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PSYCHOTHERAPIE



DIPF

Educational Research and Educational Information



INTERNATIONAL SYMPOSIUM ON DYSLEXIA AND DYSCALCULIA 2017

Wednesday 3rd of May – Thursday 4th of May 2017

at

Carl Friedrich von Siemens Stiftung

Südliches Schloßbrondell 23

80638 Munich

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FOREWORD

Welcome to Munich and welcome to the 6th International Symposium on Dyslexia and Dyscalculia. The symposium is part of the research initiative "Developmental Disorders of Scholastic Skills" (Entwicklungsstörungen schulischer Fertigkeiten; ESF), a programme set in place by the German Federal Ministry of Education and Research (BMBF) to promote empirical educational research.

The next two days will offer the chance to hear about the latest scientific discoveries and advances in the field of dyslexia and dyscalculia. The scientific topics covered in the international symposium include analyses of brain mechanisms associated with dyslexia; studies on comorbidity between dyslexia/dyscalculia and emotional problems or language impairment; and results of intervention studies targeted to improve reading or arithmetic skills. The topics of this meeting highlight the importance to investigate dyslexia/dyscalculia by applying multiple methods and approaches in order to understand learning disorders in a wider context.

Participation in this meeting underscores the global commitment of each and every attendee to make a difference in peoples' lives, especially in the lives of children facing dyslexia and dyscalculia.

The Federal Ministry of Education and Research currently funds eight active ESF projects in Germany. Within the past years, scientists from these ESF research groups have made important discoveries about dyslexia and dyscalculia, which have already lead to training programmes that are successfully being used by school



children. Recent results of these projects will be presented at the poster sessions.

We are looking forward to discussing these and other important initiatives during the course of the symposium.

I wish you an enjoyable and productive meeting.



Prof. Dr. Gerd Schulte-Körne

Chair of Child and Adolescent Psychiatry and Psychotherapy
Director of the Department of Child and Adolescent Psychiatry,
Psychosomatics and Psychotherapy
University of Munich



PROGRAMME

Wednesday, 3rd of May 2017

Conference Location:

Carl Friedrich von Siemens Stiftung

Südliches Schloßrondell 23

08:45-09:00	<i>Welcome</i>
09:00-10:00	Clyde Francks, Associate Professor: "Genetics of Brain Asymmetry"
10:00-11:00	Frøydis Morken, Associate Professor: "The Reading Brain through Literacy Development: Findings from the Bergen Longitudinal Dyslexia Study"
11:00-11:30	<i>Break</i>
11:30-12:30	Robert Savage, Associate Professor: "Processes and Models of Word Reading with Evidence from Effective Interventions"
12:30-13:30	<i>Lunch</i>
13:30-14:30	Poster Presentation
14:30-15:00	<i>Coffee Break</i>
15:00-16:00	Milene Bonte, Associate Professor: "The Development of the Reading Brain: Training, Plasticity and Dyslexia"
16:30-18:00	<i>Guided Tour: Exploring Nymphenburg Park</i>
18:30	<i>Conference Dinner at Restaurant and Biergarten "Königlicher Hirschgarten" (Hirschgarten 1, 80639 Munich)</i>

PROGRAMME

Thursday, 4th of May 2017

Conference Location:

Carl Friedrich von Siemens Stiftung

Südliches Schloßrondell 23

09:00-10:00	Mikko Aro, Professor: "Interventions of Reading and Arithmetic Fluency"
10:00-11:00	Orly Rubinsten, Ph.D: "Probing the Nature of Deficits in Math Anxiety: Drawing Connections between Attention and Numerical Cognition"
11:00-11:30	<i>Break</i>
11:30-12:30	Maggie Snowling, Professor: "Dyslexia and Language Impairment – Same or Different"
12:30-13:30	<i>Lunch</i>
13:30-14:30	Poster Presentation
14:30-15:00	<i>Coffee Break</i>
15:00-16:00	Don Compton, Professor: "Promises and Pitfalls of an RTI Model for the Prevention and Identification of Children with Reading Disabilities"
18:30	<i>Conference Dinner at Restaurant "Risotto" (Hirschgartenallee 38, 80639 Munich)</i>

