cognitive Neuroscience

- Research
  - Paediatric disorders of cognition and language.
  - Development of literacy and component skills in children
  - Genetic and environmental influences on brain structure and function

- Collaborations in LanPercept
  - Secondment of Aston ECR: at NTNU, Seville
  - Secondment of ER: Elekta Oy
Local training

- Research methods and paradigm development for studies of sensory, motor and cognitive processing
- Neuroimaging: approved user training (MEG/MR)
- Post-graduate research skills training programme (focus on professional and transferable skills)
- Colloquia organised through School and the Aston Brain Centre
- LanPercept
  - To come: Workshop on ‘Neuroimaging Methods and Applications’.
Highlights

Neuropsychologia 51 (2013) 472–481

Contents lists available at ScienceDirect

Neuropsychologia

journal homepage: www.elsevier.com/locate/neuropsychologia

Probing the neurocognitive trajectories of children's reading skills

Joel B. Talcott a,*, Caroline Witton a, John F. Stein b

a Aston Brain Centre, School of Life & Health Sciences, Aston University, Birmingham B4 7ET, United Kingdom
b Department of Physiology, Anatomy and Genetics, University of Oxford, Oxford OX1 2JD, United Kingdom

NeuroImage 63 (2012) 1249–1256

Contents lists available at ScienceDirect

NeuroImage

journal homepage: www.elsevier.com/locate/ynimg

Sensory thresholds obtained from MEG data: Cortical psychometric functions

C. Witton a,*, T. Patel a, P.L. Furlong a, G.B. Henning a,b, S.F. Worthen a, J.B. Talcott a

a Aston Brain Centre, Aston University, School of Life and Health Sciences, Birmingham, B4 7ET, UK
b Institute of Ophthalmology, 11–43 Bath Street, London, EC1V 9EL, UK
EUR – Prof. R. Zwaan & Dr. K. Dijkstra

- **Prof. R. Zwaan**
  - Professor of Biological and Cognitive Psychology
  - Chair of the Brain & Cognition program.
  - Examines the role of perception and action and their neural substrates in cognitive tasks such as language comprehension and memory

- **Dr. K. Dijkstra**
  - Associate professor of Biological and Cognitive Psychology
  - Chair of the Examination Board
  - Examines the role of perception and action in language processing and memory, cognitive aging processes and training

- Collaborations in LanPercept: UBI & FIVAN
Activities at the EUR

- The research group
  - Six faculty members – (associate) professors, assistant professor, graduate students
    - organize international conferences are on editorial boards
  - The Erasmus Behavioural Laboratory
    - multiple EEG, eye tracking testing rooms, video rooms, cubicles for behavioral experiments
    - brain imaging research is performed in collaboration with the Erasmus Medical Center.
- Local training
  - EEG, eye tracking, advanced statistics, Open Science practices, MTurk
  - Colloquia/meetings
    - Brain and Cognition colloquia, Lab meetings, Graduate Research Day
• Funding by various national and international organizations

• Publications in high-impact journals


USAAR - Prof. Dr. Crocker

- Professor of Psycholinguistics
- Research on situated language processing
  - computational models of comprehension
  - Eye tracking and ERP methods
  - Extensive eye-tracking and ERP laboratories
- Collaborations in LanPercept
  - Secondment of USAAR student: Brain Vision
  - Secondments hosted by USAAR: Bielefeld
Local training

- Eye tracking, EEG, statistical methods, modelling
- Weekly psycholinguistics research meeting (15-20 researchers)
  - Additional colloquia in Computational Linguistics, SFB 1102, MMCI
- Soft skills and professional development courses
  - SFB 1102, and GradUS
- 2015: LanPercept training course USAAR
  - Generic and transferable research skills training
Highlights

Cognition
Volume 133, Issue 1, October 2014, Pages 317–328

The influence of speaker gaze on listener comprehension: Contrasting visual versus intentional accounts
Maria Staudte, Matthew W. Crocker, Alexis Heloir, Michael Kipp

The Interplay of Cross-Situational Word Learning and Sentence-Level Constraints
Judith Koehne, Matthew W. Crocker
UBI - Dr. Knoeferle

- Assistant Professor for “Language and Cognition”
- Research on language processing
  - visual grounding
  - eye tracking and neuroscientific methods
  - 2 state of the art eye-tracking and RT laboratories
- Collaborations in LanPercept
  - Secondment of Ubi student: at Saarland University
  - Secondments hosted by UBI: NTNU, Tobii, and Erasmus University of Rotterdam
Local training

