

Michael Artur Skeide, Ph.D.

Date/place of birth: *7 June 1984 in Wernigerode, Germany

Position: Research group leader, MPI for Human Cognitive and Brain Sciences

Research interests

- Developmental cognitive neuroscience of learning in early childhood
- Interplay between cognitive development, brain development, genes, environments

Research questions

- What are the developmental origins of intelligent behavior?
- How do we learn to understand information? (e.g., language, letters, numbers)
- How do we develop models of our experience? (e.g., a mental lexicon, a quantification system)
- How do we learn to use these models for problem solving?
- Why are there individual differences in learning trajectories/outcomes (e.g., dyslexia, dyscalculia)?
- How does cultural diversity shape learning trajectories/outcomes?

Research methods

- Longitudinal intervention and observation studies starting in early childhood
- fMRI (task-based, resting-state), sMRI (morphometry), dMRI (tractography, diffusion indices)
- EEG, fNIRS
- Machine learning (MVPA, deep learning), probabilistic modeling
- Gene-brain-behavior association studies
- Culture-comparative studies (currently in India)

Address

Max Planck Institute for Human Cognitive and Brain Sciences
Stephanstrasse 1A
04103 Leipzig, Germany

Contact

Phone: +49 341 9940 130 +49 162 9526 932
Email: skeidelab@gmail.com
Website: skeidelab.com

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I. CAREER

Current positions

- 02/2020– **Research group leader**
Max Planck Institute for Human Cognitive and Brain Sciences
- 10/2019– Faculty member
International Max Planck Research School on Neuroscience of Communication

Past positions

- 08/2016–11/2016 Visiting scholar
Stanford University, Cognitive and Systems Neuroscience Laboratory
- 09/2009– Ph.D. student, Postdoc, Team leader & Research group leader
Max Planck Institute for Human Cognitive and Brain Sciences
- 09/2008–08/2009 Undergraduate research intern
University of Heidelberg, Institute of Psychology
- 04/2008–08/2009 Undergraduate research assistant
Institute for the German Language Mannheim, Department of Pragmatics

II. EDUCATION

- 07/2020–09/2020 Management and leadership program, *Max Planck Society*
- 11/2017–09/2018 **Habilitation**, Psychology, *Humboldt University of Berlin* (not graded)
- 09/2009–11/2012 **Ph.D.**, Psychology, *University of Leipzig*, grade: A
- 06/2009–08/2009 Summer course “From brain to behavior: research methods and technologies”,
Harvard University, grade: A-
- 09/2005–06/2009 **M.A.**, Linguistics, *University of Heidelberg*, grade: A

III. MEMBERSHIPS

- since 04/2020 Cognitive Science Society (**CSS**)
- since 02/2019 Japanese Neuroscience Society (**JNS**)
- since 03/2018 European Association for Research on Learning and Instruction (**EARLI**)
- since 01/2018 Mathematical Cognition and Learning Society (**MCLS**)
- since 05/2017 German Psychological Society (**DGPs**)
- since 03/2016 Society for the Scientific Study of Reading (**SSSR**)
- since 09/2014 Society for Research in Child Development (**SRCD**)
- since 04/2014 Australasian Cognitive Neuroscience Society (**ACNS**)
- since 08/2013 Society for the Neurobiology of Language (**SNL**)
- since 10/2011 Cognitive Neuroscience Society (**CNS**)
- since 05/2011 Society for Neuroscience (**SfN**)
- since 03/2011 Organization for Human Brain Mapping (**OHBM**)

IV. FUNDING

| | | | |
|------------------------------|---|------------------------------|---------------|
| Total number of grants | 5 | Total amount awarded | 2.772.000 EUR |
| As principal investigator | 4 | As principal investigator | 2.737.000 EUR |
| As co-principal investigator | 1 | As co-principal investigator | 35.000 EUR |

accepted*Genetic influences on infant brain development*

- Funding period: 2021–2026
- Funding body: National Institutes of Health (NIH)
- Funding scheme: R01
- Role: co-principal investigator (coordinator: Rebecca Knickmeyer, Michigan State University, USA)
- Budget: 42.500USD (total: 5.788.236USD, 19 principal investigators in the USA and Europe)

active*EMPRISE - The emergence of precise numerosity representations in the human brain*

