

Dr Thorsten Scheiner

Contact information

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Work history

Position	Organisation	Years
Research Fellow	Institute for Learning Sciences & Teacher Education Australian Catholic University, Australia	2019–present
Lecturer	The University of Auckland, New Zealand	2017–2018

Education

Qualifications	Organisation	Completed
Doctor of Philosophy	University of Hamburg, Germany & Macquarie University, Australia	2018
Master of Education	Leibniz University of Hannover, Germany	2013
Bachelor of Science	Leibniz University of Hannover, Germany	2011

Fellowships and scholarships

- Research Excellence Scholarship, Macquarie University, 2016–2017
- Klaus Murmann Fellowship, Foundation of German Business, 2014–2016
- Studienkolleg Fellowship, Foundation of German Business, 2009–2013
- Lower Saxony Scholarship, Leibniz University of Hannover, 2009–2011

Awards

- Early Career Researcher Excellence in Research Recognition Award, Institute for Learning Sciences and Teacher Education, 2020
- Karl H. Ditze Dissertation Award, University of Hamburg, 2018

Fields of educational expertise

- Mathematics education
- Teacher education
- Learning sciences
- Educational theory

Funded research

Competitive grants

Years	Grants	Funding
2014–2016	Klaus Murmann Fellowship, Foundation of German Business	EUR 66,500

Other funded research

Year	Research	Funding
2018	Karl H. Ditze Dissertation Award, University of Hamburg	EUR 3,000
2017–2018	Performance-based Research Funds, The University of Auckland	NZD 10,000
2016–2017	Research Excellence Scholarship, Macquarie University	AUD 18,750

Publications

Book chapters

Scheiner, T. (2019). If we want to get ahead, we should transcend dualisms and foster paradigm pluralism. In G. Kaiser & N. Presmeg (Eds.), *Compendium for early career researchers in mathematics education* (pp. 511–532). Springer. https://doi.org/10.1007/978-3-030-15636-7_27

Articles

Santagata, R., König, J., Scheiner, T., Nguyen, H., Adleff, A.-K., Yang, X., & Kaiser, G. (2021). Mathematics teacher learning to notice: A systematic review of studies of video-based programs. *ZDM–Mathematics Education*, 53(1), 119–134. <https://doi.org/10.1007/s11858-020-01216-z>

Scheiner, T. (2021). Towards a more comprehensive model of teacher noticing. *ZDM–Mathematics Education*, 53(1), 85–94. <https://doi.org/10.1007/s11858-020-01202-5>

Scheiner, T. (2020). Dealing with opposing theoretical perspectives: Knowledge in structures or knowledge in pieces? *Educational Studies in Mathematics*, 104(1), 127–145. <https://doi.org/10.1007/s10649-020-09950-7>

Scheiner, T., Montes, M. A., Godino, J. D., Carrillo, J., & Pino-Fan, L. (2019). What makes mathematics teacher knowledge specialized? Offering alternative views. *International Journal of Science and Mathematics Education*, 17(1), 153–172. <https://doi.org/10.1007/s10763-017-9859-6>

Scheiner, T., & Pinto, M. M. F. (2019). Emerging perspectives in mathematical cognition: contextualizing, complementizing, and complexifying. *Educational Studies in Mathematics*, 101(3), 357–372. <https://doi.org/10.1007/s10649-019-9879-y>

Scheiner, T. (2016). Teacher noticing: enlightening or blinding? *ZDM–Mathematics Education*, 48(1), 227–238. <https://doi.org/10.1007/s11858-016-0771-2>

Scheiner, T. (2016). New light on old horizon: constructing mathematical concepts, underlying abstraction processes, and sense making strategies. *Educational Studies in Mathematics*, 91(2), 165–183. <https://doi.org/10.1007/s10649-015-9665-4>

Pinto, M. M. F., & Scheiner, T. (2015). Visualização e ensino de análise matemática [Visualization and the teaching of mathematical analysis]. *Educação Matemática Pesquisa*, 17(3), 637–654. Retrieval from <https://revistas.pucsp.br/index.php/emp/article/view/25675>

Conference proceedings

Scheiner, T. (2018). Sense-making in mathematics: Towards a dialogical framing. In J. Hunter, P. Perger, & L. Darragh (Eds.), *Proceedings of the 41st annual conference of the Mathematics Education Research Group of Australasia: Making waves, opening spaces* (pp. 669–676). MERGA.

