Tomohiro Nagashima, Ph.D.

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ACADEMIC APPOINTMENTS

11.2022 – present **Junior/Assistant Professor (tenure-track) of Technology-Enhanced Learning**
Department of Computer Science, Saarland University
Saarland Informatics Campus
Saarbrücken, Germany

09.2022 – present **Faculty Associate**
Harvard University Berkman Klein Center for Internet and Society
Cambridge MA, USA

04.2023 – 03.2024 **Visiting Professor**
Institute for the Advancement of Higher Education, Hokkaido University
Sapporo, Japan

09.2022 – 11.2022 **Researcher**
German Research Center for Artificial Intelligence (DFKI)
Saarbrücken, Germany

EDUCATION

08.2017 – 08.2022 **Ph.D. in Human-Computer Interaction**
Carnegie Mellon University Human-Computer Interaction Institute, Pittsburgh, PA
Advisor: Vincent Aleven
Dissertation: *Promoting Students' Self-Regulated Choices in Learning with Visual Representations*
Committee: Geoff Kaufman, Amy Ogan, Martha W. Alibali (University of Wisconsin-Madison), & Timothy Nokes-Malach (University of Pittsburgh)
**Robert M. Gagné Award for Graduate Student Research in Instructional Design by AECT*

08.2017 – 12.2020 **M.S. in Human-Computer Interaction**
Carnegie Mellon University Human-Computer Interaction Institute, Pittsburgh, PA
Advisor: Vincent Aleven

08.2016 – 08.2017 **M.A. in Education (Learning, Design, and Technology)**
Stanford Graduate School of Education, Stanford, CA
Advisor: Candace Thille

04.2010 – 03.2014 **B.A. in Education**
International Christian University, Tokyo, Japan
Advisor: Insung Jung

FELLOWSHIPS & AWARDS

2026 **Best Poster/Demo Award,** ACM Conference on Human-AI Complementarity and Alignment (HCOMP) for [P10]

2026 **Best PhD Student Paper Award,** International Conference on Affective Computing and Intelligent Interaction (ACII) for [C42]

2026 **Busy Beaver Award (outstanding teaching award, advanced lecture category)**, Department of Computer Science, Saarland University

2026 **Busy Beaver Award Nomination (outstanding teaching award, seminar category)**, Department of Computer Science, Saarland University

2025 **Best Paper Nomination,** International Conference on Artificial Intelligence in Education (AIED2025) for [C34]

2025 **Henriette Herz Scout,** Alexander von Humboldt Foundation

2024 **Busy Beaver Award (outstanding teaching award, seminar category)**, Department of Computer Science, Saarland University

2024 **Busy Beaver Award Nomination (outstanding teaching award, seminar category)**, Department of Computer Science, Saarland University

2023 **Robert M. Gagné Award for Graduate Student Research in Instructional Design**, Association for Educational Communications and Technology (AECT) for my doctoral dissertation at CMU

2021 **Presidential Fellowship**, Carnegie Mellon University School of Computer Science

2021 **Best Design Paper Nomination**, International Society of the Learning Sciences (ISLS2021) for [C12]

2020 **Fred Mulder Best Open Education Practice Award (€1.250)**, Global OER Graduate Network (GOGN) for [C9] & [C10]

2020 **Nova Southeastern Award for Outstanding Practice in Instructional Design (€72)**, Association for Educational Communications and Technology (AECT) for [C9] & [C10], media: https://www.hcii.cmu.edu/news/nagashima-receives-award-aect-2020

2019 **Doctoral Consortium Fellowship (€960)** (Travel fellowship for LAK19), Society for Learning Analytics Research

2018 **Virtually Connecting Scholarship (€480)** (Travel scholarship for OpenEd18), Virtually Connecting

2018 **Open Education Award of Excellence** (Category: Open Courses), Open Education Consortium

2018 **Open Education Award of Excellence Honorable Mention** (Category: Open Policy), Open Education Consortium

2018 **Creative Commons Summit 2018 Travel Scholarship (€670)**, Creative Commons

2017 **Creative Commons Summit 2017 Travel Scholarship (€670)**, Creative Commons

2016 **OER Research Fellowship (€3.840)** Open Education Group

2016 **Study Abroad Scholarship (€28.810)**, Rotary International

2016 **Merit-based Tuition Fellowship (€9.600)**, Stanford Graduate School of Education

2013 **Study Abroad Scholarship (€86.430)**, Japan Business Federation

2011-12 **Dean's List**, International Christian University

EXTERNAL GRANTS AWARDED

2025 - 2030 **Henriette Herz Scouting Programme**
Scout
The Alexander von Humboldt Foundation
Appointed to recruit three outstanding international Humboldt Research Fellows (postdocs) through direct nomination. As a Henriette Herz Scout, I serve as fellows' primary scientific host and supervisor.
Total funding value generated: approx. €270.000
Success rate: approx. 25%
*media coverage: here and here

2025 - 2026 **Co-designing "uncanny" UIs to foster student agency**
PI, with Katie Seaborn (University of Cambridge)
Japan Science and Technology Agency
JPY 5.200.000 (€30.226)

2024 - 2026 **Living "AI-ducation" dashboard**
Co-I, with Sarah Malone (Saarland University)
Stiftung Innovation in der Hochschullehre ("Freiraum 2023")
€219.590

2023 - 2027 **Understanding and supporting learning with AI in classrooms through co-design with students**
PI
Japan Science and Technology Agency (Precursory Research for Embryonic Science and Technology program: "Sakigake")
JPY 48,000,000 (€305.822)
Success rate: 6.7%

2023 - 2025 **Data-driven pedagogical improvement for hybrid teaching**
Co-I, with Daisuke Kaneko, Katsusuke Shigeta (PI), Toshiyuki Takeda, and Hidefumi Yagi

Japan Society for the Promotion of Science (Grants-in-Aid for Scientific Research: B)
JPY 14,200,000 (€98.079)

2020 - 2023 **Developing data-informed OER improvement system**
Co-I, with Daisuke Kaneko, Katsusuke Shigeta (PI), Toshiyuki Takeda, and Hidefumi Yagi
Japan Society for the Promotion of Science (Grants-in-Aid for Scientific Research: B)
JPY 15,990,000 (€136.100)

2015 – 2019 **Leveraging learning analytics to improve teaching and learning with MOOC**
Co-I, with Daisuke Kaneko, Katsusuke Shigeta (PI), Toshiyuki Takeda, and Hidefumi Yagi
Japan Society for the Promotion of Science (Grants-in-Aid for Scientific Research: B)
JPY 13,260,000 (€122.900)

INTERNAL GRANTS AWARDED

2026 - 2028 **How do students use generative AI to generate concrete representations in mathematics?**
Co-I*, with Julia Chatain (PI), Thomas Mettler.*
UniDistance Suisse Research Management Office
CHF10,966 (€11.940)