- Funding period: 2021–2024
- Funding body: German Research Foundation (DFG)
- Funding scheme: Research Grant
- Role: principal investigator
- Budget: 258.000EUR

Jacobs Foundation Research Fellowship

- Funding period: 2021–2023
- Funding body: Jacobs Foundation
- Funding scheme: Research Fellowship
- Role: principal investigator
- Budget: 165.000CHF

Variability of learning in early childhood - from genes and environments to brain and behavior

- Funding period: 2021–2026
- Funding body: German Research Foundation (DFG)
- Funding scheme: Heisenberg Programme
- Role: principal investigator
- Budget: 596.000EUR

SLANG - How the brain learns to see language

- Funding period: 2020–2025
- Funding body: European Research Council (ERC)
- Funding scheme: Starting Grant
- Role: principal investigator
- Budget: 1.729.000EUR

V. AWARDS

- 10/2021 Stefan Engel Prize (5.000EUR)
for an important scientific contribution to the understanding of dyslexia
German Society for Social Pediatrics and Child Medicine, Berlin (DEU)
- 01/2021 Early Career Award (2.000USD)
for significant, original research contributions to the field
International Mind, Brain, and Education Society, Stanford (USA)
- 03/2020 Science Prize (1.000EUR)
for substantial contributions to the understanding of dyslexia
German Society for Dyslexia and Dyscalculia, Bonn (DEU)
- 01/2019 Postdoctoral Travel Award (129.000JPY)
for an excellent research presentation
Japanese Neuroscience Society, Tokyo (JPN)
- 09/2017 Advancement Award (1.000EUR)
for groundbreaking research in the field of Cognitive Neuropsychology
German Society for Neuropsychology, Fulda (DEU)
- 04/2017 Alois Kornmüller Prize (3.500EUR)
for discovering neurobiological precursors of developmental dyslexia
German Society for Clinical Neurophysiology, Jena (DEU)
- 03/2014 Trainee Abstract Travel Award (700 USD)
Organization for Human Brain Mapping, Minneapolis (USA)
- 03/2013 Trainee Abstract Travel Award (700 USD)
Organization for Human Brain Mapping, Minneapolis (USA)
- 01/2007–06/2009 Undergraduate scholarship (20.000EUR)
German Federal Ministry of Research and Education Berlin (DEU)

