Bert De Smedt

Curriculum Vitae

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Date of birth: 21/07/1978
Civil status: Married to Lies Knapen; children: Simon (2008), Tijs (2010), Lena (2014)
Citizenship: Belgium

Researcher identifiers
ResearcherID: G-4729-2010
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RESEARCH INTERESTS

- Typical and atypical numerical and mathematical development
- Mathematical disabilities – dyscalculia
- Educational neuroscience
- Developmental cognitive neuroscience

EDUCATION

2002-2006: PhD, Faculty of Psychology and Educational Sciences, University of Leuven
Degree awarded: September 14th, 2006
Advisors: Prof. Dr. Pol Ghesquière, Prof. Dr. Lieven Verschaffel, Prof. Dr. Ann Swillen
2001-2002: Specialization Educational Sciences, University of Leuven
1998-2001: Master in Educational Sciences, University of Leuven
1996-1998: Bachelor in Educational Sciences, University of Leuven

CURRENT POSITION

2015 - …: Associate Professor (tenured), Faculty of Psychology and Educational Sciences, University of Leuven (Belgium)

PREVIOUS POSITIONS

2010 – 2015: Tenure-Track Assistant Professor, Faculty of Psychology and Educational Sciences, University of Leuven (Belgium)
2008 –2010: Visiting scientist with Prof. Daniel Ansari, Department of Psychology, University of Western Ontario, London, ON
2006 –2007: Postdoctoral researcher, Department of Educational Sciences, University of Leuven

FELLOWSHIPS

2007 –2010: Postdoctoral Fellow of the Research Foundation Flanders (FWO)
2002 –2006: PhD Fellow of the Research Foundation Flanders (FWO-aspirant)

HONORS AND AWARDS

2018 Laureate of the Royal Academy of Belgium for Science and the Arts
2017 Fellow of the Association of Psychological Science
2017 Merit Abstract Award Organization for Human Brain Mapping (awarded to Jessica Bulthé)
2017 Best Poster Award Belgian Association for Psychological Science (awarded to Stephanie Duyck)
2016 Certificate for Highly Cited Research in Trends in Neuroscience and Education
2015 Member of the Young Academy of the Royal Flemish Academy for Sciences and Arts
2014 IMBES Early career award, International Mind Brain and Education Society
2013 Erik De Corte Early career award, European Association for Research on Learning and Instruction
2010 Burgen Scholar 2010 award, Academia Europeae
2008 Best poster prize (co-authored Anke De Wel, Ann Swillen), Society for Behavioral Phenotypes Meeting

GRANTS

2018 MMM Delacroix Foundation, Research Grant, *Executive functions in children with spastic cerebral palsy. Correlates and implications for academic performance and behavioral abilities*. Co-investigator (PI Els Ortibus)
2016 Research Foundation Flanders, Research Grant The association between inhibitory control and arithmetic fact retrieval in children: evidence from behavior and brain (€ 229 441.58), Principal investigator
2016 University Research Fund, C1 project (6 years) *Early development and stimulation of core mathematical competencies* (€ 1.652.621), Co-investigator (PI Lieven Verschaffel)
2016 Research Foundation Flanders – FWF Austrian Research Foundation, Research Grant *The neural mechanisms underlying individual differences in arithmetic fact learning: exploring the role of sensitivity-to interference* .(€ 440 000), Principal investigator, (PI in Austria: Roland Grabner).
2012 Research Foundation Flanders, Research Grant *fMRI-based decoding of neural representations in mathematics and reading disorders* (€ 335 000), Principal investigator
2011 University Research Fund, Interdisciplinary Grant (IDO) *Decoding neural representations in individuals with neurodevelopmental disorders.*(€ 440 000), Co-investigator (PI Hans Op de Beeck)
2011 University Research Fund, General Concerted Research Action(GOA) *Number sense: Analysis and Improvement.* (€ 1 450 000), Co-investigator (PI Lieven Verschaffel)
2011 Research Foundation Flanders, Research Grant *Cognitive and neural characteristics of mathematical difficulties in children with traumatic brain injury following traffic accidents*. (€ 263 880), Principal investigator
2011 MMM Delacroix Foundation, Research Grant *Developing and stimulating quantity representations in children with mild intellectual disabilities.* (€ 57 435), Principal investigator
2010 Research Foundation Flanders, Research Grant *Cognitive correlates of individual differences in children's strategy use in single-digit addition and subtraction*. (€ 260 880), Co-investigator (PI Pol Ghesquière)
2010 STELLAR EU project 231913, Research Grant, *Neuroscience, Technology and the Enhancement of Learning* (€ 16 000), Co-investigator (PI Paul Howard-Jones)
2009 MMM Delacroix Foundation, Research Grant, *The representation of numerical magnitudes in children with mild intellectual disabilities*. (€ 64 588), Principal investigator
2008 British Academy, Research Grant, *The remediation of mathematical learning difficulties using computer-based games*, Co-investigator (PI: Camilla Gilmore)
2008 Bundesministerium für Bildung und Forschung (BMBF) - Neuroscience – Instruction - Learning program, *Domain-general and domain-specific correlates of mathematical achievement in primary school children: a longitudinal study on the interplay of basic numerical and executive control function*, Co-investigator (PI: Arthur Jacobs)
2007 MMM Delacroix Foundation, Research Grant, *Mathematical disabilities in children with a genetic disorder: Turner Syndrome, Fragile-X Syndrome and Velo-cardio-facial Syndrome*. (€ 81 111), Principal investigator

SCIENTIFIC PUBLICATIONS

4867 citations; h-index 36, in Google Scholar (as of 6 Nov 2018)
2353 citations; h-index 24, in Web of Science (as of 6 Nov 2018)

International Peer-Reviewed Journal Articles (113)

tiberghien, K., Sahan, M., **De Smedt, B.,** Fias, W., & Lyons, I. (in press). Disentangling neural sources of problem-size and interference effects in multiplication. *Journal of Cognitive Neuroscience.*

Polspoel, B., Vandermosten, M., & **De Smedt, B.** (in press). Relating individual differences in white matter pathways to children's arithmetic fluency: a spherical deconvolution study. *Brain Structure and Function.*

MacKay, K. J., & **De Smedt, B.** (in press). Patterning counts: Individual differences in children's calculation are uniquely predicted by sequence patterning. *Journal of Experimental Child Psychology.*

Bakker, M., Torbeyns, J., Wijns, N., Verschaffel, L., & **De Smedt, B.** (in press). Gender equality in four- to five-year-old preschoolers' early numerical competencies. *Developmental Science.*

Bulthé, J., Prinsen, J., Vanderauwera, J., Duyck, S., Daniels, N., Gillebert, C.R., Mantini, D., Op de Beeck, H., & **De Smedt, B.** (in press). Multi-method brain imaging reveals impaired representations of number as well as altered connectivity in adults with dyscalculia. *Neuroimage.*

Schneider, M., Merz, S., Stricker, J., **De Smedt, B.,** Torbeyns, J., Verschaffel, L., & Luwel, K. (2018). Associations of number line estimation with mathematical competence: A meta-analysis. *Child Development, 89,* 1467-1484.

Mutaf Yildiz, B., Sasanguie, D., **De Smedt, B.,** & Reynvoet, B. (2018). Investigating the relationship between two Home Numeracy Measures: A Questionnaire and Observations during Lego building and book reading. *British Journal of Developmental Psychology, 36,* 354-370.