- Scheiner, T. (2018). Mathematics cognition reconsidered: On ascribing meaning. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of the 21st Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1234–1239). RUME.
- Scheiner, T., & Pinto, M. M. F. (2018). Theoretical advances in mathematical cognition. In D. M. Gómez (Ed.), *Proceedings of the First PME Regional Conference: South America* (pp. 97–104). PME.
- Scheiner, T. (2018). Problematizing knowledge for teaching. In A. Halai & F. Mtenzi (Eds.), *Proceedings of the Fifth African Regional Congress of ICMI on Mathematical Education* (pp. 116–120). AFRICME.
- Scheiner, T. (2017). Conception to concept or concept to conception? From being to becoming. In B. Kaur, W. K. Ho, T. L. Toh, & B. H. Choy (Eds.), *Proceedings of the 41st Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 145–152). PME.
- Scheiner, T., & Pinto, M. M. F. (2016). Images of abstraction in mathematics education: Contradictions, controversies, and convergences. In C. Csikos, A. Rausch, & J. Sztányi (Eds.), *Proceedings of the 40th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 155–162). PME.
- Pinto, M. M. F., & Scheiner, T. (2016). Making sense of students' sense making through the lens of the structural abstraction framework. In E. Nardi, C. Winslow & T. Hausberger (Eds.), *Proceedings of the First Conference of the International Network for Didactic Research in University Mathematics* (pp. 474–483). INDRUM.
- Scheiner, T. (2015). Lessons we have (not) learned from past and current conceptualisations of mathematics teachers' knowledge. In K. Krainer & N. Vondrová (Eds.), *Proceedings of the Ninth Conference of the European Society for Research in Mathematics Education (CERME9)* (pp. 3248–3253). ERME.
- Scheiner, T. (2015). Theorizing about mathematics teachers' professional knowledge: The content, form, nature, and source of teachers' knowledge. In M. Marshman, V. Geiger, & A. Bennison (Eds.), *Proceedings of the 38th annual conference of the Mathematics Education Research Group of Australasia: Mathematics education in the margins* (pp. 563–570). MERGA.
- Scheiner, T. (2015). Shifting the emphasis toward a structural description of (mathematics) teachers' knowledge. In K. Bewick, T. Muir, & J. Wells (Eds.), *Proceedings of the 39th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 129–136). PME.
- Scheiner, T., & Pinto, M. M. F. (2014). Cognitive processes underlying mathematical concept construction: The missing process of structural abstraction. In C. Nicol, S. Oesterle, P. Liljedahl, & D. Allan (Eds.), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education and the 36th Conference of the North American Chapter of the Psychology of Mathematics Education* (Vol. 5, pp. 105–112). PME.

Conference papers

- Scheiner, T. (2021). *Model of dealing with opposing theoretical perspectives in cognitive science* [Paper presentation]. 19th Biennial Conference of the European Association for Research on Learning and Instruction, Gothenburg, Sweden.
- Scheiner, T. (2021). *Toward an embodied, cultural, and social view of teacher noticing* [Paper presentation]. 19th Biennial Conference of the European Association for Research on Learning and Instruction, Gothenburg, Sweden.
- Scheiner, T. (2021). *Critical remarks on the notion of unpacking mathematics in discourses of teacher knowledge* [Paper presentation]. 14th International Congress on Mathematical Education (TSG 33: Knowledge in/for teaching mathematics at secondary level), Shanghai, China.
- Scheiner, T. (2020). *Using conflicts, tensions, and paradoxes for theory building* [Paper presentation]. 2020 Annual Meeting of the American Education Research Association, San Francisco, USA.
- Scheiner, T. (2019). *A critical stance towards pedagogical content knowledge* [Paper presentation]. 18th Biennial Conference of the European Association for Research on Learning and Instruction, Aachen, Germany.
- Scheiner, T. (2019). *Problematizing pedagogical content knowledge* [Paper presentation]. 2019 Annual Meeting of the American Education Research Association, Toronto, Canada.
- Scheiner, T. (2019). *Toward a model of teacher noticing* [Paper presentation]. 2019 Annual Meeting of the American Education Research Association, Toronto, Canada.
- Scheiner, T. (2016). *Crossing the boundaries of our historical ways of thinking in conceptualising teachers' knowledge* [Paper presentation]. 2016 Annual Meeting of the American Education Research Association, Washington D.C, USA.

- Scheiner, T. (2016). *Are we trapped in old habits? Revisiting ways of thinking in conceptualising teacher knowledge* [Paper presentation]. 13th International Congress on Mathematical Education (TSG 46: Knowledge in/for teaching mathematics at secondary level), Hamburg, Germany.
- Scheiner, T., & Pinto, M. M. F. (2016). *Abstraction in mathematics: Taking account for the increasing complexity and context-sensitivity of the knowledge system* [Paper presentation]. 13th International Congress on Mathematical Education (TSG 27: Learning and cognition in mathematics), Hamburg, Germany.