2026 - 2028 **Co-designing AI-driven scaffolding: A participatory approach to enhancing parent-child interactions in home mathematics**
Co-I*, with Jenny Yun-Chen Chan (PI), Xiaozi Gao, Leran Meng, Valerie Yi Jie He, & Ji-Eun Lee.*
The Education University of Hong Kong Faculty Interdisciplinary Research Funding Scheme
HKD$ 200.000 (€22.005)

2025 - 2026 **Supporting school students' decision making through goal setting in adaptive math learning software**
PI, with Maria Theobald (Trier University)
Saarland University Start-up Fund (Line 2)
€9.943

PUBLICATIONS *(*supervised student and postdoc, †equal contribution)*

Stringently Peer-Reviewed Conference and Journal Publications (C: conference paper, J: journal article)

Top conferences in human-computer interaction, the learning sciences, and educational technology (e.g., CHI, IDC, ISLS, AIED, LAK) publish highly selective, peer-reviewed research with low acceptance rate (15-30%). In computing fields and related disciplines, these peer-reviewed conference publications are considered comparable with, or exceed, journal publications in their selectivity and impact. Due to my interdisciplinary academic training, I publish both at conferences and in journals.

J16. *****Sato, S., Cutumisu, M., *Wang, Q., & **Nagashima, T**. (under review). From performance to reflection: Teacher feedback in ITS-supported K-12 classrooms.

J15. *****Sato, S., Cutumisu, M., & **Nagashima, T**. (under review). Toward teacher-AI collaborative feedback in K-12 classrooms: A systematic review of feedback in Intelligent Tutoring Systems.

J14. Abdelmagied, M., Sheng, K., Chounta, I., & **Nagashima, T**. (under review). Negotiated open learner modeling in programming: An LLM-based approach.

J13. *Chen, M., Ooge, J., & **Nagashima, T**. (under review). Are learning analytics visualizations really changing learning behavior? Design intentions and empirical evidence from the past decade.

C47. Wu, Z., *Su, M., Li, H., **Nagashima, T.,** & Feit, A. (under review). Gaze-informed proactive AI assistance for children's picture exploration.

C46. *Su, M., *Chen, M., *Nüttgens, H., & **Nagashima, T**. (under review). "Should I do more or move on?" Personalized agent support for optional-task choices in an adaptive learning system.

C45. *Hladky, M., *Rief, V., Ikegami, M., *Sato, S., & **Nagashima, T**. (under review). The Myaru Math Tutor: Mindfulness meets Japanese youth identity for promoting engaging socio-emotional math learning.

C44. *Han, B., Hua, L., *Akyol, H., & **Nagashima, T.** (under review). Socratic conversational AI for critical thinking: When challenge feels productive or adversarial.

J12. Chan, J. Y.-C., He, V. Y-J., & **Nagashima, T**., & (under review). A participatory approach to designing a math equivalence game with parents and teachers in Hong Kong.

J11. Petrovskaya, E., Seaborn, K., *Sato, S., Keckeis, J., Riesch, P., Shäfer, R., *Hladký, M., Fabre, E., & **Nagashima, T**. (major revision). Uncanny by design: Understanding how adolescents perceive deceptive user interface designs in "gacha" games.

J10. *Su, M., *Nair, A., & **Nagashima, T.** (2026). Exploring human agency in an AI-supported simulation environment for complex systems education. *Studies in Higher Education,* 1–16. [IF: 4.9 (2025)]. [**link**]

C43. *Quach, N., Ghosh, A., Su, M., Malva, L., Hooshyar, D., †**Nagashima, T.**, & †Singla, A. (2026). Investigating how quizzes shape problem-solving strategies in elementary programming. In *Proceedings of the 19th International Conference on Informatics in Schools (ISSEP2026), Tallinn, Estonia.* [**link**]

C42. *****Hladký, M., Hladký, J., Schneeberger, T., Gebhard, P., **Nagashima, T**., & Müller, P. (2026). Secrets of a smile: Can internal experiences be derived from external expressions? In *Proceedings of the 14th International Conference on Affective Computing and Intelligent Interaction (ACII2026), Puebla, Mexico.* **Best Student Paper Award.**

C41. *****Vincoli, M., *Scholz, N., & **Nagashima, T**. (2026). "I think I would rather decide what to do": Students' perception of control in an AI-infused classroom. In *Proceedings of the 21st European Conference on Technology Enhanced Learning (EC-TEL2026), Valencia, Spain.* [acceptance rate: 26.0%]. [**link**]

C40. Borchers, C., Zhang, L., Yang, K., & **Nagashima, T**., & Dominigue, B. (2026). Understanding student effort using reaction time propensities during problem solving at scale. In *Proceedings of the ACM Conference on Learning at Scale (L@S2026), Seoul, South Korea.* [acceptance rate: 22.0%]. [**link**]

C39. **Nagashima, T**., *Sato, S., *Hladký, M., *Scholz, N., & *Siegrist, L. (2026). Teachers' perspectives on decision-making in AI-supported classrooms: A cross-cultural study of Germany and Japan. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2026), Seoul, South Korea.* [acceptance rate: 16.7%]. [**link**]

J9. **Nagashima, T**., *Siegrist, L., *Scholz, N., *Sato, S., *Vincoli, M., & *Su, M. (2026). Mind the trust gap: Identifying (mis)alignments in teacher-student views toward control and agency in K-12 classroom AI. In *Proceedings of the ACM on Human-Computer Interaction (CSCW2026)* [IF: 4.9 (2025)]. [**link**]

C38. *Nair, A., *Su, M., & **Nagashima, T.** (2026). Investigating human-AI agency in interactive simulations for complex systems education: The effects of questioning and content agency on student learning. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2026), Irvine, CA.*

C37. *Sato, S. & **Nagashima, T**. (2026). Understanding teachers' feedback strategies in classrooms with an Intelligent Tutoring System: A survey study with storyboards. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2026), Irvine, CA.*

J8**.** *Su, M., Chi, M. T. H., & **Nagashima, T**. (2026). Applying the PAIR-C Framework to foster deep understanding and address misconceptions in science education. *Journal of the Learning Sciences, 35*(1), 130–175 [IF: 4.7 (2025)]. [**link**]

J7. *Su, M., Dang, B., Nguyen, A., & **Nagashima, T**. (2025). Choice-making in an adaptive learning system: The role of motivational pedagogical agents and prior knowledge. *npj Science of Learning, 10*(77) [IF: 4.3 (2025)]. [**link**]

C36. Borchers, C., **Nagashima, T**., Liu, P., Alibali, M. W., & Aleven, V. (2025). Is more gamification better? Evaluating playful interactions and narratives for algebra learning. In *Proceedings of the 20th European Conference on Technology Enhanced Learning (EC-TEL2025).* [acceptance rate: 27.0%].