POSTERS

Wednesday, 3rd of May 2017

“Opportunities and Limitations of Training Working Memory in Children with and without Reading and Writing Disabilities”

Authors: Claudia Maehler, Christina Joerns, Ellen Radtke, Kirsten Schuchardt

Presenter: Claudia Maehler, Kirsten Schuchardt

Project: AGENT

University of Hildesheim, Germany

“Evaluation of a Computer-Based Training for Enhancing Basic Numerical and Arithmetic Skills in Children with Dyscalculia”

Authors: Jörg-Tobias Kuhn, Christin Schwenk, Christian Dobel, Heinz Holling

Presenter: Jörg-Tobias Kuhn, Christian Dobel, Christin Schwenk

Project: CODY

University of Münster, Germany

“Strengthening Arithmetic Facts: Evaluation of a Computer-Based Intervention for Children with and without Mathematical Difficulties”

Authors: Jenny Busch, Claudia Schmidt, Dietmar Grube

Presenter: Jenny Busch, Claudia Schmidt

Project: DISKRE2

University of Oldenburg, Germany

“Reading with Syllables vs. Reading with Strategies: Effects on Word and Text-Based Reading Processes”

Authors: Jelica Nejasmic, Bettina Müller, Panagiotis Karageorgos, Tobias Richter, Marco Ennemoser

Presenter: Jelica Nejasmic, Bettina Müller

Project: ERI

University of Ludwigsburg and Kassel, Germany

“Neural Correlates of Cognitive Control in a Word Typing Task”

Authors: Marcus Heldmann, Leonie Baumung, Nicole Mühlforte, Alfred O. Effenberg, Thomas F. Münte

Presenter: Marcus Heldmann

Project: FELICS

University of Hannover & Lübeck, Germany

"Effects of the Computer-Based Training Program Lautarium on Phonological Awareness and Reading and Spelling Abilities in German Third-Graders with Dyslexia"

Authors: Marita Konerding, Kirstin Bergström, Thomas Lachmann, Claudia Steinbrink, Maria Klatte

Presenter: Kirstin Bergström

Project: LAUTARIUM

University of Kaiserslautern & Erfurt, Germany

"Same, Same but Different: Processing Words in the Aging Brain"

Authors: Eva Fröhlich, Johanna Liebig

Presenter: Eva Fröhlich, Johanna Liebig

Project: IRAGS / LEXI

Freie Universität Berlin, Germany

"Low Performance in Reading, Writing, and Arithmetics in 4th Grade: Where to Look at in Kindergarten Age?"

Authors: Ruth Augustin, Stefanie Simanowski, Kristin Krajewski

Presenter: Ruth Augustin

Project: MatheSchrift

University of Giessen, Germany

"Cognitive Profiles of Children with Isolated Reading versus Isolated Spelling Difficulties: The Same or Different?"

Authors: Claudia Schmidt, Gerhard Büttner, Marcus Hasselhorn, Claudia Mähler, Dietmar Grube

Presenter: Claudia Schmidt

Project: RABE

University of Hildesheim, Germany

Thursday, 4th of May 2017

"Math Anxiety in the Brain"

Authors: Karin Kucian, Michael von Aster

Presenter: Karin Kucian

Project: SCHUES

University of Potsdam, Germany & University Children's Hospital Zurich

"Learning Disabilities Related to Psychological Distress? Study Protocol of an Application-Based Examination."