Reports

- Kaiser, G., Scheiner, T., & Buchholtz, N. (2013). *Evaluation des innovativen Projektes "MINT–Lehrerbildung Neu Denken" der Deutschen Telekom Stiftung an der FU Berlin. Abschlussbericht zu den qualitativen Ergebnissen*. [Final Report of the Evaluation of the Project "MINT–Rethinking Teachers' Education": Qualitative Results]. University of Hamburg.

Test instrument

- Buchholtz, N., Scheiner, T., Döhrmann, M., Suhl, U., Kaiser, G. & Blömeke, S. (2016). *TEDS-shortM: Teacher Education and Development Study – Short Test on Mathematics Content Knowledge (MCK) and Mathematics Pedagogical Content Knowledge (MPCK). Kurzfassung der mathematischen und mathematikdidaktischen Testinstrumente aus TEDS-M, TEDS-LT und TEDS-Telekom* (2nd ed.). University of Hamburg. (1st ed. published 2012)

Scholarly contributions and service

Editorial board member

- Journal of Mathematics Teacher Education (JMTE)

Invited reviewer

Reviewing Journal Manuscripts

- Educational Studies in Mathematics (ESM)
- International Journal of Mathematical Education in Science and Technology (IJMEST)
- International Journal of Science and Mathematics Education (IJSME)
- Journal for Research in Mathematics Education (JRME)
- Journal of Mathematics Teacher Education (JMTE)
- Journal of Teacher Education (JTE)
- Mathematical Thinking and Learning (MTL)
- Mathematics Education Research Journal (MERJ)
- The Journal of Mathematical Behavior (JMB)
- ZDM–Mathematics Education (ZDM)

Reviewing Conference Papers

- Conference of the European Association for Research on Learning and Instruction (EARLI)
- Conference of the International Group for the Psychology of Mathematics Education (PME)
- Conference on Research in Undergraduate Mathematics Education (RUME)
- Congress of the European Society for Research in Mathematics Education (CERME)
- International Congress on Mathematical Education (ICME)
- National Council of Teachers of Mathematics Research Conference (NCTM)

Scholarly contribution

Leadership

- Team member of the Topic Study Group "Knowledge in/for teaching mathematics at secondary level" at the 14th International Congress on Mathematical Education, 2020–2021

- Co-organizing the Early Career Researcher Day at the 13th International Congress on Mathematical Education, 2015–2016
- Co-leading the working group “Establishing educational initiatives” of the Foundation of German Business, 2015–2019
- Leading the working group “Mathematics education” of the Foundation of German Business, 2012–2016
- Leading the working group “MEQS—Managing and enhancing quality in schools” of the Foundation of German Business, 2011–2016

Mentoring Emerging Researchers and Teachers (since 2018)

- Apr 2021: Presentation at the FEA strategic development in research workshop on “Quality research publications in education” at the Australian Catholic University, Australia.
- Jul 2019: Invited workshop on “Academic writing and publishing” at the University of Huelva. Huelva, Spain.
- Feb 2019: Member of the Early Bird Review Panel of the Mathematics Education Research Group Australasia (MERGA). Brisbane, Australia.
- Nov 2018: Workshop on “Start with a problem, not a method: Developing mathematical thinking from a problem” for in-service teachers at the 2018 Mathematics and Calculus Teachers’ Day of the Auckland Mathematical Association. Auckland, New Zealand.
- Sep 2018: Jury member for Student Research Poster Competition, Faculty of Science, The University of Auckland, New Zealand.
- Aug 2018: Invited workshop on “Academic writing: Writing for publication” at the Fifth African Regional Congress of ICMI on Mathematical Education (AFRICME). Dar es Salaam, Tanzania.
- Jun 2018: Jury member for Student Research Conference to delegate the Mathematics Education Unit, Department of Mathematics, The University of Auckland, New Zealand.
- Jan 2018: Invited presentation on “Contributing to the research environment” at the Second Annual Mathematics and Statistics Education Graduate Summer School. Massey University, New Zealand.

Memberships

- American Educational Research Association (AERA)
- European Society for Research in Mathematics Education (ERME)
- European Association for Research on Learning and Instruction (EARLI)
- Gesellschaft für Didaktik der Mathematik (Society for Didactics of Mathematics) (GDM)
- International Group for the Psychology of Mathematics Education (PME)
- Mathematics Education Research Group of Australasia (MERGA)
- Special Interest Group of the MAA on Research in Undergraduate Mathematics Education (RUME)