VI. COLLABORATIONS (selected)

1. Gustavo Deco, Barcelona (**ESP**) (2014–2019);
2. Robert C. Berwick, MIT (**USA**) (2015–2016);
3. Falk Huettig, Nijmegen (**NLD**) (2015–);
4. Vinod Menon, Stanford (**USA**) (2016–);
5. Katharina von Kriegstein, Dresden (**DEU**) (2016–2018);
6. Thomas Lachmann, Kaiserslautern (**DEU**) (2018–);
7. Andreas Nieder, Tübingen (**DEU**) (2019–);
9. ENIGMA Origins Consortium, (Coordinator: Rebecca Knickmeyer, Michigan State University, **USA**) (2019–);
10. Dan Rujescu, Halle (Saale) (**DEU**) (2019–2020);
11. Gerd Schulte-Körne, Munich (**DEU**) (2019–);
12. ManyNumbers Consortium (Coordinator: David Barner, University of California at San Diego, **USA**) (2020–);
13. Tzipi Horowitz-Kraus, Technion (**ISR**) (2020–);
14. Usha Goswami, Cambridge (**GBR**) (2020–);
15. Hans-Christoph Nürk, Tübingen (**DEU**) (2020–);
16. Karin Landerl, Graz (**AUT**) (2020–);
17. Marco Zorzi, Padova (**ITA**) (2020–);
18. Margherita Malanchini, London (**GBR**) (2020–);
19. Jessica Cantlon, Carnegie Mellon University (**USA**) (2020–);
20. Wai Ting Siok, Hong Kong (**HKG**) (2020–);
21. Zhou Xinlin, Beijing Normal University (**CHN**) (2020–);
22. Fumiko Hoelt, Connecticut (**USA**) (2020–);
23. Silvia Brem, Zurich (**CHE**) (2020–);
24. Karin Kucian, Zurich (**CHE**) (2020–);
25. Jason Yeatman, Stanford (**USA**) (2020–);
26. Teresa Iuculano, Université de Paris La Sorbonne (**FRA**) (2020–);
27. Arne O. Lervåg & Monica Helby-Lervåg, Oslo (**NOR**) (2020–);
28. Elizabeth Gunderson, Temple University (**USA**) (2020–);
29. Roi Cohen Kadosh, Oxford (**GBR**) (2020–);
30. Daniel Ansari, University of Western Ontario (**CAN**) (2020–);
31. Marcus Hasselhorn, DIPF Frankfurt (**DEU**) (2020–);
32. Sonali Nag, Oxford (**GBR**) (2020–)

VII. SUPERVISION & MENTORING

Postdocs & Analysts

03/2021– Anne-Sophie Kieslinger
03/2021– Shreya Kapoor

Ph.D. students

04/2021– Alexander Enge, Humboldt University of Berlin, Psychology
03/2016–10/2019 Ulrike Kuhl, University of Leipzig, Psychology
grade: A, two peer-reviewed original research articles
next position: Bielefeld University (DEU)
10/2012–10/2016 Indra Kraft, University of Leipzig, Psychology
grade: A, two peer-reviewed original research articles
next position: Dresden University (DEU)

Master students

05/2017–11/2017 Katharina Wehrmann, Humboldt University of Berlin, Psychology, grade: A
next position: PhD student at the University of Bern (CHE)
04/2014–09/2014 Jantje Willems, University of Potsdam, Clinical Linguistics, grade: A
next position: PhD student at the MPI for Human Development Berlin (DEU)

Bachelor students

10/2013–12/2014 Eva Goedel, University of Leipzig, Psychology, grade: A
next position: Master student at the University of Leipzig

Lab Managers

05/2021– Michael Vollmann

Research assistants & interns

1. Robert M. Schwartz (07–09/2011), 2. Margarete Störel (09/2012–09/2013), 3. Michael Schwarz (09/2013–09/2014), 4. Simone Lehmann (09/2013–09/2016), 5. Doreen Bennemann (05/2014–01/2016), 6. Franziska Stock (03/2015–09/2016), 7. Maria Wohlfahrt (03–09/2015), 8. Aaron Doliana (10/2015–03/2016), 9. Lea Hermann (04–09/2016), 10. Michael Vollmann (02/2018–02/2020), 11. Jennifer Sander (02–04/2019), 12. Alexander Enge (07–09/2019), 13. Vera Eymann (10–11/2019), 14. Zahra Emami (10–12/2019), 15. Sarah Sobotta (02/2020–03/2021), 16. Manmeet Singh (02/2020–10/2021), 17. Adrián J. León Valencia (07–08/2020), 18. Cosima Justus (07–08/2020)

VIII. ORGANIZATION, ADMINISTRATION & PUBLIC RELATIONS (selected)

Ad-hoc reviews for scientific journals

1. Nature Neuroscience, 2. PNAS, 3. Molecular Psychiatry, 4. Biological Psychiatry, 5. The Journal of Neuroscience, 6. Cerebral Cortex, 7. NeuroImage, 8. Human Brain Mapping, 9. NPJ Science of Learning, 10. Scientific Reports, 11. Neuroscience and Biobehavioral Reviews, 12. Cortex, 13. PLoS Genetics, 14. PLoS ONE, 15. Developmental Science, 16. Journal of Cognitive Neuroscience, 17. Neuropsychologia, 18. Social, Cognitive and Affective Neuroscience, 19. Brain and Cognition, 20. Brain Research, 21. Frontiers in Neuroscience, 22. Scientific Studies of Reading, 23. Bilingualism: Language & Cognition, 24. Experimental Brain Research, 25. Mind, Brain and Education, 26. Cognitive Neuropsychology, 27. International Journal of Psychology