C35. **Nagashima, T**., *Kilger, H., & Aleven, V. (2025). When less is more: Students' use of diagrams and their perception of diagram use in an AI tutor for algebra learning. In *Proceedings of the 65th Annual Meeting of the Cognitive Science Society*, *San Francisco, CA*. Cognitive Science Society. [**link**]

C34. *Vincoli, M., *Scholz, N., & **Nagashima, T**. (2025). Multidimensional student agency in learning with AI: A conceptual framework and design implications. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2025), Palermo, Italy.* [acceptance rate: 19.0%]. [**link**] **Best Paper Nominee.**

C33. **Nagashima, T.,** *Vincoli, M., *Scholz, N., & *Su, M. (2025). Understanding students' nuanced views on AI-supported classroom learning through perspective taking. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2025), Palermo, Italy.* [acceptance rate: 19.0%]. [**link**]

C32. *Shamamyan, N., *Su, M., & **Nagashima, T**., (2025). Co-designing a trustworthy peer agent with middle-school students for learning math. In *Proceedings of the ACM Interaction Design and Children Conference (IDC'25), Reykjavik, Iceland.* [acceptance rate: 20.0%]. [**link**]

C31. **Nagashima, T.** & *Su, M. (2025). Towards better understanding students' choices in advanced learning technology. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2025), Helsinki, Finland*. [acceptance rate: 31%]. [**link**]

C30. *Hladký, M., *Silber, M., & **Nagashima, T**. (2025). The MindfulMath Tutor: A mindfulness-infused learning environment to battle math anxiety. In *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (CHI EA'25*), *Yokohama, Japan*. [**link**] [**pdf**]

C29. **Nagashima, T., ***Bonaventura, K., & *Su, M. (2024). Parallel design: Achieving both researchers' and practitioners' goals in the design of an interactive learning system for mathematics. In *Proceedings of the Learning, Design and Technology (LDT '24), Delft, Netherlands.* ACM. [**link**]

C28. *Kilger, H., *Su, M., & **Nagashima, T**. (2024). Guiding children's choice making in an Intelligent Tutoring System. In *Proceedings of the Learning, Design and Technology (LDT '24), Delft, Netherlands.* ACM. [**link**]

C27. ***Sato, S., Platz, M., & **Nagashima, T**. (2024). Which leads to more effective learning in intelligent tutoring software, effort-based or performance-based feedback? In *Proceedings of the 64th Annual Meeting of the Cognitive Science Society*, *Rotterdam, Netherlands*. Cognitive Science Society. [**link**]

C26. ***Su, M., Chi, M. T., **Nagashima, T**., *Gole, J., Xin, Y., & Ha, J. (2024). Exploration of cognitive engagement patterns in online environments with multiple external representations. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2024), Buffalo, NY*. [acceptance rate: 38.0%]. [**link**] [**pdf**]

C25. ***Sabnis, N. & **Nagashima, T.** (2024). Empowering learners: Chatbot-mediated learning-by-teaching. In *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (CHI EA'24*), *Honolulu, Hawai'i* [acceptance rate: 33.8%]. [**link**]

J6. Chan, J. Y.-C., **Nagashima, T.,** & Closser, A. H. (2023). Participatory design for Cognitive Science: Examples from the Learning Sciences and Human-Computer Interaction. *Cognitive Science, 47*(10) [IF: 2.3 (2023)]. [**link**]

J5. Sha, H., Sugiura, M., **Nagashima, T.,** & Shigeta, K. (2023). Relations between participation in collaborative learning and learning outcomes in online learning. *Information and Technology in Education and Learning, 3*(1), 1-5. [**link**] [**pdf**]

C24. **Nagashima, T.**, *Zheng, B., *Tseng, S., *Ling, E., & Aleven, V. (2023). Promoting students' self-regulated choices in learning with visual representations in intelligent tutoring software. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2023), Montreal, Canada.* [**pdf**]

C23. **Nagashima, T.**, *Yadav, G., & Aleven, V. (2023). Remote classroom research toward equity during COVID-19. In K. Stamatis & J. Polman (Co-Chairs), *Designing to disrupt and encountering disruption: Engaging with the unexpected in educational research* [Symposium]. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2023), Montreal, Canada.* [**pdf**]

C22. Karumbaiah, S., Borchers, C., Shou, T., Falhs, A., Liu, C., **Nagashima, T.**, Rummel, N., & Aleven, V. (2023). A spatiotemporal analysis of teacher practices in supporting student learning and engagement in an AI-enabled classroom. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2023), Tokyo, Japan.* [**link**] [**pdf**]

C21. **Nagashima, T.**, *Tseng, S., *Ling, E., Bartel, A. N., Vest, N. A., Silla, E. M., Alibali, M. W., & Aleven, V. (2022). Students' self-regulated use of diagrams in a choice-based Intelligent Tutoring System. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2022), Hiroshima, Japan.* [link] [pdf]

C20. **Nagashima, T.,** *Britti, J., *Wang, X., *Zheng, B., Turri, V., *Tseng, S., & Aleven, V. (2022). Designing playful intelligent tutoring software to support engaging and effective algebra learning. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022)* [acceptance rate: 27.5%]. [link] [pdf]

C19. **Nagashima, T.**, *Ling, E., *Zheng, B., Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Aleven, V. (2022). How does sustaining and interleaving visual scaffolding help learners? A classroom study with an Intelligent Tutoring System. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society (pp. 1751-1758). [link] [pdf]

C18. Aleven, V., Blankestijn, J., Lawrence, L., **Nagashima, T.**, & Taatgen, N. (2022). A dashboard to support teachers during students' self-paced AI-supported problem-solving practice. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022*) [acceptance rate: 27.5%]. [link] [pdf]

C17. *Hou, X., **Nagashima, T.**, & Aleven, V. (2022). Design a dashboard for secondary-school learners to support mastery learning in a gamified learning environment. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022).* [link]

C16. Vest, N. A., Silla, E. M., Bartel, A. N., **Nagashima, T.,** Aleven, V., & Alibali, M. W. (2022). Self-explanation of worked examples integrated in an Intelligent Tutoring System enhances problem solving and efficiency in algebra. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society (pp. 3466-3472). [link] [pdf]

C15. Shigeta, K., Takeda, T., Kaneko, D., Yagi, H., & **Nagashima, T.** (2022). Development of a Moodle plugin to track OER improvements. In *Proceedings of the Annual Conference for Japan Society for Educational Technology*, Kanagawa (in Japanese).