Authors: Ruth Görgen, Julia Kalmar, Josefine Rothe, Linda Visser, Katharina Grunwald, Marcus Hasselhorn, Gerd Schulte-Körne

Presenter: Ruth Görgen

Ludwig-Maximilians-University Munich, Germany

“Assessing Learning (Dis-)abilities and Psychological Distress via an Application: A Pilot Study”

Authors: Linda Visser, Katharina Grunwald, Ruth Görgen, Julia Kalmar, Josefine Rothe, Gerd Schulte-Körne, Marcus Hasselhorn
Presenter: Linda Visser
DIPF, Frankfurt, Germany

“Cortical Responses to Tone and Phoneme Mismatch as a Predictor of Dyslexia? A Systematic Review”

Authors: Susanne Volkmer, Gerd Schulte-Körne
Presenter: Susanne Volkmer
Ludwig-Maximilians-University Munich, Germany

“Domain-Specific and Domain-General Cognitive Correlates of Dyscalculia: A Meta-Analysis”

Authors: Stefan Haberstroh, Gerd Schulte-Körne
Presenter: Stefan Haberstroh
Ludwig-Maximilians-University Munich, Germany

“Neurophysiological Correlates of Word Processing Deficits Associated with Reading versus Spelling Problems”

Authors: Sarolta Bakos, Karin Landerl, Gerd Schulte-Körne, Kristina Moll
Presenter: Sarolta Bakos
Ludwig-Maximilians-University Munich, Germany

“Orthographic Learning in Children with Isolated and Combined Reading and Spelling Deficits”

Authors: Heike Mehlhase, Gerd Schulte-Körne, Kristina Moll
Presenter: Heike Mehlhase
Ludwig-Maximilians-University Munich, Germany

“Predictors of Reading Development and Reading Disorders across Languages”

Authors: Anna Braukmann, Josefine Rothe, Katharina Galuschka, Gerd Schulte-Körne
Presenter: Anna Braukmann
Ludwig-Maximilians-University Munich, Germany

“Screening for At-Risk Readers in First grade – The Potential of Reading Speed in a Transparent Orthography”

Authors: Katharina Galuschka, Susanne Volkmer, Gerd Schulte-Körne
Presenter: Katharina Galuschka
Ludwig-Maximilians-University Munich, Germany

ABSTRACTS

Mikko Aro, Professor of Special Education:

“Interventions of Reading and Arithmetic Fluency”

Poor reading speed seems a universal characteristic of developmental reading problems, and an especially central problem in transparent orthographies. Similarly, mathematical problems typically manifest as dysfluent calculation skills. This far, explicit attention to fluency problems has been relatively rare in research of both dyslexia and dyscalculia. This presentation will summarize and discuss research findings on the underpinnings of fluency development in reading and arithmetic and further interventions focusing on fluency problems in reading and arithmetic. Finally, the need for new directions in intervention research will be discussed, and ongoing intervention attempts paying explicit attention also to non-cognitive factors will be outlined.

References:

- Aro, M., & Lyytinen, H. (2016). Training Reading Skills in Finnish: From Reading Acquisition to Fluency and Comprehension. In Khateb A. & Bar-Kochva I. (Eds.) *Reading Fluency: Current Insights from Neurocognitive Research and Intervention Studies* (pp. 125-140). Springer International Publishing.
- Heikkilä, R., Aro, M., Närhi, V., Westerholm, J., & Ahonen, T. (2013). Does training in syllable recognition improve reading speed? A computer-based trial with poor readers from second and third grade. *Scientific Studies of Reading*, 17, 398-414.
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- Koponen, T., Aro, T., Räsänen, P., & Ahonen, T. (2007). Language-based retrieval difficulties in arithmetic: A single case intervention study comparing two children with SLI. *Educational and Child Psychology*, 24, 98-107.
- Koponen, T., Salmi, P., Torppa, M., Eklund, K., Aro, T., Aro, M., Poikkeus, AM., Lerkkanen, MK., & Nurmi JE. (2016). Counting and rapid naming predict the fluency of arithmetic and reading skills. *Contemporary Educational Psychology*, 44-45, 83-94.
- Salminen, J., Koponen, T., Räsänen, P., & Aro, M. (2015). Preventive support for kindergarteners most at-risk for mathematics difficulties: Computer-assisted intervention. *Mathematical Thinking and Learning*, 17, 273-295.