Ad-hoc reviews for funding agencies

1. German Research Foundation (DFG)
2. Society in Science–The Branco Weiss Fellowship (ETH Zurich)

Board memberships

since 2012 Advisor *International Max Planck Research School on Neuroscience of Communication*

Public relations (selected)

1. **Talks** for speech therapists and kindergarten teachers (since 2012); 2. **Movie** about the developing human connectome (received Max Planck Movie Award) (2013); 3. **Experience seminar** for kindergarten children (2014); 4. **Public panel discussion**: Effects of new media on reading and brain development (2015); 5. **Movie** about the Leipzig Child Language Laboratory (2015); 6. **Exposition**: Language – world of words, signs, gestures (German Health Museum, Dresden, DEU & German Academy for Language & Literature, Darmstadt, DEU, 2016/2017), 7. Contribution to the **Blog**: What are you looking for? (2018)

Chaired symposia

1. Developmental learning disorders - from genes and brains to cognitive profiles, Biannual meeting of the Developmental and Educational Psychology section of the German Psychological Society, Leipzig (DEU) (09/2019).
2. Neurocognitive origins of learning disorders, EARLI 2019 conference, Aachen (DEU) (08/2019).
3. Developmental dyslexia, READ 2018 Symposium of the German Research Center for Artificial Intelligence, Kaiserslautern (DEU) (10/2018).

Organized symposia

1. Developmental learning disorders - from genes and brains to cognitive profiles, Biannual meeting of the Developmental and Educational Psychology section of the German Psychological Society, Leipzig (DEU) (09/2019).
2. Neurocognitive origins of learning disorders, EARLI 2019 conference, Aachen (DEU) (08/2019).

IX. MEDIA (selected)

Print

1. **Gehirn & Geist**: Language shapes our thinking (DEU, 07/2011); 2. **Stern**: Early screening designed to help diagnosing dyslexia in time (DEU, 08/2012); 3. **Neue Zürcher Zeitung**: Children talk early – but grammar needs time (CHE, 04/2016); 4. **Focus**: Tracing language (DEU, 04/2016); 5. **Süddeutsche Zeitung**: Polyglot chatting (DEU, 05/2016); 6. **Welt**: Brain scan reveals developmental dyslexia before school entry (DEU, 04/2017); 7. **Der Tagesspiegel**: When words resist (DEU, 05/2017); 8. **La Repubblica**: The brain is super flexible (ITA, 05/2017); 9. **El Mundo**: Learning to read as an adult causes profound changes in the brain (ESP, 05/2017); 10. **Daily Mail**: Learning to read in adulthood can rewire the brain in just six months (UK, 05/2017); 11. **Scientific American**: Learning to read produces enormous brain changes (USA, 05/2017); 12. **Newsweek**: Learning to read can dramatically change the adult brain (USA, 05/2017); 13. **Tagesanzeiger**: The power of letters (CHE, 05/2017); 14. **Washington Post**: Learning to read and write alters brain wiring within months (USA, 05/2017); 15. **Frankfurter Allgemeine Zeitung**: Everybody can learn how to read (DEU, 06/2017); 16. **ZEIT Wissen**: Lordy! These letters! (DEU, 10/2018), 17. **Daily Mail**: Think 2+2=5? Don't worry, being bad at math is genetic (UK, 10/2020), 18. **Frankfurter Allgemeine Zeitung**: Geboren, um zu rechnen (DEU, 10/2020)