J4. **Nagashima, T.** & Hrach, S. (2021). Motivating factors among university faculty for adopting Open Educational Resources: Incentives matter. *Journal of Interactive Media in Education, 1*(19), 1-10 [IF: 3.0 (2022 – only available from 2022)]. [link] [pdf]

C14**.** **Nagashima, T**., *Yadav, G., & Aleven, V. (2021). A framework to guide technology-based educational studies in the evolving classroom environment. In T. De Laet T, R. Klemke, C. Alario-Hoyos, I. Hilliger I, & A. Ortega-Arranz. (Eds.), *Proceedings of the 16th European Conference on Technology Enhanced Learning (EC-TEL2021)* (pp. 207-220). [acceptance rate: 21%]. [link]

C13. **Nagashima, T.**, Bartel, A. N., *Tseng, S., Vest, N.A., Silla, E. M., Alibali, M. W., & Aleven, V. (2021). Scaffolded self-explanation with visual representations promotes efficient learning in early algebra. In T. Fitch, C. Lamm, H. Leder, & K. Teßmar-Raible (Eds.), *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society* (pp. 1858-1864). Cognitive Science Society. [link] [pdf]

C12. **Nagashima, T.**, Bartel, A. N., *Yadav, G., *Tseng, S., Vest, N. A., Silla, E. M., Alibali, M. W., & Aleven, V. (2021). Using anticipatory diagrammatic self-explanation to support learning and performance in early algebra. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 474–481). International Society of the Learning Sciences [acceptance rate: 33%]. **Best Design Paper Nominee.** [pdf]

J3. Yang, K., **Nagashima, T**., *Yao, J., Williams, J. J., Holstein, K., & Aleven, V. (2021). Can crowds customize instructional materials with minimal expert guidance?: Exploring teacher-guided crowdsourcing for improving hints in an AI-based tutor. In *Proceedings of the ACM: Human-Computer Interaction, Computer-Supported Cooperative Work and Social Computing.* (*CSCW2021).* [link] [pdf]

C11. Bartel, A. N., Silla, E. M., Vest, N.A., **Nagashima, T.**, Aleven, V., & Alibali, M. W. (2021). Reasoning about equations with tape diagrams: insights from math teachers and college students. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 685–688). International Society of the Learning Sciences [acceptance rate: 30%]. [pdf]

C10. **Nagashima, T.**, Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Aleven, V. (2020). Enhancing conceptual knowledge in early algebra through scaffolding diagrammatic self-explanation. In M. Gresalfi & I. S. Horn (Eds.), *14th International*

Conference of the Learning Sciences (pp. 35-43). Nashville, TN: International Society of the Learning Sciences. [acceptance rate: 38%]. [**pdf**]

C9. **Nagashima, T.**, *Yang, K., Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Aleven, V. (2020). Pedagogical Affordance Analysis: Leveraging teachers' pedagogical knowledge for eliciting pedagogical affordances and constraints of instructional tools. In M. Gresalfi & I. S. Horn (Eds.), *14th International Conference of the Learning Sciences* (pp. 1561-1564). Nashville, TN: International Society of the Learning Sciences. [**pdf**]

C8. Takeda, T., Hayashi, Y., Shigeta, K., Mori, H., Kaneko, D., Yagi, H., & **Nagashima, T.** (2018). Visualizing relationships among content topics and learning activities of online courses. In *Proceedings of EdMedia: World Conference on Educational Media and Technology*. Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE).

C7. Shigeta, K., Yagi, H., Takeda, T., Mori, H., Hayashi, Y., Kaneko, D., & **Nagashima, T.** (2017). A study on improving learning materials utilizing comments on MOOC discussion boards. In *Proceedings of the Annual Conference for Japan Society for Educational Technology*, Shimane. (in Japanese)

C6. Hayashi, Y., Takeda, T., **Nagashima, T.**, Yagi, H., Mori, H., Kaneko, D., & Shigeta, K. (2016). Development of the dashboard system for teachers to perform effective indication of the learning data analysis. *In Proceedings of the 5th International Conference on Knowledge Creation and Intelligent Computing.* Manado, Indonesia.

J2. Shigeta, K., Yagi, H., **Nagashima, T.**, Hamada, M., Miyazaki, T., Kobayashi, K., & Shima, M. (2015). Cooperative liberal arts education and flipped classroom implementation with MOOC. *Journal of Digital Practices 6*(2), 89-96. (in Japanese)

C5. **Nagashima, T.**, Yagi, H., & Shigeta, K. (2015). The core value of delivering MOOC as OER. In *Proceedings of the Annual Conference for Japan Association for Educational Media*, Tokyo. (in Japanese)

C4. Yagi, H. **Nagashima, T.**, & Shigeta, K. (2015). Improvement model of lectures and teaching materials developed by OER and MOOC. In *Proceedings of the Annual Conference for Japan Association for Educational Media,* Tokyo. (in Japanese)

C3. Yagi, H., **Nagashima, T.** Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Flipped classroom using interactive distance learning system: An experimental class in liberal arts education among national universities in Hokkaido. In *Proceedings of the Annual Conference for Japan Society for Educational Technology,* Tokyo. (in Japanese)

C2. Yagi, H., **Nagashima, T.**, Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Development of educational videos for liberal arts education among national universities in Hokkaido: How instructional designers and video content specialists can develop a collaborative workflow in a small team. In *Proceedings of the Annual Conference for Japan Society for Information and Systems in Education,* Tokyo. (in Japanese)

J1. **Nagashima, T**. (2014). What makes open education thrive? Examination of factors contributing to the success of open education initiatives. *International Journal for Innovation and Quality in Learning 2*(3), 10-21. [**pdf**]

C1. **Nagashima, T.** (2013). Open educational resources in higher education: A global perspective. In *Proceedings of the International Conference for Media in Education,* Aichi.

Peer-Reviewed Conference Posters and Workshops (lightly reviewed, W: workshop paper, P: poster)

W6. Ma, Q., Schuler, C., Zhang, X., *Chen, M., Dogan, M., Ahmad, R., **Nagashima, T.,** Baumann, T., van Genabith, J. (2026). Outlining an experiment design of gamifying language learning in low-resource contexts: Kurdish learning in university, language courses, and on web-based applications. *The Workshop on Multi-modality and Multi-lingual Language Learning, at the 5th Asia-Pacific Chapter of the Association for Computational Linguistics & the 15th International Joint Conference on Natural Language Processing (AACL-IJCNLP2026).*

P10. Wen, C., Phung, T., Mehrotra, P., Gulwani, S., **Nagashima, T**., & Singla, A. (2026). Exploration vs. fixation: Scaffolding divergent and convergent thinking for human-AI co-creation with generative models. In *Proceedings of the Thirteen AAAI Conference on Human Computation and Crowdsourcing (HCOMP2026).* **Best Poster/Demo Award.**

P9. **Nagashima, T**., *Hladký, M., & *Rief, V. (2026). Warning about AI fallibility increases help-seeking in a math intelligent tutor. In *Proceedings of the 21st European Conference on Technology Enhanced Learning (EC-TEL2026), Valencia, Spain.*

P8. *Rief, V., *Hladký, M., *Yoo, M., *Heel, S., *Sato, S., & **Nagashima, T**. (2026). Conversational AI meets mindfulness: Exploring LLMs as a socio-emotional layer in a math intelligent tutoring system. In *Proceedings of the 21st European Conference on Technology Enhanced Learning (EC-TEL2026), Valencia, Spain.*

P7. *Sato, S. Cutumisu, M., & **Nagashima, T**. (2026). A systematic review of empirical studies on Intelligent Tutoring System feedback in K-12 classrooms. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2026), Seoul, South Korea.* [acceptance rate: 28.6%].