Milene Bonte, Associate Professor Brain and Language Group:

“The Development of the Reading Brain: Training, Plasticity and Dyslexia”

Learning to read represents a major challenge in a child’s development. Most children achieve this feat successfully, but not those 5-10% with persistent reading problems due to developmental dyslexia. Reading acquisition requires years of practice and leads to a gradual re-shaping of existing neural circuitry for visual perception and spoken language. Not only does reading induce a specialisation for text in visual brain regions, but the brain’s spoken language system (auditory cortex) also becomes closely linked to these visual regions and starts reacting to written text in addition to speech. In this talk, we will review behavioural, EEG and fMRI studies investigating these audiovisual neural mappings and their relation to reading fluency, training and dyslexia. Our findings show reduced neural coupling of visual symbols (letters) and corresponding spoken language representations (phonemes) in dyslexic children with different patterns of results dependent on the severity of their reading problems. Intensive letter-speech sound training improved children’s reading fluency and was associated with the neural timing of letter-speech sound integration as well as with visual print tuning. We will discuss these findings within the broader scope of perceptual learning, brain plasticity and development. Finally, we will discuss future directions and ongoing work investigating reading-related audiovisual plasticity using a newly developed text-based recalibration paradigm.

References:

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Žarić, G., Fraga González, G., Tijms, J., van der Molen, M. W., Blomert, L., & Bonte, M. (2014). Reduced Neural Integration of Letters and Speech Sounds in Dyslexic Children Scales with Individual Differences in Reading Fluency. *PLoS ONE*, 9(10), e110337.

Donald L. Compton, Professor of Psychology and Education:

“Promises and Pitfalls of an RTI Model for the Prevention and Identification of Children with Reading Disabilities”

The use of IQ-achievement discrepancy procedures for the identification of children with learning disabilities, and more specifically reading disabilities (RD), has come under widespread and persistent criticism (e.g., Fletcher et al., 1998, 2004; Stanovich & Siegel, 1994; Sternberg & Grigorenko, 2002). Response-to-intervention (RTI), an alternative to the IQ-achievement discrepancy procedure, is based on the premise that a student is identified as RD when his or her response to an effective educational intervention is dramatically inferior to that of peers. RTI provides the following advantages over IQ-achievement discrepancy as a means of identifying RD: (a) an earlier identification of RD to avoid a “wait to fail” model, (b) a strong focus on providing effective instruction and improving student outcomes, and (c) a decision-making process supported by continuous progress monitoring of skills closely aligned with desired instructional outcomes. Arguably, RTI’s most important components are the accurate identification of children most at risk for future academic difficulty and the timely delivery of generally effective intervention (Fuchs & Fuchs, 1998). Various approaches have been proposed to operationalize RTI with regard to reading. Most reflect a three-tier system (see Bradley, Danielson, & Hallahan, 2002). In Tier 1, all students participate in generally effective reading instruction in the regular classroom, and each student’s rate of reading growth is monitored. Those whose level of performance and/or rate of improvement is dramatically below that of peers are designated as at risk for poor reading outcomes and move to a second tier. In Tier 2, they receive preventive, small-group instruction, and their progress is again monitored. Responsive children continue in Tier 2 and eventually return to regular classroom instruction and are deemed disability free. Students unresponsive to Tier 2 are assumed to have an intrinsic deficit

that prevents them from benefiting from the instruction at this tier (Vaughn & Fuchs, 2003). Failure to respond to Tier 2 instruction signals a need for the child to move to Tier 3, which typically involves more intensive individualized instruction. This presentation will present results from several studies examining the accuracy and efficiency of systems designed to accurately identify children most at risk for future academic difficulty (Compton et al., 2006; 2010; 2012) and the efficacy of early intervention programs to prevent future RD in at risk children (Gilbert et al., 2013).

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Compton, D. L., Fuchs, D., Fuchs, L. S., & Bryant, J. D. (2006). Selecting at-risk readers in first grade for early intervention: A two-year longitudinal study of decision rules and procedures. *Journal of Educational Psychology*, 98, 394-409.

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Sternberg, R. J., & Grigorenko, E. L. (2002). Difference scores in the identification of children with learning disabilities: It's time to use a different method. *Journal of School Psychology*, 40, 65-83.