Torbeyns, J., Peters, G., **De Smedt, B.**, Ghesquière, P., & Verschaffel, L. (in press). Subtraction-by-addition strategy use in children of varying mathematical achievement level: a choice/no-choice study. *Journal of Numerical Cognition.*

Rathé, S., Torbeyns, J., **De Smedt, B.,** Hannula-Sormunen, M.M., & Verschaffel, L. (in press). Verbal and action-based measures of kindergartners' SFON and their associations with number-related utterances during picture book reading. *British Journal of Educational Psychology.*

Peters, L., & **De Smedt, B.** (2018). Arithmetic in the developing brain: a review of brain imaging studies. *Developmental Cognitive Neuroscience, 30,* 265-279. doi: 10.1016/j.dcn.2017.05.002

Peters, L., Bulthé, J., Daniels, N., Op de Beeck, H., & **De Smedt, B.** (2018). Dyscalculia and dyslexia: Different behavioral, yet similar brain activity profiles during arithmetic. *Neuroimage: Clinical, 18,* 663-674.

Bulthé, J., **De Smedt, B.,** & Op de Beeck, H. (2018). Arithmetic skills correlate negatively with the overlap of symbolic and non-symbolic number representations in the brain. *Cortex, 101,* 306-308.

Vanbinst, K., Ceulemans, E., Peters, L., Ghesquière, P., & **De Smedt, B.** (2018). Developmental trajectories of children's symbolic numerical magnitude processing skills and associated cognitive competencies. *Journal of Experimental Child Psychology, 166,* 232-250.

De Visscher, A., Vogel, S., Reishofer, G., Hassler, E., Koschutnig, K., **De Smedt, B.**, & Grabner, R. (2018). Interference and problem size effect in multiplication fact solving: Individual differences in brain activations and arithmetic performance. *Neuroimage, 172,* 718-722.

Brankaer, C., Ghesquière, P., De Wel, A., Swillen, A., & **De Smedt, B.** (2018). Numerical magnitude processing impairments in genetic syndromes: a cross-syndrome comparison of Turner and 22q11.2 Deletion Syndromes. *Developmental Science, 20,* e12485. doi: 10.1111/desc.12458

Mutaf Yildiz, B., Sasanguie, D., **De Smedt, B.,** & Reynvoet, B. (2018). Frequency of home numeracy activities is differentially related to basic number processing and calculation skills in kindergartners. *Frontiers in Psychology, 9,* 340. doi: 10.3389/fpsyg.2018.00340

Tiberghien, K., Notebaert, W., **De Smedt, B.**, & Fias, W. (2017). Reactive and proactive control in arithmetic strategy selection. *Journal of Numerical Cognition, 3,* 598-619.

Polspoel, B., Peters, L., Vandermosten, M., & **De Smedt, B.** (2017). Strategy over operation: Neural activation in subtraction and multiplication during fact retrieval and procedural strategy use in children. *Human Brain Mapping, 38,* 4657-4670.

Sasanguie, D., Lyons, I., **De Smedt, B.,** & Reynvoet, B. (2017). Unpacking symbolic number comparison and its relation with arithmetic in adults. *Cognition, 165,* 26-38. doi: 10.1016/j.cognition.2017.04.007

Schneider, M., Beeres, K., Coban, L., Merz, S., Schmidt, S.S., Stricker, J., & **De Smedt, B.** (2017). Associations of non-symbolic and symbolic numerical magnitude processing with mathematical competence: a meta-analysis. *Developmental Science*, *20*, e12372. doi: 10.1111/desc.12372

Ashkenazi, S., Rubinsten, O., & **De Smedt, B.** (2017). Associations between reading and mathematics: genetic, brain imaging, cognitive and educational perspectives. *Frontiers in Psychology, 8,* 600. doi: 10.3389/fpsyg.2017.00600

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2017). Symbolic magnitude processing in elementary school children: A group administered paper-and-pencil measure (SYMP Test). *Behavior Research Methods, 49,* 1361-1373.

Sasanguie, D., **De Smedt, B.,** Reynvoet, B. (2017). Evidence for distinct magnitude systems for symbolic and non-symbolic number. *Psychological Research, 81,* 231-242. doi: 10.1007/s00426-015-0734-1

Vandenbroucke, L., Verschueren, K., Ceulemans, E., **De Smedt, B.,** De Roover, K., & Baeyens, D. (2016). Family demographic profiles and their relationship with the quality of executive functioning subcomponents in kindergarten. *British Journal of Developmental Psychology, 34,* 226-244. doi: 10.1111/bjdp.12127

Rathé, S., Torbeyns, J., Hannula-Sormunen, M., **De Smedt, B.,** Verschaffel, L. (2016). Spontaneous focusing on numerosity: A review of recent research. *Mediterranean Journal for Research in Mathematics Education, 15,* 1-25.

Maertens, B., **De Smedt, B.,** Sasanguie, D., Elen, J., & Reynvoet, B. (2016). Enhancing arithmetic in preschoolers with comparison or number line estimation training: does it matter? *Learning and Instruction, 46,* 1-11. doi: 10.1016/j.learninstruc.2016.08.004

Schleepen, T.M.J., van Mier, H. I., & **De Smedt, B.** (2016). The contribution of numerical magnitude comparison and phonological processing to individual differences in fourth-graders multiplication fact ability. *PLOS One, 11*(6), e0158335. doi: 10.1371/journal.pone.0158335

De Visscher, A., Noël, M.P., & **De Smedt, B.** (2016). The role of physical digit representation and numerical magnitude representation in children's multiplication fact retrieval. *Journal of Experimental Child Psychology, 152,* 41-53. doi: 10.1016/j.jecp.2016.06.014

Howard-Jones, P., Varma, S., Ansari, D., Butterworth, B., **De Smedt, B.**, Goswami, U., Laurillard, D., & Thomas, M. (2016). The principles and Practices of Educational Neuroscience: Commentary on Bowers (2016). *Psychological Review, 123,* 620-627.

Bellon, E., Fias, W., & **De Smedt, B.** (2016). Are individual differences in arithmetic fact retrieval in children related to inhibition? *Frontiers in Psychology, 7*, 825.

De Smedt, B., & Grabner, R. (2016). Potential applications of cognitive neuroscience to mathematics education. *ZDM Mathematics Education, 48,* 249-253.

Peters, L., Polspoel, B., Op de Beeck, H., & **De Smedt, B.** (2016). Brain activity during arithmetic in symbolic and non-symbolic formats in 9 to 12-year-old children. *Neuropsychologia, 86,* 19-28.

Vanbinst, K., & **De Smedt, B.** (2016). Individual differences in children's mathematics achievement: the roles of symbolic numerical magnitude processing and domain-general cognitive functions. *Progress in Brain Research, 227,* 105-130.

Alcock, L., Ansari, D., Batchelor, S., Bisson, M.J., **De Smedt, B.**, Gilmore, C., Göbel, S.M., Hannula-Sormunen, M., Hodgen, J., Inglis, M., Jones, I., Mazzocco, M., McNeil, N., Schneider, M., Simms, V., &

Weber, K. (2016). Challenges in mathematical cognition: A collaboratively-derived research agenda. *Journal of Numerical Cognition, 2,* 20-41.