Radio

1. **MDR**: Brain scan reveals dyslexia before school entry (DEU, 04/2017); 2. **BNR**: How reading changes the brain (NLD, 05/2017); 3. **CBC** – Illiterate adults can rewire their brains by learning to read (CAN, 06/2017); 4. **WDR** – Why do kids write back-to-front during early stages of literacy learning? (DEU, 05/2018); 5. **RBB** – How do we learn to read? (DEU, 06/2018); 6. **HR2** – Long live the book! (DEU, 10/2018)

TV

1. **3sat**: Dyslexia – When letters don't make sense (DEU, 09/2012); 2. **Donga Science**: Neuroscience (ESP, 01/2013); 3. **SAT.1** – MRI scan could become part of school entrance examination (DEU, 05/2017); 4. **RTL** – Developmental dyslexia (DEU, 09/2017)

X. TEACHING

Lectures

B.Sc. Psychology

WT 2015/2016 Biological Psychology (University of Leipzig)

Single lectures

B.Sc./M.Sc. Psychology

WT 2017/2018 When words won't grow – language disorders (Humboldt University of Berlin)

M.Sc. Early Childhood Research

ST 2019 A biological take on early learning (University of Leipzig)

M.Sc. Social, Cognitive and Affective Neuroscience

ST 2019 Neurobiological foundations of language acquisition (Free University of Berlin)

M.A. European Master in Clinical Linguistics (University of Potsdam)

WT 2019/2020 Neurobiological foundations of symbolic learning in early childhood

ST 2016 Predicting dyslexia before school

WT 2013/2014 Models of developmental dyslexia

ST 2013 Neurogenetics of developmental dyslexia

International Max Planck Research School Neuroscience of Communication (MPI-CBS)

ST 2020 Cognitive Neuroscience of learning in early childhood

Seminars

M.Sc. Psychology

ST 2016 Dyslexia & dyscalculia (Humboldt University of Berlin)

B.Sc. Psychology

ST 2015 Cognitive Psychology: Perception and Psychophysics (University of Leipzig)

WT 2014/2015 Introduction to Biological Psychology (University of Leipzig)

M.A. Psycholinguistics

ST 2014 Methods in language acquisition research (University of Leipzig)

Single seminars (Max Planck Institute for Human Cognitive and Brain Sciences)

since 2014 Developmental diagnostics of: spoken language (SETK 3-5), precursors of written language (BISC), mathematics (HRT 1-4), intelligence (WPPSI, WISC, K-ABC), attention (CAPT, KITAP), audition (HASE)

XI. PRESENTATIONS

Invited talks

1. Developmental origins of intelligent behavior, MPI Nijmegen (**NED**) (10/2021).
2. Tracing the origins of dyslexia and dyscalculia, Berlin (**GER**) (10/2021).
3. Developmental origins of intelligent behavior, International Mind, Brain and Education Society Conference, Stanford (**USA**) (07/2021).
4. Keynote lecture: Tracing the origins of dyslexia and dyscalculia, U Zurich (**CHE**) (06/2021).
5. Developmental origins of intelligent behavior, Charité Berlin (**DEU**) (04/2021).
6. Developmental origins of intelligent behavior, PUC Rio de Janeiro (**BRA**) (03/2021).
7. Developmental origins of intelligent behavior, TU Chemnitz (**DEU**) (02/2021).
8. Developmental origins of intelligent behavior, U Bamberg (**DEU**) (01/2021).
9. Developmental origins of intelligent behavior, HU Berlin (**DEU**) (01/2021).
10. Neurobiological foundations of symbolic learning in early childhood, LMU München (**DEU**) (11/2019).
11. Neurobiological foundations of symbolic learning in early childhood, Center for Cognitive Science, Kaiserslautern (**DEU**) (10/2019).
12. A gene-brain-behavior pathway to individual differences in mathematical ability. Biannual meeting of the Developmental and Educational Psychology section of the German Psychological Society, Leipzig (**DEU**) (09/2019).