- Eye tracking and statistics training
- Colloquia
  - Group meeting on “Language and Cognition”
  - Colloquia at CITEC (e.g., vision science colloquium)
- To come: LanPercept training course III with Acuity, UK: Entrepreneurial skills
Highlights

Different mechanisms for role relations versus verb–action congruence effects: Evidence from ERPs in picture–sentence verification

Pia Knoeferle a,*, Thomas P. Urbach b, Marta Kutas b

Spatial distance effects on incremental semantic interpretation of abstract sentences: Evidence from eye tracking ⋆

Ernesto Guerra ⋆, Pia Knoeferle
Cognitive Interaction Technology Excellence Cluster & Department of Linguistics, Bielefeld University, Germany
UEA – Professor Kenny Coventry

- Head, School of Psychology, University of East Anglia
- Research on mapping between language and perception
  - Multi-methods, including fMRI, eye-tracking, and cross-linguistic analyses
  - Eye tracking, TMS, motion tracking, Virtual Reality and fMRI facilities
- Collaborations in LanPercept
  - Second Supervisor for Dietha Koster (University of Southern Denmark)
  - Secondments hosted by UEA
Local training

- Workshops (e.g. Vision and Action; Dyadic Interaction)/PhD training group
- Colloquia
  - Cognition and Perception group
  - External Seminar Series
Spatial demonstratives and perceptual space: Describing and remembering object location

Kenny R. Coventry a,*, Debra Griffiths a, Colin J. Hamilton b

a School of Psychology, University of East Anglia, UK
b Department of Psychology, Northumbria University, UK

Multiple Routes to Mental Animation: Language and Functional Relations Drive Motion Processing for Static Images

Kenny R. Coventry 1,2, Thomas B. Christophel 3, Thorsten Fehr 4,5,6, Berenice Valdés-Conroy 7, and Manfred Herrmann 1,5

1 School of Psychology, University of East Anglia, 2 Hanse Institute for Advanced Studies, Delmenhorst, Germany, 3 Bernstein Center for Computational Neuroscience, Charité-Universitätsmedizin Berlin, 4 Department of Neuropsychology and Behavioral Neurobiology, University of Bremen, 5 Center for Advanced Imaging, Bremen, Germany, 7 Department of Neurology, Otto-von-Guericke University, Magdeburg, and 6 Departamento de Psicología Básica 1, Universidad Complutense de Madrid
University of Sevilla

- David Saldaña and Isabel R. Rodriguez, Individual Differences, Language and Cognition Lab

- Research in language comprehension in atypical development: Autism spectrum disorder and language impairment, Deafness, Immigrant populations, Poor comprehension

- Collaborations in LanPercept
  - Coordination of Cluster 2 (“Language-perception interactions in atypical populations – applied research”)
  - Cosupervision of ESR with NTNU and secondments. Secondment for Aston.

- Hosted the Cognition and Language in Developmental Disorders meeting in 2013

- Outreach activities with autism support groups and at Researchers’ Night
Local training

- Statistics training (Psychology PhD programme)
- Clinical training (in conjunction with local support groups):
  - Training in skills for therapies in ASD
  - Training in Sign Language
- Individual Differences, Language and Cognition Seminar
- To come: School nr. 3. Language and perception across the life-span
Highlights

Research Article
Support, Inclusion, and Special Education Teachers’ Attitudes toward the Education of Students with Autism Spectrum Disorders
Isabel R. Rodríguez, David Saldaña, and F. Javier Moreno
Departamento de Psicología Evolutiva y de la Educación, Facultad de Psicología, C/Camilo José Cela, s/n, 41018 Sevilla, Spain

Learning to Read: the Case of Moroccan Students who Learn Spanish
Antonio Aguilera-Jiménez, Carmen Delgado, Alfonso Luque, Francisco J. Moreno-Pérez, Isabel R. Rodríguez-Ortiz and David Saldaña

Performance of Children with Autism on the Embedded Figures Test: A Closer Look at a Popular Task
Sarah J. White - David Saldaña

NEPSY® - Second Edition (NEPSY® - II)
Marit Korkman, Ph.D., Ursula Kirk, Ph.D., Sally Kemp, Ph.D.