Torbeyns, J., Peters, G., **De Smedt, B.,** Ghesquière, P., & Verschaffel, L. (2016). Children's understanding of the addition/subtraction complement principle. *British Journal of Educational Psychology, 86,* 382-396. doi: 10.1111/bjep.12113

Schillinger, F., **De Smedt, B.,** & Grabner, R.H. (2016). When errors count: an EEG study on numerical error monitoring under performance pressure. *ZDM-The International Mathematics Education Journal, 48,* 351-363.

Vanbinst, K., Ansari, D., Ghesquière, P., & **De Smedt, B.** (2016). Symbolic numerical magnitude processing is as important to arithmetic as phonological awareness is to reading. *PLOS One, 11, art.nr. e0151045,* 1-11.

Linsen, S., Torbeyns, J., Verschaffel, L., Reynvoet, B., & **De Smedt, B.** (2016). The association between symbolic and nonsymbolic numerical magnitude processing and mental versus algorithmic subtraction in adults. *Acta Psychologica, 165,* 34-42.

Bosmans, G., & **De Smedt, B.** (2015). Insecure attachment is associated with math anxiety in middle childhood. *Frontiers in Psychology, 6,* art.nr. 1596, 1-7.

Peters, L., **De Smedt, B.**, & Op de Beeck, H.P. (2015). The neural representation of Arabic digits in visual cortex. *Frontiers in Human Neuroscience, 9,* art.nr. 517.

Van Beek, L., Vanderauwera, J., Ghesquière, P., Lagae, L., & **De Smedt, B.** (2015). Longitudinal changes in mathematical abilities and white matter following pediatric mild traumatic brain injury. *Brain Injury, 29,* 1701-1710.

Van Beek, L., Ghesquière, P., **De Smedt, B.*** & Lagae, L.* (2015). Arithmetical difficulties in children with mild traumatic brain injury at the subacute stage of recovery. *Developmental Medicine and Child Neurology, 57,* 1042-1048.

Van Beek, L., Ghesquière, P., Lagae, L., & **De Smedt, B.** (2015). Mathematical difficulties and white matter abnormalities in subacute pediatric mild traumatic brain injury. *Journal of Neurotrauma, 32,* 1567-1578.

Vanbinst, K., Ceulemans, E., Ghesquière, P., **De Smedt, B.** (2015). Profiles of children's arithmetic fact development: A model-based clustering approach. *Journal of Experimental Child Psychology, 133,* 29-46.

Vanbinst, K., Ghesquière, P., **De Smedt, B.** (2015). Does numerical processing uniquely predict first graders' future development of single-digit arithmetic? *Learning & Individual Differences, 37,* 153-160.

Bulthé, J., **De Smedt, B.,** Op de Beeck, H. (2015). Visual number beats abstract numerosity: Format-dependent representations of Arabic digits and dot patterns in the human parietal cortex. *Journal of Cognitive Neuroscience*

Peters, G., **De Smedt, B.,** Torbeyns, J., Ghesquière, P., Verschaffel, L. (2015). Het flexibel gebruik van de indirecte optelstrategie bestudeerd via de analyse van reactietijden. *Pedagogische Studiën, 92*, 24-38.

Linsen, S., Verschaffel, L., Reynvoet, B., & **De Smedt B.** (2015). The association between numerical magnitude processing and mental versus algorithmic multi-digit subtraction in children. *Learning and Instruction, 35,* 42-50.

Brankaer, C., Ghesquière, P., **De Smedt, B.** (2015). The effect of a numerical domino game on numerical magnitude processing in children with mild intellectual disabilities. *Mind, Brain and Education, 9,* 29-39.

De Smedt, B. (2014). Advances in the use of neuroscience methods in research on learning and instruction. *Frontline Learning Research, 2,* 7-14.

Van Beek, L., Ghesquière, P., **De Smedt, B.*,** Lagae, L.* (2014). The arithmetic problem size effect in children: an event-related potential study. *Frontiers in Human Neuroscience, 8*(756), 1-11.

Vanbinst, K., Ghesquière, P., & **De Smedt, B.** (2014). Arithmetic strategy development and its domain-specific and domain-general cognitive correlates: a longitudinal study in children with persistent mathematical learning difficulties. *Research in Developmental Disabilities, 35,* 3001-3013.

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2014). Numerical magnitude processing deficits in children

with mathematical difficulties are independent of intelligence. *Research in Developmental Disabilities, 35,* 2603-2613.

Howard-Jones, P., Ott, M., van Leeuwen, T., & **De Smedt, B.** (2015). The potential relevance of cognitive neuroscience for the development and use of technology-enhanced learning. *Learning, Media and Technology, 40,* 131-151.

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2014). Children's mapping between non-symbolic and symbolic magnitudes and its association with timed and untimed tests of mathematics achievement. *PLOS One, 9*(4), e93565, 1-11.

Van Beek, L., Ghesquière, P., Lagae, L., & **De Smedt, B.** (2014). Left fronto-parietal white matter correlates with individual differences in children's ability to solve additions and multiplications: a tractography study. *NeuroImage, 90,* 117-127.

Bulthé, J., **De Smedt, B.,** & Op de Beeck, H.P. (2014). Format-dependent representations of symbolic and non-symbolic numbers in the human cortex as revealed by multi-voxel pattern analyses. *NeuroImage, 87,* 311-322.

Gilmore, C., Attridge, N., **De Smedt, B.**, & Inglis, M. (2014). Measuring the approximate number system in children: Exploring the relations among different tasks. *Learning and Individual Differences, 29,* 50-58.

Linsen, S., Verschaffel, L., Reynvoet, B., & **De Smedt, B.** (2014). The association between children's numerical magnitude processing and mental multi-digit subtraction. *Acta Psychologica, 145,* 75-83.

Peters, G., **De Smedt, B.**, Torbeyns, J., Verschaffel, L., & Ghesquière, P. (2014). Subtraction by addition in children with mathematical learning disabilities. *Learning and Instruction, 30,* 1-8.

Xenidou-Devrou, I., **De Smedt, B.,** van der Schoot, M., & van Lieshout, E.C.D.M. (2013). Individual differences in kindergarten math achievement: the integrative roles of approximation skills and working memory. *Learning and Individual Differences, 28,* 119-129.

De Smedt, B., Noël, M.P., Gilmore, C., & Ansari, D. (2013). The relationship between symbolic and non-symbolic numerical magnitude processing and the typical and atypical development of mathematics: a review of evidence from brain and behavior. *Trends in Neuroscience and Education, 2,* 48-55

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2013). The development of numerical magnitude processing and its association with working memory in children with mild intellectual disabilities. *Research in Developmental Disabilities, 34,* 3361-3371.

Defever, E., **De Smedt, B.,** & Reynvoet, B. (2013). Numerical matching judgments in children with mathematical learning disabilities. *Research in Developmental Disabilities, 34,* 3182-3189.

Heine, A., Wiβmann, J., Tamm, S., **De Smedt, B.,** Schneider, M., Stern, E., Verschaffel, L., & Jacobs, A. M. (2013). An electrophysiological investigation of non-symbolic magnitude processing: numerical distance effects in children with and without mathematical learning disabilities. *Cortex, 49,* 2162-2177.

Peters, G., **De Smedt, B.,** Torbeyns, J., Ghesquière, P., & Verschaffel, L. (2013). Children's use of addition to solve two-digit subtraction problems. *British Journal of Psychology, 104,* 495-511.

Grabner, R. H.*, & **De Smedt, B.*** (2012). Oscillatory EEG correlates of arithmetic strategy use: A training study. *Frontiers in Psychology, 3,* 428.