Clyde Francks, Associate Professor:**“Genetics of Brain Asymmetry”**

Alterations of brain and behavioural left-right asymmetries have been associated with various psychiatric and cognitive traits, including schizophrenia and dyslexia^{1,2}. However the cause-effect relations which underlie these associations remain unclear³. Shared genetic contributions to altered brain asymmetry and disorder susceptibility have been proposed, but concrete examples remain few⁴. I will discuss various on-going projects which are aimed at identifying genes involved in laterality of the human brain⁴⁻⁷. I will also describe strategies for testing whether these same genes are linked to variation in reading and language performance. This research includes analysis of datasets which comprise thousands of participants, together with recently developed methods of statistical genetic epidemiology and DNA sequencing. The new datasets and tools have the potential to clarify whether there is indeed a substantial and shared genetic contribution to altered brain laterality and disorders of reading and language.

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Frøydis Morken, Associate Professor of Logopedics:

“The Reading Brain through Literacy Development: Findings from the Bergen Longitudinal Dyslexia Study.”

Our knowledge about brain mechanisms underlying dyslexia is steadily increasing. However, findings often appear inconsistent and conflicting. This talk will discuss if this could, in part, be due to the developmental nature of dyslexia, and the relative paucity of studies addressing this through longitudinal methods. The Bergen longitudinal dyslexia study (Helland & Morken, 2016; Helland, Plante, & Hugdahl, 2011; Helland, Tjus, Hovden, Ofte, & Heimann, 2011) is a study that set out to identify children at risk for dyslexia through a questionnaire distributed to parents and teachers in pre-school, before formal literacy training. It is one of few studies that have acquired fMRI data from children as young as 6 years old (pre-literacy stage). Additionally, the children were scanned at 8 years (emergent literacy stage) and 12 years (literacy stage). Results show that the pre-literacy and emergent literacy stages are central to outcome, and support the idea that early intervention is key to support the literacy development of at-risk children appropriately.

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- Helland, T., Tjus, T., Hovden, M., Ofte, S., & Heimann, M. (2011). Effects of bottom-up and top-down intervention principles in emergent literacy in children at risk of developmental dyslexia: a longitudinal study. *Journal of Learning Disabilities*, 44(2), 105-122. Doi:10.1177/0022219410391188

Orly Rubinsten, Ph.D:

“Probing the Nature of Deficits in Math Anxiety: Drawing Connections between Attention and Numerical Cognition”

Learning arithmetic or mathematics is complicated for many people who have a persistent negative reaction to mathematics, a condition termed math anxiety (Ashcraft & Ridley, 2005; Maloney & Beilock, 2012). Our novel suggestion is that some of the cognitive traits that are associated with general anxiety, such as the tendency to display attentional bias toward negative information, are involved not only in general anxiety but also in math anxiety. We also suggest that math anxiety might be viewed as stimulus- and situation-specific anxiety.

In our study we used a cognitive tool – the numerical dot probe task (Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, & Van Ijzendoorn, 2007; Pergamin-Hight, Naim, Bakermans-Kranenburg, van IJzendoorn, & Bar-Haim, 2015). One of the significant benefits of this numerical dot probe task is the fact that it is an implicit measure that assesses inaccessible cognitive structures (Schacter, 1987) or presentations that are processed automatically. This tool is based on a canonical experimental paradigm in the field of anxiety: the threat-related dot probe task (MacLeod, Mathews, & Tata, 1986). The data show that in math anxious participants, specific learnt number symbols (e.g., “7”, “3”, or arithmetic facts such as $3 \times 7 = 21$) but not non-symbolic numerical information (e.g., groups of dots) are associated with unpleasant feelings, resulting in attentional bias towards symbolic numerical information in math anxiety. We suggest that this bias plays a central role in the development and maintenance of math anxiety and hence, attentional bias is a critical neurocognitive construct in the investigation of math anxiety.