13. Integrating genetic and neuroimaging data. Lorentz Workshop, Leiden (**NED**) (04/2019).
14. Neurobiological origins of developmental dyslexia. READ 2018 Symposium of the German Research Center for Artificial Intelligence, Kaiserslautern (**DEU**) (10/2018).
15. How learning to read changes the brain. 32nd Annual meeting of the German Society for Neuropsychology, Konstanz (**DEU**) (09/2017).
16. Shaping the brain with elementary education. University of Vienna (**AUT**) (08/2017).
17. Neuroplasticity in second language learning – tracing a sensitive period. Max Planck Society, Berlin (**DEU**) (02/2017).
18. Neurobiological effects of a prevention program for developmental dyslexia. Daimler und Benz Foundation, Ladenburg (**DEU**) (01/2017).
19. Language competence development in childhood. University of Potsdam (**DEU**) (01/2017).
20. A biological approach for early diagnosis of developmental dyslexia. University of Potsdam (**DEU**) (01/2017).
21. The ontogeny of the cortical language network. Summer School of the Language in Interaction Consortium, Nijmegen (**NLD**) (07/2016).
22. Preschool children with a familial risk for developmental dyslexia show neuroanatomical abnormalities. 12th Congress of the Austrian Society for Psychology, Innsbruck (**AUT**) (given by Ph.D. student Indra Kraft) (04/2016).
23. Dyslexia risk variant rs11100040 alters brain connectivity profiles affecting phonological awareness. Reading in the Forest Workshop, Annweiler am Trifels (**DEU**) (10/2015).
24. Possible effects of new media on reading behavior and brain development. Fall Academy 2015 of the Academy for Reading Advancement Lower Saxony, Hanover (**DEU**) (09/2015).
25. Keynote lecture: Neural and linguistic bases of language development. 41st Annual Meeting of the German Society for Neuropediatrics, Basel (**CHE**) (04/2015).
26. Keynote lecture: The ontogeny of the cortical language network. 3rd International Psycholinguistic Congress, Rio de Janeiro (**BRA**) (03/2015).
27. Phylogenetic controversies regarding the brain basis of language. 3rd International Psycholinguistic Congress, Rio de Janeiro (**BRA**) (03/2015).

Other talks (selected)

1. The emergence of dyslexia in the developing brain. 27th Cognitive Neuroscience Society Annual Meeting, Boston (**USA**) (05/2020).
2. Neurobiological foundations of symbolic learning in early childhood, University of Leipzig (**DEU**) (12/2019).
3. The brain basis of co-occurring vs. isolated reading and math difficulties. Biannual meeting of the Developmental and Educational Psychology section of the German Psychological Society, Leipzig (**DEU**) (09/2019).
4. Traces of dyslexia in the auditory cortex. 18th biennial conference of the European Association for Research on Learning and Instruction, Aachen (**DEU**) (08/2019).
5. Neurogenetic origins of mathematical ability. 42nd Annual meeting of the Japanese Neuroscience Society, Niigata (**JPN**) (07/2019).
6. Predicting mathematical ability before school by linking genes, brain and behavior. 5th Neuroscience & Education conference, London (**UK**) (06/2018).
7. Predicting mathematical ability before school by linking genes, brain and behavior. 1st Mathematical Cognition and Learning Conference, Oxford (**UK**) (04/2018).
8. Early diagnosis of developmental dyslexia with MRI. 43rd annual meeting of the Biological Psychology section of the German Psychological Society, Trier (**DEU**) (06/2017).
9. Neural signatures of co-occurring reading and mathematical deficits. Stanford University (**USA**) (10/2016).
10. Neurobiological origins of comorbid deficits in literacy and numeracy. Stanford University (**USA**) (08/2016).