P6. *Scholz, N., Nguyen, M. H., †Singla, A., & †**Nagashima, T**. (2025). Partnering with AI: A pedagogical feedback system for LLM integration into programming education. In *Proceedings of the 20th European Conference on Technology Enhanced Learning (EC-TEL2025).*

P5. *Sato, S., *Zhang, Q., *Su, M., & **Nagashima, T**. (2025). Towards developing a guideline for optimizing interface design of intelligent tutoring software. In *Proceedings of the 20th European Conference on Technology Enhanced Learning (EC-TEL2025).*

P4. *Su, M., *Bonaventura, K., & **Nagashima, T**. (2025). Investigating the effects of motivational pedagogical agents on student learning and choice making in an adaptive learning system. In *Proceedings of the 20th European Conference on Technology Enhanced Learning (EC-TEL2025).*

P3. *Su, M., *Bonavantura, K., & **Nagashima, T**. (2025). Investigating the effects of motivational pedagogical agents on student learning and choice making in an Intelligent Tutoring System. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2025), Helsinki, Finland*.

W5. Aleven, V., Borchers, C., Huang, Y., **Nagashima, T.,** McLaren, B., Carvalho, P., Popescu, O., Sewall, J., & Koedinger, K. (2024). An integrated platform for studying learning with intelligent tutoring systems: CTAT+TutorShop. *The Fifth Annual Workshop on A/B Testing and Platform-Enabled Learning Research*. L*earning@Scale 2024,* Atlanta, USA. [**pdf**]

W4. **Nagashima, T.** (2021). Towards fostering strategic choices in using diagrams in early algebra. [Doctoral Consortium]. In *Proceedings of* the *12th International Conference on the Theory and Application of Diagrams (Diagrams 2021)*. [**pdf**]

P2. **Nagashima, T.**, *Yadav, G., & Aleven, V. (2021). Rethinking technology-based educational studies in the evolving classroom environment: An interview study with US teachers. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 933–934). International Society of the Learning Sciences. [**pdf**]

P1. Bartel, A. N., Silla, E. M., Vest, N. A., **Nagashima, T.**, Aleven, V., & Alibali, M. W. (2020). Reasoning about equations with tape diagrams: Do visual features matter? [Conference Abstract] In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*, Toronto, Canada.

W3. **Nagashima, T.** (2019). Towards enhancing conceptual knowledge in algebra through diagrammatic self-explanation. [Doctoral Consortium]. In *Companion Proceedings of the 9th International Learning Analytics and Knowledge Conference (LAK19).* Tempe, AZ. [**pdf**]

W2. Shigeta, K., Takeda, T., Mori, H., Yagi, H., **Nagashima, T.**, Kaneko, D., & Hayashi, Y. (2019). A practice of group-based learning support in online learning based on learner motivation and goal setting. *Workshop paper, Information Processing Society of Japan* (in Japanese).

W1. **Nagashima, T.** (2018). Contextualized instruction in data science and its effect on transfer of learning. [Doctoral Consortium]. In *Proceedings of the 13th European Conference on Technology Enhanced Learning (EC-TEL)*. Leeds, UK

Book Chapters

B2. **Nagashima, T.** & *Han, B. (2027). Achieving effective, engaging, and ethical AI use in multi-stakeholder environments: The case of school classrooms.

B1. Siller, H., Fock, A., Noster, N., Trgalova, J., **Nagashima, T.,** & Hershkovitz, A. (2026). Learning analytics in mathematics teaching: From discipline to hermeneutic practice. In Editor A & Editor B (Eds.), *Mathematics Education in the Digital Age (pp. xx-xx). Routledge.*

Other Publications (preprints, practitioner guides, white papers, and policy reports)

O14. *Rief, V., *Hladký, M., *Yoo, M., *Heel, S., *Sato, S., **Nagashima, T**. (2026). Beyond problem solving: Large Language Models for emotional and reflective support in mathematics learning. arXiv [**link**].

O13. Wu, Z., Su, M., Li, H., **Nagashima, T.,** & Feit, A. (2026). Gaze-informed proactive AI assistance for children's picture exploration. arXiv [**link**].

O12. Wen, C., Phung, T., Mehrotra, P., Gulwani, S., **Nagashima, T**., & Singla, A. (2026). Exploration vs. fixation: Scaffolding divergent and convergent thinking for human-AI co-creation with generative models. arXiv [**link**].

O11. *Scholz, N., Nguyen, M. H., †Singla, A., & †**Nagashima, T**. (2025). Partnering with AI: A pedagogical feedback system for LLM integration into programming education. arXiv [**link**].

O10. He, V. H., Chan, J. Y.-C., **Nagashima, T**., & Closser, A. H. (2024). Participatory design for research projects: Collaborating with communities. Cognitive Science Blog. [**link**].

O9. Farrow, R., Weller, M., Pitt, R., Iniesto, F., Algers, A., Almousa, S., Baas, M., Bentley, P., Bozkurt, A., Butler, W., Cardoso, P., Chtena., N., Cox, G., Czerwonogora, A., Dabrowski, M.T., Derby, R., DeWaard, H., Elias, T., Essmiller, K., Funk, J., Hayman, J., Helton, E., Huth, K., Hutton, S. C., Iyinolakan, O., Johnson, K. R., Jordan, K., Kuhn, C., Lambert, S., Mittelmeier, J., **Nagashima, T**., Nerantzi, C., O'Reilly, J., Paskevicius, M., Peramunugamage, A., Pete, J., Power, V., Pulker, H., Rabin, E., Rets, I., Roberts, V., Rodés, V., Sousa, L., Spica, E., Vizgirda, V., Vladimirschi, V., & Witthaus, G. (2023). The GO-GN Open Research Handbook. *Global OER Graduate Network / Open Education Research Hub.* CC-BY 4.0. [**pdf**].