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Robert Savage, Associate Professor:

“Processes and Models of Word Reading with Evidence from Intervention”

In this talk I will describe our research on reading acquisition in English. I will briefly describe the results of our early foundational research that fitted well within a model wherein children automate grapheme-to-phoneme conversion rules in a phased gradual manner. Beyond this work, we consider fluency, and the role rapid automatized naming (RAN) might play in the achievement of reading fluency. I will go on to describe some of the recent work on RAN we have undertaken in the dual language instructional context of Montreal Quebec, where children are exposed to both English and French in elementary schools. I will then move on to a consideration of some of our evidence from reading intervention research. Finally, I will conclude by drawing attention to some wider issues in the scaling up of such work to prevent many reading problems and to raising reading standards more generally.

References:

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Chen, V. & Savage, R. S., (2014). Evidence for a simplicity principle: Teaching common complex grapheme-phonemes improves reading and motivation in at-risk readers. *Journal of Research in Reading*, 37, 196–214, DOI:10.1111/1467- 9817.12022.

Maggie Snowling, Professor:**“Dyslexia and Language Impairment – Same or Different”**

This talk will present findings from a longitudinal study of children at high-risk of dyslexia either because of preschool speech and language difficulties or because of a first degree affected relative, followed from age 3 to 8. A focus on the preschool language profiles suggests that there are shared risk factors between familial dyslexia and language impairment. The developmental picture is, however, more complex. It will be argued, in line with the critical age hypothesis, that children who enter school with a persistent speech or language impairment are most at risk of reading problems.

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BIOGRAPHIES OF THE KEYNOTE SPEAKERS



Dr. Mikko Aro is a Professor of Special Education and a board member of the Center for Research on Learning and Teaching at University of Jyväskylä, Finland. He received his PhD in psychology 2004. He has also specialist psychologist degrees in Child Neuropsychology (1993, Free University and Paedologisch Instituut, Amsterdam, The Netherlands) and Clinical Neuropsychology (1995, Finnish Neuropsychological Society and University of Jyväskylä, Finland). Before his current position, Aro worked at Niilo Mäki Institute, Jyväskylä, Finland, where he was responsible for research and development projects focusing on identification and treatment of reading disabilities. His primary research interests relate to development of literacy and mathematical skills; dyslexia, dyscalculia and their comorbidity; and interventions of developmental reading and arithmetic disabilities. His current research projects focus also on the role of non-cognitive factors in learning and learning problems. Aro is an associate editor in Reading and Writing, and an editorial board member in Scientific Studies of Reading.



Dr. Milene Bonte is Associate Professor at the Faculty of Psychology and Neuroscience (FPN) and principle investigator of the Brain and Language group, Maastricht Brain Imaging Center, Maastricht University, The Netherlands. She graduated in biological psychology and obtained her PhD in 2005 at Maastricht University, studying brain mechanisms of speech perception in typical and dyslexic readers (supervisor Prof. Leo Blomert). In 2004, she received a Ter Meulen Fonds (KNAW) grant to investigate context-dependent plasticity in speech perception with Prof. Riitta Salmelin, Helsinki University of Technology, Finland. In 2005, she was appointed assistant professor at the FPN, Maastricht University. In 2007, Milene received an NWO Veni grant to investigate developmental fine-tuning of the brain functions for speech and voice recognition. In 2011, she continued her work on reading development and dyslexia within a collaborative NWO-NIHC funded dyslexia intervention study with Prof. Maurits van der Molen and Dr. Jurgen Tijms (University of Amsterdam). Her current research focuses on reading-induced brain plasticity during typical and dyslexic reading development (NWO Vidi grant), and sensorimotor aspects of speech perception. Milene closely collaborates with dyslexia healthcare institutes, e.g. as collaborator of the Rudolf Berlin Center, Amsterdam, The Netherlands and as member of the scientific advisory board of RID dyslexia institutes.