11. *NRSN1* associated grey matter volume of the visual word form area reveals dyslexia before school. 23rd Annual Conference of the Society for the Scientific Study of Reading, Porto (**PRT**) (07/2016).
12. Determining the biological predisposition for developmental dyslexia by combining genetic and MRI data. Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig (**DEU**) (07/2016).
13. *NRSN1* associated grey matter volume of the visual word form area reveals dyslexia before school. International Workshop on Reading and Developmental Dyslexia, Bilbao (**ESP**) (05/2016).
14. The neural language network: Functional and structural development. Volkswagen Foundation, Hanover (**DEU**) (with Angela D. Friederici) (11/2014).
15. The neural segregation of syntax from semantics in the developing brain. 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle (**USA**) (06/2013).
16. Syntax and semantics in the developing brain. Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig (**DEU**) (08/2012).

Posters

1. Demographic and obstetric factors shape the development of intracranial volume and subcortical structures in infancy and early childhood, San Diego (**USA**) (04/2021).
2. Gray matter structural covariance changes during language comprehension development. 24th Annual Meeting of the Organization for Human Brain Mapping, Singapore (**SGP**) (06/2018).
3. Detecting cortical facets of developmental disorders using multivariate random forest classification: the case of dyslexia. 47th Annual Meeting of the Society for Neuroscience, Washington, DC (**USA**) (11/2017).
4. The dyslexic brain before and after literacy – unifying structural signs. 9th Annual Neurobiology of Language Conference, Baltimore (**USA**) (11/2017).
5. The dyslexic brain before and after literacy – unifying structural signs. Visions in Science, Berlin (**DEU**) (10/2017). awarded with 1st poster prize.
6. The dyslexic brain before and after literacy - unifying structural signs. 23rd Architectures and Mechanisms for Language Processing Conference, Lancaster (**UK**) (09/2017).
7. *NRSN1* associated grey matter volume of the visual word form area reveals dyslexia before school. 43rd Psychology and Brain Congress, Trier (**DEU**) (06/2017).
8. Learning to read alters cortico-subcortical cross-talk in the visual system of illiterates. 43rd Psychology and Brain Congress, Trier (**DEU**) (06/2017).
9. *NRSN1* associated grey matter volume of the visual word form area reveals dyslexia before school. 50th Congress of the German Society for Psychology, Leipzig (**DEU**) (09/2016).
10. Learning to read alters intrinsic cortico-subcortical cross-talk in the low-level visual system. 22nd Architectures and Mechanisms for Language Processing Conference, Bilbao (**ESP**) (09/2016).
11. Learning to read alters intrinsic cortico-subcortical cross-talk in the low-level visual system. 8th Annual Neurobiology of Language Conference, London (**UK**) (08/2016).
12. *NRSN1* associated grey matter volume of the visual word form area reveals dyslexia before school. 22nd Annual Meeting of the Organization for Human Brain Mapping, Geneva (**CHE**) (06/2016).
13. Dyslexia risk gene *DCDC2* relates to speech-evoked auditory brainstem responses in literate and preliterate children. 34th European Workshop on Cognitive Neuropsychology, Bressanone (**ITA**) (01/2015).
14. Speech-evoked brainstem responses relate to *KIAA0319* variants and phonological skills in pre-reading children: a biomarker for dyslexia? 45th Annual Meeting of the Society for Neuroscience, Washington, DC (**USA**) (11/2015).
15. Structural brain differences in pre-reading children are associated with familial risk for dyslexia. 20th Annual Meeting of the Organization for Human Brain Mapping, Honolulu (**USA**) (06/2015).
16. Dyslexia risk variant rs11100040 alters brain connectivity profiles affecting phonological awareness. 12th International Conference on Cognitive Neuroscience, Brisbane (**AUS**) (07/2014).
17. Dyslexia risk variant rs11100040 alters brain connectivity profiles affecting phonological awareness. 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg (**DEU**) (06/2014).