Ansari, D., **De Smedt, B.,** & Grabner, R. H. (2012). Introduction to the special section on numerical and mathematical processing. *Mind, Brain and Education, 6,* 117-118.

Vanbinst, K., Ghesquière, P., & **De Smedt, B.** (2012). Numerical representations and individual differences in children's arithmetic strategy use. *Mind, Brain and Education, 6,* 129-136.

Ansari, D., **De Smedt, B.,** & Grabner, R. (2012). Neuroeducation – a critical overview of an emerging field. *Neuroethics, 5,* 105-117.

Peters, G., **De Smedt, B.,** Torbeyns, J., Ghesquière, P., & Verschaffel L. (2012). Children's use of subtraction by addition on large single-digit subtractions. *Educational Studies in Mathematics, 79,* 335-349.

Sasanguie, D., **De Smedt, B.**, Defever E., & Reynvoet, B. (2012). Association between basic numerical abilities and mathematics achievement. *British Journal of Developmental Psychology, 30,* 344-357.

De Smedt, B., Ansari, D., Grabner, R. H., Hannula-Sormunen, M., Schneider, M., & Verschaffel, L. (2011). Cognitive neuroscience meets mathematics education: It takes two to tango. *Educational Research Review, 6,* 232-237.

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2011). Numerical magnitude processing in children with mild intellectual disabilities. *Research in Developmental Disabilities, 32,* 2853-2859

Torbeyns, J., **De Smedt, B.,** Ghesquière, P., & Verschaffel, L. (2011). Use of indirect addition in adults' mental subtraction in the number domain up to 1000. *British Journal of Psychology, 102,* 585-597.

De Smedt, B., Holloway, I. D., & Ansari, D. (2011). Effects of problem size and arithmetic operation on brain activation in children with varying levels of arithmetical fluency. *NeuroImage, 57,* 771-781.

Ansari, D., Coch, D., & **De Smedt, B.** (2011). Connecting education and cognitive neuroscience: where will the journey take us? *Educational Philosophy and Theory, 43,* 37-42.

Boets, B., **De Smedt, B.,** & Ghesquière, P. (2011). Coherent motion sensitivity predicts individual differences in subtraction. *Research in Developmental Disabilities, 32,* 1075-1080.

De Smedt, B., & Gilmore, C. K. (2011). Defective number module or impaired access? Numerical magnitude processing in first graders with mathematical difficulties. *Journal of Experimental Child Psychology, 108,* 278-292.

Grabner, R.*, & **De Smedt, B.*** (2011). Neurophysiological evidence for the validity of verbal strategy reports in mental arithmetic. *Biological Psychology, 87,* 128-136.

Boets, B.*, & **De Smedt, B.*** (2010). Single-digit arithmetic in children with dyslexia. *Dyslexia, 16,* 183-191.

Boets, B., **De Smedt, B.**, Cleuren, L., Vandewalle, E., Wouters, J., & Ghesquière, P. (2010). Towards a further characterization of phonological and literacy problems in Dutch speaking children with dyslexia. *British Journal of Developmental Psychology, 28,* 5-31.

De Smedt, B., Ansari, D., Grabner, R. H., Hannula, M. M., Schneider, M., & Verschaffel, L. (2010). Cognitive neuroscience meets mathematics education. *Educational Research Review, 5,* 97-105.

De Smedt, B.*, & Boets, B.,* (2010). Phonological processing and arithmetic fact retrieval: Evidence from developmental dyslexia. *Neuropsychologia, 48,* 3973-3981.

De Smedt, B., Taylor, J., Archibald, L., & Ansari, D. (2010). How is phonological processing related to individual differences in children's arithmetic skills? *Developmental Science, 13,* 508-520.

De Smedt, B., Torbeyns, J., Stassens, N., Ghesquière, P., & Verschaffel, L. (2010). Frequency, efficiency and flexibility of indirect addition in two learning environments. *Learning and Instruction, 20,* 205-215.

De Smedt, B., & Verschaffel, L. (2010). Travelling down the road from cognitive neuroscience to mathematics education … and back. *ZDM – The International Journal on Mathematics Education, 42,* 59-65.

Heine, A., Thaler, V., Tamm, S., Hawelka, S., Schneider, M., Torbeyns, J., **De Smedt, B.,** Verschaffel, L., Stern, E., & Jacobs, A. (2010). What the eyes already know: Using eye movement measurement to tap into children's implicit numerical magnitude representations. *Infant and Child Development, 19,* 175-186.

Heine, A., Tamm, S., **De Smedt, B.**, Schneider, M., Thaler, V., Torbeyns, J., Stern, E., Verschaffel, L., & Jacobs, A. (2010). The numerical stroop effect in primary school children: a comparison of low, normal, and high achievers. *Child Neuropsychology, 16,* 461-477.

Peters, G., **De Smedt, B.**, Torbeyns, J. Ghesquière, P., & Verschaffel, L. (2010). Using addition to solve large subtractions in the number domain up to 20. *Acta Psychologica, 133,* 163-169.

Peters, G., **De Smedt, B.,** Torbeyns, J., Ghesquière, P., & Verschaffel, L. (2010). Adults' use of subtraction by addition. *Acta Psychologica, 135,* 323-329.

De Smedt, B.*, Grabner, R. H.*, Studer, B. (2009). Oscillatory EEG correlates of arithmetic strategy use in addition and subtraction. *Experimental Brain Research, 195,* 635-642.

De Smedt, B., Janssen, R., Bouwens, K., Verschaffel, L., Boets, B. & Ghesquière, P. (2009). Working memory and individual differences in mathematics achievement: A longitudinal study from first to second grade. *Journal of Experimental Child Psychology, 103,* 186-201.

De Smedt, B., Reynvoet, B., Swillen, A., Verschaffel, L., Boets, B., & Ghesquière, P. (2009). Basic number processing and difficulties in single-digit arithmetic: Evidence from Velo-Cardio-Facial Syndrome. *Cortex, 45,* 177-188.

De Smedt, B., Swillen, A., Verschaffel, L., & Ghesquière, P. (2009). Mathematical disabilities in children with 22q11.2 deletion syndrome: A review. *Developmental Disabilities Research Reviews, 15,* 4-10.

De Smedt, B., Verschaffel, L., & Ghesquière, P. (2009). The predictive value of numerical magnitude

comparison for individual differences in mathematics achievement. *Journal of Experimental Child Psychology, 103,* 469-479.

Reynvoet, B., **De Smedt, B.,** & Van Den Bussche, E. (2009). Children's representation of symbolic magnitude: the development of the priming distance effect. *Journal of Experimental Child Psychology, 103,* 480-489.

Torbeyns, J., **De Smedt, B.,** Ghesquière, P., & Verschaffel, L. (2009). Jump or compensate? Strategy flexibility in the number domain up to 100. *ZDM – International Journal of Mathematics Education*, *41,* 581-590.

Torbeyns, J., **De Smedt, B.,** Stassens, N., Ghesquière, P., & Verschaffel, L. (2009). Solving subtraction problems by means of indirect addition. *Mathematical Thinking and Learning, 11,* 79-91.

Torbeyns, J., **De Smedt, B.,** Ghesquière, P., & Verschaffel, L. (2009). Acquisition and use of shortcut strategies in traditionally-schooled children. *Educational Studies in Mathematics, 71,* 1-17.