Qualification Level: C
Age Range: 3 through 16 years
RTI Tiers: RTI Levels 2 and 3
Completion Time: General Assess Preschool ages - 45 minutes; Sch hour. Diagnostic & Selective Asses Varies. Full Assessment: Preschoo minutes; School ages - 2 to 3 hou
Prof. Teresa Cadierno
SDU – Dr. Cadierno

Professor of Second Language Acquisition, Department of Language and Communication:

Director of the Second Language Research Center (SELC)
- Basic research into the acquisition and use of FLs by children and adults
- Applied research into FL pedagogy

LanPercept: Influence of spatial language differences on non-linguistic performance by NSs of different languages and adult language learners relations in L1 and L2 speakers

Collaboration with University of East Anglia, Prof. Kenny Coventry
Local training

- E-prime, Eye-tracking

- Courses offered by the Doctoral Program in Language and Communication: e.g.,
  - First and Second Language Acquisition
  - Research Methods in Language and Communication
  - Advanced Statistical Analysis in Language Development Studies
  - Cognitive neuroscience
  - Course in Linguistics (NordForsk, September 15-18, 2014)
Highlights

• Conference presentations:
  - Koster, D., Cadierno, T., & Coventry, K.: *How language affects perceptually-based categorization: The case of placement events*, International Association for Cognitive Semiotics (IACS), Lund University, 2014
  - Koster, D., Cadierno, T., & Coventry, K.: *How does language affect spatial memory: Insights from Spanish and German L1 data*, AELCO (the Spanish Association of Cognitive Linguistics), University of Extremadura in Badajoz, Spain, 2014

• Publications:
Fivan Neurological Rehabilitation Centre

Based in Valencia, Spain.

Multidisciplinary team with +15 years of clinical experience in the rehabilitation of neurological conditions.

Software development team with experience in the development of clinical applications for rehabilitation.

Pablo Gagliardo

Director of Innovation

Research on the application of gamification and natural interfaces to physical and cognitive therapy.

Research on the design of accessible user interfaces for individuals with acquired brain injuries.

Specified and led the development of the NeuroAtHome physical and cognitive rehabilitation platform, currently used in more than 10 countries.
Activities during 2013-2014

TRAINING SCHOOLS

• Lecture at Fivan Workshop, June 2014

• University of Seville Workshop, November 2013

• Aston Training School, September 2013

CONFERENCE PRESENTATION

• “Applying virtual reality and videogame technology to everyday physical and cognitive rehabilitation practice”

Neurological Rehabilitation Therapy & Technology London, UK – June 2014
Scientific Results 2014

PAPERS


CONFERENCE POSTERS

Pablo Gagliardo, Tatiana Ferreiro, Ruth Izquierdo, Gemma Mas, Vicente Penadés & Javier Chirivella. NeuroAtHome [I]: A software platform of clinical videogames specifically designed for the motor rehabilitation of stroke patients. 10th World Congress on Brain Injury, San Francisco.

Javier Chirivella, Alberto del Barco, Sonia Blasco, Vicente Penadés, Gemma Mas & Pablo Gagliardo. NeuroAtHome [II]: A software platform of clinical videogames specifically designed for the cognitive rehabilitation of stroke patients. 10th World Congress on Brain Injury, San Francisco.

Tobii Technology – Tommy Strandvall & Ricardo Matos

- **Tommy Strandvall**
  - Global head of training and knowledge
- **Dr. Ricardo Matos**
  - Head of training programs
- **Tobii Technology**
  - World leader in eye tracking technology
  - 600 employees worldwide
  - 9 people in Knowledge, training & support department
  - Full partner in 3 Marie Curie projects, associate partner in 1
- **Collaborations in LanPercept**
  - Upcoming secondment of Tobii ER: at Saarland University
  - Secondments hosted by Tobii: NTNU
Local training

- Internal training in the team and company: hardware, software, R&D, programming

- Weekly public webinars

- Courses and conferences
Highlights

Eye Tracking Masterclass for Behavioral Research
Tobii Eye Tracking Academy Course
October 29 - 30, 2014
Stockholm, Sweden

Topics:
- Eye movements and visual perception
- Eye tracking recording techniques
- Data quality and data processing
- Good practices when collecting eye tracking data
- Visual perception and AOI data analysis and interpretation
- Synching eye tracking data with other biometric data sources
- Publishing and reporting eye tracking data