18. Reduced cortical thickness in pre-reading children at risk for dyslexia. 4th IMPRS NeuroCom Summer School, London (**UK**) (06/2014).
19. Development of white matter in children with developmental dyslexia. 43rd Annual Meeting of the Society for Neuroscience, San Diego (**USA**) (11/2013).
20. Development of white matter in children with developmental dyslexia. 5th Annual Neurobiology of Language Conference, San Diego (**USA**) (11/2013).
21. Early neurobiological markers of developmental dyslexia. 3rd IMPRS NeuroCom Summer School, Leipzig (**DEU**) (06/2013).
22. The neural segregation of syntax from semantics in the developing brain. 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle (**USA**) (06/2013).
23. Maturational differences in language-relevant frontotemporal white matter fiber tracts. 19th Cognitive Neuroscience Society Annual Meeting, Chicago (**USA**) (04/2012).
24. Brain representations for syntactic and semantic processing in 9- to 10-year old children. 41st Annual Meeting of the Society for Neuroscience, Washington, DC (**USA**) (11/2011).
25. Childrens' language comprehension abilities correlate with grey matter density in the left inferior parietal lobe. 17th Annual Meeting of the Organization for Human Brain Mapping, Quebec City (**CAN**) (06/2011).

XII. PUBLICATIONS

TOP 3 Publications

1. **Skeide** MA, Wehrmann K, Emami Z, Kirsten H, Hartmann A, Rujescu D, The Legascreen Consortium (2020) Neurobiological origins of individual differences in mathematical ability, ***PLoS Biology***, 18, e3000871.
2. **Skeide** MA, Kumar U, Mishra RK, Tripathi V, Guleria A, Singh J, Eisner F, Huettig F (2017) Learning to read alters intrinsic cortico-subcortical cross-talk in the visual system of illiterates. ***Science Advances***, 3, e1602612. featured in ***Science***, 356 (6340), 816
3. **Skeide** MA, Friederici AD (2016) The ontogeny of the cortical language network. ***Nature Reviews Neuroscience***, 17, 323–332.

International journal articles(*gold open access **green open access)

1. Kuhl U, Sobotta S, Legascreen Consortium, **Skeide** MA (*accepted*, ***PLoS Biology***) Mathematical learning deficits originate in early childhood from atypical development of a fronto-parietal brain network.
2. Enge A, Abdel Rahman R, **Skeide** MA (2021) A meta-analysis of fMRI studies of semantic cognition in children. ***NeuroImage***, 241, 118436.*
3. **Skeide** MA, Wehrmann K, Emami Z, Kirsten H, Hartmann A, Rujescu D, The Legascreen Consortium (2020) Neurobiological origins of individual differences in mathematical ability, ***PLoS Biology***, 18, e3000871.*
4. Enge A, Friederici AD, **Skeide** MA (2020) A meta-analysis of fMRI studies of language comprehension in children. ***NeuroImage***, 215, 116858.*
5. Kuhl U, Neef N, Kraft I, Schaadt G, Dörr L, Brauer J, Czepezauer I, Müller B, Wilcke A, Kirsten H, Emmrich F, Boltze J, Friederici AD, **Skeide** MA (2020) The emergence of dyslexia in the developing brain. ***NeuroImage***, 211, 116633.*
6. Kuhl U, Friederici AD, The Legascreen Consortium, **Skeide** MA (2019) Early cortical surface plasticity relates to basic mathematical learning. ***NeuroImage***, 204, 116235.*
7. Hahn G¹, **Skeide** MA¹, Mantini D, Ganzetti M, Destexhe A, Friederici AD, Deco G (2019) A new computational approach to estimate whole-brain effective connectivity from functional and structural MRI, applied to language development. ***Scientific Reports***, 9, 8479.** ¹shared first authorship

8. Qi T, Schaadt G, Cafiero R, Brauer J, **Skeide** MA, Friederici AD (2019) The emergence of long-range language network structural covariance and language abilities. *NeuroImage*, 191, 36–48.**
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