Torbeyns, J., **De Smedt, B.,** Ghesquière, P., & Verschaffel, L. (2009). Solving subtractions adaptively by means of indirect addition: Influence of task, subject, and instructional factors. *Mediterranean Journal for Research in Mathematics Education, 8,* 1-30.

Boets, B., Wouters, J., van Wieringen, A., **De Smedt, B.**, & Ghesquière, P. (2008). Modelling the relations between sensory processing, speech perception, orthographic and phonological ability, and literacy achievement. *Brain and Language,* 106, 29-40.

De Smedt, B., Swillen, A., Devriendt, K., Fryns, J.P., Verschaffel, L., Boets, B., & Ghesquière, P. (2008). Cognitive correlates of mathematical disabilities in children with Velo-Cardio-Facial Syndrome. *Genetic Counseling,* 19, 71-94.

Majerus, S., Belayachi, S., **De Smedt, B.,** Leclercq, A. L., Martinez, T., Weekes, B., & Marquet, P. (2008). Neural networks for short-term memory for order differentiate high and low proficiency bilinguals. *Neuroimage, 49,* 1698-1713.

Schneider, M., Heine, A., Thaler, V., Torbeyns, J., **De Smedt, B.,** Verschaffel, L., Jacobs, A., & Stern, E. (2008). A validation of eye movements as a measure of elementary school children's developing number sense. *Cognitive Development, 23,* 424-437.

Boets, B., **De Smedt, B.**, Lemay, K., Wouters, J., & Ghesquière, P. (2007). No relation between 2D:4D foetal testosterone marker and dyslexia. *Neuroreport, 18,* 1487-1491.

De Smedt, B., Devriendt, K., Fryns, J. P., Vogels, A., Gewillig, M., & Swillen, A. (2007). Intellectual abilities in a large sample of children with Velo-Cardio-Facial Syndrome: an update. *Journal of Intellectual Disability Research, 51,* 666-670.

De Smedt, B., Swillen, A., Devriendt, K., Fryns, J. P., Verschaffel, L. & Ghesquière, P. (2007). Mathematical disabilities in children with Velo-Cardio-Facial Syndrome. *Neuropsychologia, 45,* 885-895.

Van Aken, K., **De Smedt, B.**, Van Roie, A., Gewillig, M., Devriendt, K., Fryns, J.P., Simons, J., & Swillen, A. (2007). Motor development in primary school children with a del22q11 (VCFS/DGS). *Developmental Medicine and Child Neurology, 49,* 210-213.

Verschaffel, L., Torbeyns, J., **De Smedt, B.**, Van Dooren, W., & Luwel, K. (2007). Strategy flexibility in children with low achievement in mathematics. *Educational and Child Psychology, 24,* 16-27.

De Smedt, B., Swillen, A., Devriendt, K., Fryns, J. P., Verschaffel, L. & Ghesquière, P. (2006). Math achievement of young children with Velo-Cardio-Facial Syndrome. *Genetic Counseling, 17,* 259-280.

Stiers, P., Swillen, A., **De Smedt, B.**, Lagae, L., Devriendt, K., D'Agostino, E., Sunaert, S. & Fryns, J.P. (2005). Atypical neuropsychological profile in a boy with del22q11.1. *Child Neuropsychology, 11,* 87-108.

De Smedt, B., Swillen, A., Ghesquière, P., Devriendt, K., & Fryns, J.P. (2003). Pre-academic and early academic achievement in children with velocardiofacial syndrome (del22q11.2) of borderline or normal intelligence. *Genetic Counseling, 14,* 15-29.

International Peer-Reviewed Book Chapters (14)

De Smedt, B. (in press). When basic number processing is complex. A neurocognitive perspective on children's development of whole number. In A. Norton & M. Alibali (Eds.) *Constructing number. Merging perspectives from psychology and mathematics education.* New York, NY: Springer.

De Smedt, B., Peters, L., & Ghesquière, P. (in press). Neurobiological origins of mathematical learning disabilities or dyscalculia: A review of brain imaging data. In A. Fritz-Stratmann, V. Haase & P. Räsänen (Eds.) *The International Handbook of Mathematical Learning Difficulties*. New York, NY: Springer.

De Smedt, B. (in press). Applications of (cognitive) neuroscience in educational research. In G. Noblit (Ed.) *Oxford Handbook of Educational Research.* New York, NY: Oxford University Press.

De Smedt, B. (2018). Language and arithmetic: the potential role of phonological processing. In A. Henik & W. Fias (Eds.) *Heterogeneity of function in numerical cognition* (pp. 51-74). San Diego, CA: Elsevier Academic Press.

Rathé, S., Torbeyns, J., **De Smedt, B.,** Hannula-Sormunen, M., Verschaffel, L. (2018). Kindergartners' spontaneous focus on number during picture book reading. In I. Elia, J. Mulligan, A. Anderson, A. Baccaglini-Frank A. and C. Benz C. (Eds.) *ICME-13 Monographs, Contemporary research and perspectives on early childhood mathematics education* (pp. 87-100). New York, NY: Springer.

De Smedt, B. (2016). Individual differences in arithmetic fact retrieval. In D. Berch, D. Geary and K. Mann-Koepke (Eds.) *Mathematical Cognition and Learning* (Vol. 2) (pp. 219-243). San Diego, CA: Elsevier Academic Press.

De Smedt, B., & Grabner, R. (2015). Applications of neuroscience to mathematics education. In. A. Dowker and R. Cohen-Kadosh (Eds.) *Oxford handbook of mathematical cognition* (pp. 613-636). Oxford, UK: Oxford University Press.

Linsen, S., Maertens, B., Husson, J., Van den Audenaeren, L., Wauters, J., Reynvoet, B., **De Smedt, B.,** Verschaffel, L., Elen, J. (2015). Design of the game-based learning environment "Dudeman & Sidegirl: Operation Clean World," a numerical magnitude processing training. In J. Torbeyns, E. Lehtinen, J. Elen (Eds.), *Advances in game-based learning, Describing and studying domain-specific serious games* pp 9-26). London, UK: Springer.

De Smedt, B., & Verschaffel, L. (2012). Commentary on the chapter by Ferdinand Rivera, "Neural correlates of gender, culture, and race and implications to embodied thinking in mathematics. In H. Forgasz & F. Rivera (Eds.) *Towards equity in mathematics education, Advances in mathematics education* (pp. 545-550). Berlin: Springer-Verlag.

De Smedt, B., Verschaffel, L., & Ghesquière, P. (2012). Mathematics learning disability. In N.M. Seel (Ed.) *Encyclopedia of the Sciences of Learning* (pp. 2107- 2110). Springer.

Verschaffel, L., Van Dooren, W., & **De Smedt, B.** (2012). Mathematical learning. In N.M. Seel (Ed.) *Encyclopedia of the Sciences of Learning* (pp. 2121- 2123). Springer.

Verschaffel, L., Torbeyns, J., & **De Smedt, B.** (2012). Mental arithmetic. In N.M. Seel (Ed.) *Encyclopedia of the Sciences of Learning* (pp. 2177-2179). Springer.

Verschaffel, L., Torbeyns, J., **De Smedt, B.,** Peters, G., & Ghesquière, P. (2010). Solving subtraction problems flexibly by means of indirect addition. In. R. Cowan, M. Saxton, A. Tolmie (Eds.) *Understanding number development and difficulties. British Journal of Educational Psychology Monograph Series Number 7* (pp. 51-63). London: The British Psychological Society.