O8. Shigeta, K., Takeda, T., Kaneko, D., Yagi, H., & **Nagashima, T.** (2021). Development of a Moodle plugin for structuring and versioning OER. *Seminar on Collaboration and Learning Environments*. Information Processing Society of Japan.

O7. Farrow, R., Iniesto, F., Weller, M., Pitt, R., Algers, A., Bass, M., Bozkurt, A., Cox, G., Czerwonogóra, A., Elias, T., Essmiller, K., Funk, J., Lambert, S., Mittelmeier, J., **Nagashima, T.**, Rabin, E., Rets, I., Spica, E., Vladimirschi, V. & Witthaus, G (2021). The GO-GN guide to conceptual frameworks. *Open Education Research Hub. The Open University, UK*. CC-BY 4.0. [**pdf**]

O6. **Nagashima, T.** (2018). Recent trends in open textbook adoption and research. *SIG Report. Game Learning and Open Education Special Interest Group*. Japan Society for Educational Technology. (in Japanese)

O5. Wiens, K., Tarkowski, A., Watanabe, T., **Nagashima, T.**, Allen, N., Appleyard, B., Botero, C., Juliana, M., Mora, L., Smith, J., Salem, N., & Browne, D. (2016). Global Open Policy Report 2016. *Open Policy Network*. [**report**]

O4. Shigeta, K. & **Nagashima, T**. (2016). Envisioning the future of open education: a perspective from the non-English-speaking world. *FutuOER.*

O3. **Nagashima, T.** (2016). OER research initiatives around the world. *SIG Report. Game Learning and Open Education Special Interest Group.* Japan Society for Educational Technology. (in Japanese)

O2. **Nagashima, T.** (2015). How should we approach openness in MOOC? *SIG Report. Game Learning and Open Education Special Interest Group.* Japan Society for Educational Technology. (in Japanese)

O1. Watanabe, T., Shigeta, K., **Nagashima, T.**, & Tanaka, K. (2014). Implication of EU's open education policy on educational system in Japan: Global competitiveness, employment, and digital divide. *Report by Innovation Nippon.* (in Japanese)

WORKSHOP ORGANIZED

WS2. Chounta, I. A., Sheng, K., Abdelmagied, M., **Nagashima, T**., Zapata-Rieva, D. (2026). Open learner models in the age of generative AI. Workshop organized at *the International Conference on Artificial Intelligence in Education (AIED2026), European Association of Distance Teaching Universities.*

WS1. Lui, M., Lawrence, L., Stewart, A., Mawasi, A., **Nagashima, T**., Su, M., Matuk, C., Kali, Y., & Hoadley, C. (2025). Grappling with the ethics of co-designing technology-based learning environments. Workshop organized at the *Annual Meeting for the International Society of the Learning Sciences (ISLS2025), Helsinki, Finland.*

CONFERENCE PRESENTATIONS

T61. Su, M., Nair, A., & **Nagashima, T**. (2026). Exploring learner agency in an AI-supported simulation environment for complex systems education. *The International Biennial Conference of EARLI SIG 6&7 Instructional Design and Technology-Enhanced Learning, Zürich, Switzerland*.

T60. Chen, M., Ooge, J., & **Nagashima, T**. (2026). Do learning analytics visualizations promote actual learner behavior changes? a systematic review. *The International Biennial Conference of EARLI SIG 6&7 Instructional Design and Technology-Enhanced Learning, Zürich, Switzerland*.

T59. **Nagashima, T.** & Su, M. (2025). The analysis of choice-making patterns in interactive algebra software with pedagogical agents. In A. H. Closser (Chair), *Leveraging cognitive principles in low-cost, online interventions to improve mathematics problem solving and learning*. Symposium at the 2025 Meeting of the Mathematical Cognition and Learning Society. Hong Kong.

T58. Hladký, M. & **Nagashima, T.** (2025). Teachers' and students' views towards AI use in the classroom. *Konferenz Bildung Digitalisierung 2025.* Berlin, Germany

T57. **Nagashima, T**., Scholz, N., Siegrist, L., & Sato, S. (2025). Navigating learning with AI: Teachers' and students' perspectives on AI monitoring in the classroom. In. S. Bichler (Chair), *Empowering teachers with actionable insights; Data-driven dashboards for effective teaching* [Symposium]. *The 21th Biennial EARLI Conference, Graz, Austria.*

T56. Su, M., Dang, B., Nguyen, A. & **Nagashima, T**. (2025). The role of prior knowledge when students make choices in an Intelligent Tutoring System. *The 21th Biennial EARLI Conference, Graz, Austria.*

T55. Scholz, N. & **Nagashima, T**. (2024). Balancing AI and human control in education. Insights from students and teachers on generative AI in classrooms. *Cambridge Generative AI in Education Conference.*

T54. Sato, S., Platz, M., & **Nagashima, T**. (2024). Which leads to more effective learning in intelligent tutoring software, effort-based or performance-based feedback? In *Proceedings of the 64th Annual Meeting of the Cognitive Science Society*, *Rotterdam, Netherlands*. Cognitive Science Society.

T53. Su, M., Gole, J., & Nagashima, T. (2024). Investigating self-regulated learning processes in an online environment: Using an ICAP lens*. The 11th International Biennial Conference of EARLI SIG 16 Metacognition and Self-Regulated Learning, Heidelberg, Germany*.

T52. Su, M., Gole, J., & **Nagashima, T**. (2024). Co-designing AI-supported instructional approach to enhance science learning. *The International Biennial Conference of EARLI SIG 6&7 Instructional Design and Technology-Enhanced Learning, Tübingen, Germany*.

T51. Su, M., Gole, J., **Nagashima, T.,** & Chi, M. T. (2024). Fostering deep understanding of science concepts in an online learning environment. *The International Biennial Conference of EARLI SIG 6&7 Instructional Design and Technology-Enhanced Learning, Tübingen, Germany*.

T50. **Nagashima, T.,** Bonaventura, K., & Su, M. (2024). Parallel design: Achieving both researchers' and practitioners' goals in the design of an interactive learning system for mathematics. In *Proceedings of the Learning, Design and Technology (LDT '24), Delft, Netherlands.* ACM.

T49. Kilger, H., Su, M., & **Nagashima, T**. (2024). Guiding children's choice making in an Intelligent Tutoring System. In *Proceedings of the Learning, Design and Technology (LDT '24), Delft, Netherlands.* ACM.