Dr. Donald Compton is Professor of Psychology and Education at Florida State University and Director of the Florida Center for Reading Research, USA. He was formerly Professor and Chair of Special Education and a John F. Kennedy Center Investigator at Peabody College, Vanderbilt University, Nashville (TN), USA. He earned a Ph.D. from Northwestern University's School of Communication Sciences and Disorders, Evanston (IL), USA, with a specialization in learning disabilities. While working on his Ph.D., and for several years after its completion, he was employed as a learning disabilities resource teacher in Skokie (IL), USA. Compton then worked for four years as an assistant professor in the Department of Curriculum and Instruction at the University of Arkansas, Fayetteville (AR), USA. He then accepted a NICHD post-doctoral research fellowship at the Institute for Behavior Genetics, University of Colorado, Boulder (CO), USA. From there he accepted a position at Vanderbilt University that he held until the spring of 2015. He then accepted his current position with the Florida Center for Reading Research at Florida State University. Compton is experienced in designing, managing, analyzing, and disseminating data from cross-sectional and longitudinal studies as well as randomized control studies. His research involves modeling individual differences in the development of children's reading skills and the identification and treatment of children with reading disabilities.



Dr. Clyde Francks is a tenured group leader in Human Neurogenetics at the Max Planck Institute, Nijmegen, The Netherlands. His group studies the genetics of language, brain disorders and laterality of the brain. The group's research is funded by the Max Planck Society and grants, for which he is the lead principal investigator, from the Netherlands Organization for Scientific Research (NWO) and a partnering program to schizophrenia. From 2005 on he continued as a visiting fellow at Oxford, UK, while working as a manager in the pharmaceuticals industry (GlaxoSmithKline, Verona, Italy), during which time he led collaborative academia-industry projects on the genetics of schizophrenia and cigarette smoking. In 2010 he started in his current position at the MPI Nijmegen.



Dr. Frøydis Morken is Associate Professor of Logopedics at the Department of Biological and Medical Psychology at the University of Bergen, Norway. She has Master's degrees of General Linguistics as well as Logopedics, both obtained from the University of Bergen, and is a trained speech language pathologist. For her doctoral work, Morken joined Professor Turid Helland and Professor Karsten Specht at the Department of Biological and Medical Psychology at the University of Bergen. The doctoral work came out of the Bergen Longitudinal Dyslexia study and focused on the development of reading and writing processing in children with dyslexia, investigating aspects of the symptoms, cognitive and biological levels of dyslexia through the pre-literacy, emergent literacy and literacy stages. Apart from the doctoral work, Morken has done research on written and spoken narratives in typically developing children, and on foreign language learning in children with and without dyslexia. She is particularly interested in the development of writing skills in children with dyslexia. Morken is a member of the Bergen Logopedic Research Group (B.Log).



Dr. Orly Rubinsten is a Senior Research Scientist in cognitive neuropsychology at the Faculty of Education at the University of Haifa, Israel, and a member of the Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa. Her primary interest lies in understanding how numerical intuitions can be

fostered by classroom practice in typical as well as atypical (e.g., dyscalculia and math anxiety) developing children. By using Event-Related Potentials (ERP) methodology and experimental tasks adopted from cognitive psychology, she investigates specific cognitive processes and their failure in developmental dyscalculia and math anxiety. Orly Rubinsten is an editorial board member of the Journal of Cognitive Psychology.



Dr. Robert Savage is Associate Professor and William Dawson Scholar at McGill University, Montreal, Canada and has published over 90 research articles in international journals exploring children's early reading and spelling strategies. He works with children who show both typical and atypical development (e.g. dyslexia). His work is partly on the basic underlying 'neuro-cognitive' (brain and thinking) processes that

are used in reading and spelling by children.

Robert is a school psychologist and classroom teacher by training, and from these applied experiences he maintains an interest in making schools effective learning places for all children. He is interested in policy questions such as how we can make schools more inclusive and classroom teaching and parenting maximally effective for children, and the design of good evidence-based programs in achieving this aim.

Robert is particularly interested in preventing early reading and spelling problems, often using technology. Robert has published over 25 reading intervention studies on three continents (North America, the United Kingdom and Australia). These sorts of studies are hard to do well, but are crucial and thus take up most of his professional time these days.