De Smedt, B., Ghesquière, P., & Swillen, A. (2006). Mathematical disabilities in genetic syndromes: The case of Velo-Cardio-Facial Syndrome. In S.V. Randall (Ed.) *Learning disabilities: New research* (pp. 63-79). New York, NY: Nova Publishers.

International conference presentations (178)

Including: European Association for Learning and Instruction, Society for Research in Child Development, International Mind Brain and Education Society, Neuroscience and Education SIG meeting, International Convention for Psychological Science, American Educational Research Association, Human Brain Mapping, Society for Neuroscience.

Other publications

De Smedt, B., & Ghesquière, P. (2016). Neurowetenschappelijke inzichten in de ontwikkeling van rekenstoornissen en dyscalculie. In M.H. van Ijzendoorn & L. Rosmalen (Eds.) *Pedagogiek in Beeld*. Houten: Bohn Stafleu Van Loghum.

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2016). *Collectieve test getalgevoel: Handleiding en verantwoording* [Group Administered Number Sense Test – manual]. Brussel: Vrij CLB.

Brankaer, C., Ghesquière, P., & **De Smedt, B.** (2014). Onderzoek naar het effect van De Getallenrace: een computerprogramma om getalgevoel te stimuleren bij kinderen met rekenproblemen [An investigation of the effectiveness of the Number Race Game: a computerized intervention to stimulate number sense in children with mathematical difficulties]. In: Ghesquière P., Desoete A., Andries C. (Eds.)*, Zorg dragen voor kinderen en jongeren met leerproblemen. Handvatten voor goede praktijk* (pp. 59-71). Leuven: Acco.

De Smedt, B. (2012). Dyscalculie. *Karakter: Tijdschrift van de wetenschap, 39,* 2-4.

Brankaer, C., **De Smedt, B.**, & Ghesquière, P. (2011). Symbolische en niet-symbolische representatie van hoeveelheden bij kinderen met een randnormale begaafdheid en een licht verstandelijke beperking [Symbolic and non-symbolic representations of quantity in children with borderline to mild intellectual disabilities]. *Tijdschrift voor Orthopedagogiek, Kinderpsychiatrie en Klinische Kinderpsychologie, 36,* 67-79.

De Smedt, B. (2010). Neurowetenschappelijke inzichten in de ontwikkeling van rekenvaardigheden en dyscalculie [Neuroscientific insights in the development of arithmetic and dyscalculia]. *Logopedie, 23*(4), 46-53.

Desoete, A., Ghesquière, P., **De Smedt, B.**, Andries, C., & Ruijssenaars, W. (2010). Dyscalculie: standpunt van onderzoekers in Vlaanderen en Nederland [Dyscalculia: the viewpoint of researchers in Flanders and the Netherlands]. *Logopedie, 23*(4), 4-8.

De Wel, A., **De Smedt, B.**, & Swillen, A. (2009). Een cognitieve karakterisering van rekenproblemen bij personen met het Turner Syndroom [A cognitive characterization of math difficulties in females with Turner Syndrome]. *Tijdschrift voor Orthopedagogiek, Kinderpsychiatrie en Klinische Kinderpsychologie, 34,* 102-118.

De Smedt, B., Swillen, A., Ghesquière, P., Devriendt, K., & Fryns, J.P. (2002). Cognitief en psychosociaal functioneren in de overgang van het kleuter- naar het lager onderwijs bij kinderen met het Velo-Cardio-Faciaal Syndroom: een exploratief onderzoek [Cognition and psycho-social functioning from kindergarten to primary school in children with velo-cardio-facial syndrome]. *Tijdschrift voor Orthopedagogiek, Kinderpsychiatrie en Klinische Kinderpsychologie, 27*(2), 77-91.

Hirsh-Pasek, K., Bruer, J., Kuhl, P., Goldin-Meadow, S., Stern, E., Sebastian-Galles N., Galaburda, A., Pena, M., Martignon, L., Campbell, R., Gigerenzer, G., Rizzo, A., Kurz-Milcke, E., **De Smedt B.,** Carreiras, M. (2007). The Santiago Declaration on early education and human brain development. http://www.jsmf.org/santiagodeclaration/

Wilson, A., & Dehaene, S. (2006). De getallenrace [The Number Race; Computer software] (**B. De Smedt** & A. De Vos, Trans.). Retrieved from http://www.unicog.org/main/pages.php?page=NumberRace

INVITED KEYNOTE LECTURES AND COLLOQUIA

2018, Department of Psychology, University of Trier, Germany

2018, Keynote lecture at the 6th Conference of the Association for Research in Neuroeducation, Sorbonne, Paris, France

2018, Institute of Psychology, University of Graz, Austria

2018, Keynote lecture at the 9th Conference of the Nordic Research network on Special Needs Education in Mathematics, Vaasa, Finland

2018, Institute des Sciences Cognitives Marc Jeannerod, Lyon, France

2017, University College London, London, United Kingdom

2017, University of Texas at Austin, Austin, TX, United States

2017, Faculty of Psychology, Kingston University, London, United Kingdom

2016, Keynote lecture at the Domain-general and domain-specific foundations of numerical and arithmetic processing conference, Eberhard Karls Universität Tübingen, Germany

2016, Department of Psychology, University of Western Ontario, Canada

2016, Keynote lecture at the Heterogeneous contributions to numerical cognition workshop, Ghent, Belgium

2016, Keynote lecture at the International Symposium on Dyslexia and Dyscalculia, Ludwig-Maximilians Universität München, Germany
2016, Faculty of Psychology and Educational Sciences, University of Amsterdam, The Netherlands
2015, Keynote lecture at the ForLearning symposium for learning difficulties, University of Jyväskylä, Finland
2015, Keynote lecture at the Expertmeeting of Researchers on Mathematical Thinking and Learning in the BENELUX, Nijmegen, The Netherlands
2015, Mathematics Education Centre, Loughborough University, United Kingdom
2014, Keynote lecture at the ICO Fall School, Blankenberge, Belgium
2014, Keynote lecture at the Grand Challenges in Mathematical Cognition Colloquium, Milton Keynes, United Kingdom
2013, Georg-Elias-Müller Institute of Psychology, Georg-August Universität, Göttingen, Germany
2013, Laboratory of Experimental Psychology, Leuven, Belgium
2012, Keynote lecture at the ISED-Research Days 2012, Utrecht, The Netherlands
2012, Keynote lecture at the Biennial JURE 2012 Conference: A learning odyssey: Exploring new horizons in learning and instruction, Regensburg, Germany
2012, Invited lecture "The future of educational research" at the Faculty Language and Literature, Humanities, Arts, and Education, University of Luxembourg, Luxembourg
2012, Department of Psychology, University of Liège, Belgium
2011, Centre for Educational Neuroscience London, University of London, United Kingdom
2011, Behavioral Sciences Institute, Radboud Universiteit Nijmegen, The Netherlands
2011, Department of Educational Neuropsychology, Free University Amsterdam, The Netherlands
2010, Numerical Cognition Laboratory, University of Western Ontario, London, Canada
2010, Department of Psychology, University of Ghent, Belgium
2010, Department of Psychology, Eberhard-Karls University of Tübingen, Germany
2009, Centre for Reading and Language Research, University of York, United Kingdom
2009, Division of Experimental Otorhinolaryngology, Katholieke Universiteit Leuven, Belgium
2009, Centre for Educational Neuroscience, University of Cambridge, United Kingdom
2008, Unité Cognition et développement, Université Catholique de Louvain, Belgium
2008, Brain and Number Group Aachen, RWTH Aachen, Germany
2008, Laboratoire de Psychologie Experimentale, Seminaires SCOLA, Université Libre de Bruxelles, Belgium
2007, Invited lecture presented at the Symposium on Early Education and Human Brain Development, Universidad de Chile, Santiago, Chile
2007, Department of Cognitive Sciences, Université de Liège, Belgium