T48. Sabnis, N. & **Nagashima, T**. (2024). Empowering learners: Chatbot-mediated learning-by-teaching. *ACM CHI Conference on Human Factors in Computing Systems (CHI EA'24*), *Honolulu, Hawai'i*

T47. Sabnis, N. & **Nagashima, T**. (2024). Empowering learners: Chatbot-mediated learning-by-teaching. *German Pre-CHI, Saarbrücken, Germany.*

T46. Hladký, M., Kilger, H., Siegrist, L., Bonaventura, K., Mielke, M., Sato, S., Scholz, N., Silber, M., & **Nagashima, T**. (2024). Erforschung und Gestaltung adaptiver Lernsysteme mit und für LehrerInnen und SchülerInnen - Ansätze zur Förderung effektiven und motivierenden Lehrens und Lernens [Research and design of adaptive learning systems with and for teachers and students: Approaches to promoting effective and motivating teaching and learning]. 5. Tag der digitalen Bildung [The 5th Saarland Digital Education Day].

T45. Su, M., Gole, J., & **Nagashima, T.**, (2024). Investigating self-regulated learning processes in an online environment: Using an ICAP Lens. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2024), Buffalo, NY.*

T44. Karumbaiah, S., Borchers, C., Shou, T., Falhs, A., Liu, C., **Nagashima, T.**, Rummel, N., & Aleven, V. (2023). A spatiotemporal analysis of teacher practices in supporting student learning and engagement in an AI-enabled classroom. In *Proceedings of the International Conference on Artificial Intelligence in Education (AIED2023), Tokyo, Japan.*

T43. **Nagashima, T.**, Zheng, B., Tseng, S., Ling, E., & Aleven, V. (2023). Promoting students' self-regulated choices in learning with visual representations in intelligent tutoring software. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2023), Montreal, Canada.*

T42. **Nagashima, T.**, Yadav, G., & Aleven, V. (2023). Remote classroom research toward equity during COVID-19. In K. Stamatis & J. Polman (Co-Chairs), *Designing to disrupt and encountering disruption: Engaging with the unexpected in educational research* [Symposium]. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2023), Montreal, Canada.*

T41. Aleven, V., Blankestijn, J., Lawrence, L., **Nagashima, T.**, & Taatgen, N. (2022). A dashboard to support teachers during students' self-paced AI-supported problem-solving practice. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022*).

T40. Hou, X., **Nagashima, T.**, & Aleven, V. (2022). Design a dashboard for secondary-school learners to support mastery learning in a gamified learning environment. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022)*

T39. **Nagashima, T.,** Britti, J., Wang, X., Zheng, B., Turri, V., Tseng, S., & Aleven, V. (2022). Designing playful intelligent tutoring software to support engaging and effective algebra learning. In *Proceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL2022).*

T38. **Nagashima, T.**, Ling, E., Zheng, B., Bartel, A. N., Silla, E. M., Vest, N. A., Alibali, M. W., & Aleven, V. (2022). How does sustaining and interleaving visual scaffolding help learners? A classroom study with an Intelligent Tutoring System. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society.

T37. Vest, N. A., Silla, E. M., Bartel, A. N., **Nagashima, T.,** Aleven, V., & Alibali, M. W. (2022). Self-explanation of worked examples integrated in an Intelligent Tutoring System enhances problem solving and efficiency in algebra. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society.

T36. **Nagashima, T.**, Tseng, S., Ling, E., Bartel, A. N., Vest, N. A., Silla, E. M., Alibali, M. W., & Aleven, V. (2022). Students' self-regulated use of diagrams in a choice-based Intelligent Tutoring System. In *Proceedings of the Annual Meeting for the International Society of the Learning Sciences (ISLS2022), Hiroshima, Japan.*

T35. Takeda, T., Shigeta, K., Kaneko, D., Yagi, H., & **Nagashima, T**. (2022). Design and implementation of a system to improve the findability of OER. *Study Workshop by Japan Society for Information and Systems in Education*. (in Japanese)

T34. Bartel, A. N., Vest, N. A., Silla, E., M., **Nagashima, T**., Aleven, V., & Alibali, M. W. (2022). Do tape diagrams in explanations of worked examples foster conceptual understanding? Evidence from early algebra. Poster accepted at the Annual Meeting of the Mathematical Cognition and Learning Society.

T33. Silla, E. M., Vest, N. A., Bartel, A. N., **Nagashima, T**., Aleven, V., & Alibali, M. W. (2022). Middle-school students' preferences for visual features of tape diagrams and their relation to symbolizing equations. Poster accepted at the Annual Meeting of the Mathematical Cognition and Learning Society.

T32. Silla, E. M., Vest, N. A., **Nagashima, T.**, Bartel, A. N., Anthony, L. E., Aleven, V., & Alibali, M. W. (2022). Efficacy of tape diagrams: Evidence from an Intelligent Tutoring System. Lightning talk presented at the Annual Meeting of the Mathematical Cognition and Learning Society.

T31. **Nagashima, T.**, Yadav, G., & Aleven, V. (2021). A framework for conducting remote classroom research. Presented at the CIRCLS'21 Convening. Center for Integrative Research in Computing and Learning Sciences.

T30. Silla, E. M., Tommasi, T., Vest, N. A., Bartel, A. N., Buehler, Z., Manhart, H., Petersdorff, M., **Nagashima, T.**, Aleven, V. & Alibali, M. W. (2021). Fostering conceptual understanding of equation solving via an Intelligent Tutoring System. *Wisconsin Center for Education Research.*

T29. **Nagashima, T**., Yadav, G., & Aleven, V. (2021). A framework to guide technology-based educational studies in the evolving classroom environment. In T. De Laet T, R. Klemke, C. Alario-Hoyos, I. Hilliger I, & A. Ortega-Arranz. (Eds.), *Proceedings of the 16th European Conference on Technology Enhanced Learning (EC-TEL2021)* (pp. 207-220).

T28. **Nagashima, T.**, Bartel, A. N., Tseng, S., Vest, N.A., Silla, E. M., Alibali, M. W., & Aleven, V. (2021). Scaffolded self-explanation with visual representations promotes efficient learning in early algebra. In T. Fitch, C. Lamm, H. Leder, & K. Teßmar-Raible (Eds.), *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society* (pp. 1858-1864). Cognitive Science Society.

T27. **Nagashima, T.**, Bartel, A. N., Yadav, G., Tseng, S., Vest, N. A., Silla, E. M., Alibali, M. W., & Aleven, V. (2021). Using anticipatory diagrammatic self-explanation to support learning and performance in early algebra. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 474–481). International Society of the Learning Sciences.

T26. **Nagashima, T.**, Yadav, G., & Aleven, V. (2021). Rethinking technology-based educational studies in the evolving classroom environment: An interview study with US teachers. In E. de Vries, J. Ahn, & Y. Hod (Eds.), *15th International Conference of the Learning Sciences – ICLS 2021* (pp. 933–934). International Society of the Learning Sciences.