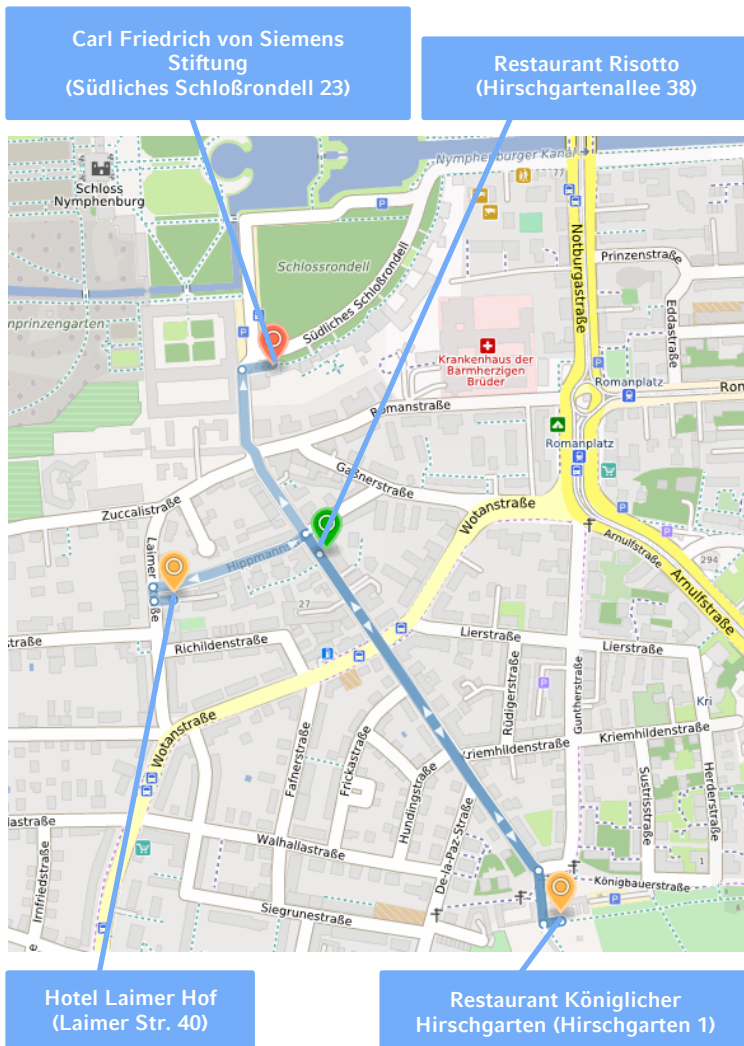
Dr. Margaret (Maggie) Snowling is President of St. John's College and Professor in the Department of Experimental Psychology, University of Oxford, UK. Prior to moving to Oxford in 2012, she was Professor of Psychology at the University of York, UK, where she was Co-Director of the Centre for Reading and Language with Prof. Charles Hulme. Her research focuses on children's language and learning and she is specifically interested in the nature and causes of children's reading difficulties and how best to ameliorate them.

Maggie completed her first degree at Bristol, UK, and her doctorate at University College London, UK. She is also professionally qualified as a clinical psychologist. She was awarded the British Psychological Society Presidents' Award (2003) and the Samuel T Orton Award of the International Dyslexia Association (2005); she is Past-President of the Society for the Scientific Study of Reading and former Joint Editor of the Journal of Child Psychology and Psychiatry. She served on Sir Jim Rose's Expert Advisory Group on provision for Dyslexia and was an expert member of the Education for All: Fast Track Initiative group in Washington DC, USA, in 2011. She has been awarded honorary doctorates from Goldsmiths London, UK, (2010), University College London (2014) and Warwick University, UK, (2016) for contributions to the science of reading and dyslexia.

She is Fellow of the British Academy, Fellow of the Academy of Medical Sciences and Fellow of the Academy of Social Sciences. She was appointed CBE for services to science and the understanding of dyslexia in 2016.



Location Map





Host:

Coordination centre of the BMBF research initiative
„Developmental Disorders of Scholastic Skills“
(Entwicklungsstörungen schulischer Fertigkeiten - ESF)

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