POPULAR AND LOCAL MEDIA COVERAGE

2018: VTM-Nieuws (4/9); VRT Radio (4/9); VRT Online (4/9); De Morgen (4/9); Het Nieuwsblad (4/9); De Standaard (5/9); Metro (5/9); Karrewiet (11/9)
2016: New Scientist (Jan); CANVAS (de afspraak; 01/03); Knack (14/03); Metro (16/03)
2015: Belga (29/4), Metro (29/4), De Morgen (02/12), Het Laatste Nieuws (16/12)
2014: VRT (22/1), Belga (23/1), Het Laatste Nieuws (23/1), Science daily (27/1), EOS (27/1), Knack (5/3), ScienceNews (23/9), Radio 2 (20/11)
2013: Nieuwsblad (3/5), Radio 2 (22/7; 25/11)
2011: De Morgen (29/9)

RESEARCH VISITS

2008/2010 Developmental cognitive neuroscience laboratory, University of Western Ontario, Canada (Funded by the FWO)
2008 Centre for Research on Learning and Instruction, ETH Zürich, Switzerland
2007 Department of Cognitive Sciences, Université de Liège

EDITORSHIP

Associate editor of *Mind, Brain and Education* (2017 – present)

Associate editor of *Psychologica Belgica* (2017 – present)

Associate editor of *Journal of Experimental Child Psychology* (2018 – present)

Academic Editor of *PLOS One* (2014 – 2018)

EDITORSHIP (ad hoc)

2018 Research Topic "Individual differences in arithmetic development" of *Frontiers in Psychology*
2016 Special issue "Cognitive neuroscience and mathematical learning revisited after five years" of *ZDM - the International Journal on Mathematics Education*
2016 Research Topic "Associations between reading and mathematics: genetic, brain imaging, cognitive and educational perspectives" of *Frontiers in Psychology*
2012 Special section on "Basic number processing and school-relevant mathematical achievement" of *Mind, Brain and Education*.
2010 Special issue "Cognitive neuroscience and mathematical learning" of *ZDM - the International Journal on Mathematics Education*

EDITORIAL BOARD MEMBERSHIP

Editorial Board member of *Developmental Science* (2014 – present)
Review Editor of *Frontiers in Psychology* (section Developmental Psychology) (2016 – present)
Editorial Board member of the *Journal of Experimental Child Psychology* (2012 – 2018)

REVIEWING

Grants

European Research Council (ERC), Netherlands Organization for Scientific Research (NWO); Swiss National Science Foundation; Natural Sciences and Engineering Research Council of Canada (NSERC); Austrian National Science Foundation (FWF); Israel Science Foundation; Agence National de Recherche (ANR; France); Royal Society (UK); Nationaal Regieorgaan Onderwijsonderzoek (NRO – NL).

Journals

Acta Psychologica (multiple) – AERA Open – American Journal of Mental Retardation (multiple) – American Journal of Medical Genetics (Neuropsychiatric Genetics) – Behavioral and Brain Functions – Brain Topography – Brain and Cognition (multiple) – British Journal of Developmental Psychology (multiple) – British Journal of Educational Psychology (multiple)– Canadian Journal of Experimental Psychology – Cerebral Cortex – Cognition (multiple) – Cognitive Development (multiple) – Cortex (multiple) – Current Opinion in Behavioral Sciences – Developmental Disabilities Research Reviews – Developmental Psychology (multiple) – Developmental Disabilities Research Reviews – Developmental Neuropsychology – Developmental Science (multiple) – Educational Neuroscience – Educational Psychology Review – Educational Research Review (multiple) – European Journal of Psychology of Education – European Journal of Pediatric Neurology - Experimental Psychology (multiple) - Frontiers in Human Neuroscience (multiple) – Frontiers in Psychology (multiple) – Human Brain Mapping (multiple) – Journal of Child Psychology Psychiatry and Allied Disciplines – Journal of Cognitive Neuroscience (multiple) – Journal of Cognitive Psychology – Journal of Educational Psychology (multiple) – Journal of Experimental Child Psychology (multiple) – Journal of Experimental Psychology: Learning, Memory and Cognition - Journal of Neurolinguistics – Journal of Numerical Cognition (multiple) – Journal of Pediatric Neurology – Journal for Research in Mathematics Education – Journal of Learning Disabilities (multiple) – Learning and Individual Differences (multiple) – Learning and Instruction (multiple) – Mathematical Thinking and Learning – Mind Brain Education (multiple) – Neuroimage (multiple) - Neuropsychologia (multiple) – Neuroscience & Biobehavioral Reviews (multiple) – Pedagogische Studieën (multiple) – PLOSOne (multiple) – Psychonomic Bulletin and Review – Quarterly Journal of Experimental Psychology (multiple) – Research in Developmental Disabilities (multiple) – Scientific Studies in Reading

(multiple) – Social Cognitive and Affective Neuroscience – Trends in Neuroscience and Education (multiple) - Zeitschrift für Psychology/Journal of Psychology – ZDM-The International Journal of Mathematics Education (multiple)

Conferences

European Association for Research on Learning and Instruction (EARLI); International Society for the Study of Behavioral Development (ISSBD); American Educational Research Association (AERA); Society for Research in Child Development (SRCD); EARLI SIG conferences on Neuroscience and Education (SIG 22) and Special Education (SIG 15).

EXECUTIVE FUNCTIONS IN SCIENTIFIC SOCIETIES

Vice-president of the International Mind Brain and Education Society (IMBES) (2017 – present)
Secretary of the International Mind Brain and Education Society (IMBES) (2013 – 2017)
Coordinator of the EARLI Special Interest Group 22 on Neuroscience and Education (2009 – 2015)

MEMBER OF SCIENTIFIC SOCIETIES

- Mathematical Cognition and Learning Society, 2017 – present
- European Association for Research on Learning and Instruction (EARLI), March 2005 – present
- EARLI Special Interest Group on Neuroscience and Education, June 2009 – present
- International Mind, Brain and Education Society (IMBES) June 2009 – present
- Society for Research on Child Development (SRCD) 2010 – present
- Association for Psychological Science 2016 – present
- Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) (2008)
- Associate member of the Numeracy and Brain Development (NUMBRA) European Union Research Training Network (2007)

CONFERENCE ORGANIZATION

2018: 5th EARLI SIG 22 Neuroscience and Education meeting
2018: 1st Meeting of the Mathematical Cognition and Learning Society (Scientific committee member)
2016: 4th EARLI SIG 22 Neuroscience and Education meeting (129 participants)
2014: 3rd EARLI SIG 22 Neuroscience and Education meeting (104 participants)
2012: 2nd EARLI SIG 22 Neuroscience and Education meeting (138 participants)
2012: 4th Expertmeeting on Mathematical Thinking and Learning (86 participants)
2010: 1st EARLI SIG 22 Neuroscience and Education meeting on *"Educational neuroscience: Is it a field?"* (144 participants)
2009: EARLI Advanced Study Colloquium on "Cognitive neuroscience meets mathematics education" (42 participants)

SUPERVISION

PhD supervision

Principal Advisor:
Elien Bellon (2015 – present)
Brecht Polspoel (2015 – present)
Merel Bakker (2017 – present)
Merel Declercq (2017 – present)

Completed:
Carmen Brankaer (2014), Kiran Vanbinst (2015), Sarah Linsen (2015), Leen Van Beek (2015), Lien Peters (2016); Jessica Bulthé (2017)

Co-Advisor:
Belde Mutaf (2012 – present)
Sanne Rathé (2015 – present)
Nore Wyns (2016 – present)
Klara Schevenels (2017 – present)
Gwen Verguts (2018 – present)
Fabienne De Boeck (2018 – present)

Completed:
Greet Peters (2013), Bieke Maertens (2015), tiberghien Kerensa (2017), Frieder Schillinger (2018)

Post-doc supervision

Current: Kiran Vanbinst; Joke Torbeyns
Almuni: Alice De Visscher; Delphine Sasanguie; Lien Peters

Jury for defense of PhD

Internal (University of Leuven):
Kirsten Schraeyen, Educational Sciences & Linguistics, 2018
Dominique Peeters, Psychology, 2017
Gina Bojorque, Educational Sciences, 2017
Jolijn Vanderauwera, Educational Sciences, 2016
Jeremy Law, Educational Sciences, 2016
Sophie Van Vooren, Biomedical Sciences, 2015
Jo Van Hoof, Educational Sciences, 2015
Annelies Baeck, Psychology, 2015
Adrian Lo, Psychology, 2013
Viki Schillemans, Educational Sciences, 2011

External:
Anna Nienke van der Meulen, Free University of Amsterdam (NL), 2018
Véronique Cornu, University of Luxembourg (LU), 2018
Christina Artemenko, University of Tübingen (DE), 2018
Stefanie Habermann, University College London (UK), 2017
Mojtaba Soltanou, University of Tübingen (GE), 2017
Nastasya Honore, University of Louvain-la-Neuve (BE), 2017
Anna Matejko, University of Western Ontario (Canada), 2016
Courtney Pollack, Harvard University (US), 2016
Sarah Clayton, University of Loughborough (UK), 2016
Kenny Skagerlund, University of Linköping (SV), 2016
Sarah Gray, University of Melbourne (NZ), 2015
Jonna Salminen, University of Jyvaskyla (SF), 2015
Iro Xenidou-Dervou, Free University Amsterdam (NL), 2015
Alice De Visscher, Psychology, Université Catholique de Louvain-la-neuve (BE), 2014
Mathieu Guillaume, Psychology, Université Libre de Bruxelles (BE), 2013
Sandrine Meijas, Psychology, Université Catholique de Louvain-la-neuve (BE), 2011
Caroline Hornung, Psychology, Université de Luxembourg (LUX), 2010
Susan van den Bergh, Psychology, Macquarie University, Sydney (AUS), 2009
Kathleen Jenks, Education, Radboud University Nijmegen (NL), 2008

PhD advisory committee

Internal:
Joyce Leysen, Educational Sciences, 2018
Carolien Beelen, Psychology, 2017
Tilde Van Hirtum, Biomedical Sciences, 2016
Tine Degrande, Educational Sciences, 2015
Dominique Peeters, Educational Sciences, 2015
Jolijn Vanderauwera, Educational Sciences, 2015
Sophie Van Vooren, Medicine, 2014
Kirsten Schraeyen, Educational Sciences, 2013
Jo Van Hoof, Educational Sciences, 2013
Karolien Smets, Psychology, 2012
Annelies Baeck, Psychology, 2012
Delphine Sasanguie, Psychology, 2011
Marc Van Baelen, Psychology, 2011
Bieke Bollen, Psychology, 2010
Viki Schillemans, Educational Sciences, 2010

External:
Jeremy Ng, Psychological Studies, Singapore, 2016
Courtney Pollack, Social Sciences, Harvard, 2015
Nastasya Honoré, Psychology, Université Catholique de Louvain-la-neuve, 2014
Daisy Titeca, University of Ghent, 2012

COURSES TAUGHT

2012 – present: Neuro-education (P0S66A)
2010 – present: Methods of Educational Research (P0R91A, P0N51B)
2010 – present: Children and adolescents with Special Educational Needs (P0L31A, P0L67A, P0P40A)

MASTER THESIS SUPERVISION(graduated)

2018: Nikki Herrygers, Astrid Vankelecom, Hanne Broecx, Nina Diedens, Gilles Droogmans, Ellen Gubbels, Anne Lembrechts, Liesbeth Meermans, Karen Tilborghs, Katoo Vanlierde, Elise Pelgrims, Gitte Depeuter, Ludiwien Sneyers
2017: Kelsey Surmarine-MacKay, Floor Gunst, Wesley Campana, Babette Vrancken, Coussement Ine, Jacobs Ina, Van Sas Elle, Van Alstein Charlotte,
2016: Elise Engelen; Stefanie Duyck; Sophie Moons; Britt Braeken; Silke Goyvaerts; Caroline Halsberghe; Evelien Dams; Katrien Dijckmans
2015: Elien Bellon, Jana Breda, Brecht Polspoel, Jaan Harnisfeger, Katrien Hermans, Stien Valkeneers, Elise Reynders
2014: Sanne Hendriks, Sophie Reniers, Kristien Deckers
2013: Jana De Smedt, Elien Van Kerkhoven, Sara Deramoudt, Pol Hendrickx, Charlotte Nys, Lindsay Willems, Loes De Cooman, Eline Verackx, Inge Siongers, Ine Pladys, Vicky Bessemans, Laura Moonen
2012: Julie De Ceulaer, Hanne Jans, Lien Luyten, Elke Muyshondt, Hélène Van Hoey
2011: Tina Jacobs
2010: Maaike Notebaert, Tinneke Plasmans
2009: Stephanie Bonte, Carmen Brankaer, Heidi Meeus, Anke Caelen, Kathleen Voorspoels, Klaartje Cops, Eva Croux, Liesa Deberdt, Sara Haling, Laure Heselmans
2008: Veerle Ceyssens, Asella De Vos, Farah Van Roost, Eleonora Vervoort
2007: Kelly Bouwens, Griet De Mulder

RESEARCH INTERNSHIPS

Theresa Elise Wege, Erasmus Program, 2017
Wesley Campana, Internal student, 2015
Mara Otten, Free University Amsterdam, Erasmus Program, 2014
Nathan Wright, EUROSCOLARS Program, 2011
Marian Strik, Nijmegen Exchange Program, 2010
Greet Peters, Internal student, 2007

SOCIETAL SERVICE

Member of the think tank “Neuroscience and Education” of the Flemish Education Council
Scientific evaluation of the diagnostic protocol “Dyscalculia”, Prodia, Ministry of Education
Jury member of the Flemish PhDCup

UNIVERSITY SERVICE

University committee for Scientific Integrity
University Fraud commission

DEPARTMENTAL SERVICE

Faculty Council Psychology and Educational Sciences
Permanent Evaluation Committee Educational Sciences
Jong ZAP Humanities council
Plagiarism expert of the Faculty of Psychology and Educational sciences
ICT Faculty Steering Board
Ad-hoc member of the Faculty Search Committee