T25. Vest, N. A., Silla, E. M., Bartel, A. N., **Nagashima, T.**, Aleven, V. & Alibali, M. W. (2021). Learning from worked examples: Conceptually rich explanations predict conceptual gains. The Society for Research in Child Development Biennial Meeting.

T24. Bartel, A. N., Silla, E. M., Vest, N. A., **Nagashima, T.**, Tang, Y., Aleven, V. & Alibali, M. W. (2021). Do tape diagrams promote a focus on conceptual principles? Evidence from equation solving with an Intelligent Tutoring System. In Wong, T. (Chair), *Principle knowledge in mathematics: Its development, cognitive predictors, and potential interventions,* Symposium at the Annual Meeting of the Mathematical Cognition and Learning Society, Dublin, Ireland. [**Recording**]

T23. **Nagashima, T.**, Bartel, A., Silla, E., Vest, N., Alibali, M., & Aleven, V. (2020). Collaborative open educational practices: sharing evidence-based Open Educational Resources to facilitate meaningful adaptation. Open Education Conference. [**link to the webpage**]

T22. Shigeta, K., Takeda, T., Mori, H., Yagi, H., **Nagashima, T.**, Kaneko, D., & Hayashi, Y. (2019). A practice of group-based learning support in online learning based on learner motivation and goal setting. *Workshop paper, Information Processing Society of Japan* (in Japanese).

T21. **Nagashima, T.**, Xiong, Y., Bodily, R., & Stamper, J. (2018). Student engagement and learning in an OER-based course: a longitudinal study. Open Education Conference, NY.

T20. **Nagashima, T.** & Stamper, J. (2018). Contextualized instruction with OER: Examining the Remix Hypothesis. Open Education Conference, NY.

T19. Cannanure, V., **Nagashima, T.**, Gordon, G., & Brown, T. (2018). QnA: a low-cost system for developing interactive OER in computer science. Open Education Conference, NY

T18. Mori, H., **Nagashima, T.,** Takeda, T., Hayashi, Y., Kaneko, D., Kojima, K., Yagi, H., & Shigeta, K. (2018). Persistence decision model for learning in MOOC. Study Workshop by Japan Society of Educational Technology, Tokyo. (in Japanese)

T17. Takeda, T., Hayashi, Y., Shigeta, K., Mori, H., Kaneko, D., Yagi, H., & **Nagashima, T.** (2018). Visualizing relationships among content topics and learning activities of online courses. In *Proceedings of EdMedia: World Conference on Educational Media and Technology*. Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE).

T16. Shigeta, K., Yagi, H., Takeda, T., Mori, H., Hayashi, Y., Kaneko, D., & **Nagashima, T.** (2017). A study on improving learning materials utilizing comments on MOOC discussion boards. In *Proceedings of the Annual Conference for Japan Society for Educational Technology*, Shimane. (in Japanese)

T15. Hayashi, Y., Takeda, T., **Nagashima, T.**, Yagi, H., Mori, H., Kaneko, D., & Shigeta, K. (2016). Development of the dashboard system for teachers to perform effective indication of the learning data analysis. *In Proceedings of the 5th International Conference on Knowledge Creation and Intelligent Computing.* Manado, Indonesia.

T14. **Nagashima, T.**, Yagi, H., & Shigeta, K. (2015). The core value of delivering MOOC as OER. In *Proceedings of the Annual Conference for Japan Association for Educational Media*, Tokyo. (in Japanese)

T13. Yagi, H. **Nagashima, T.**, & Shigeta, K. (2015). Improvement model of lectures and teaching materials developed by OER and MOOC. In *Proceedings of the Annual Conference for Japan Association for Educational Media,* Tokyo. (in Japanese)

T12. Yagi, H., **Nagashima, T.** Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Flipped classroom using interactive distance learning system: An experimental class in liberal arts education among national universities in Hokkaido. In *Proceedings of the Annual Conference for Japan Society for Educational Technology,* Tokyo. (in Japanese)

T11. Yagi, H., **Nagashima, T.**, Hamada, M., Shima, M., Kobayashi, K., & Shigeta K. (2015). Development of educational videos for liberal arts education among national universities in Hokkaido: How instructional designers and video content specialists can develop a collaborative workflow in a small team. In *Proceedings of the Annual Conference for Japan Society for Information and Systems in Education,* Tokyo. (in Japanese)

T10. Hrach, S., Gallant, J., & **Nagashima, T.** (2017). Motivating factors among faculty for adopting OER. Open Education Conference, Anaheim.

T9. Kaneko, D., Kojima, K., Shigeta, K., Takeda, T., Mori, H., Hayashi, Y., Yagi, H., & **Nagashima, T.** (2017). Evaluation criteria for pedagogical practices in MOOC. Study Workshop by Japan Society for Information and Systems in Education. (in Japanese)

T8. Kaneko, D., Kojima, K., Shigeta, K., Takeda, T., Mori, H., Hayashi, Y., Yagi H., & **Nagashima, T.** (2017). Applicable evaluation criteria for MOOC. Study Workshop by Japanese Society for Information and Systems in Education. (in Japanese)

T7. Shigeta, K., Fujita, Y., Yagi, H., **Nagashima, T.**, Hamada, M., Sata, M., Matsumoto, T., Tanaka, H., Kobayashi, K., & Shima, M. (2016). Open education strategy at universities in Hokkaido region utilizing OER. Open Education Global 2016, Kraków.

T6. Takeda, T., Hayashi, Y., Shigeta, K., Mori, H., Kaneko, D., Yagi, H., & **Nagashima, T.** (2016). Dashboard development for improving instruction on MOOC. Study Workshop by Japan Society of Educational Technology, Chiba. (in Japanese)

T5. Shigeta, K., Matsukawa, H., Matsuda, T., Watanabe, Y., Kato, H., Yagi, H., & **Nagashima, T.** (2016). Developing classifying methods of course types through the analysis of syllabi. Study Workshop by Japan Society for Educational Technology, Kagawa. (in Japanese)

T4. **Nagashima, T.**, Shigeta, K., & Bier, N. (2015). Tackling a lack of local OER: How international OER adoption enhanced the quality of learning on campus. Open Education Conference, Vancouver.

T3. **Nagashima, T.** (2015). What do we really mean by "open"? SIG Session, Annual Conference for Japan Society for Educational Technology, Tokyo. (in Japanese)

T2. **Nagashima, T.** (2015). Running open MOOC: Experience from Hokkaido University. Academic Exchange for Information Environment and Strategy Seminar, Sapporo. (in Japanese)

T1. **Nagashima, T.** (2013). Open educational resources in higher education: A global perspective. In *Proceedings of the International Conference for Media in Education,* Aichi.

INVITED TALKS

IT38. **Nagashima, T**. (2027). TBD. *LEAD Lecture Series.* University of Tübingen. (Hosted by Dr. Man Su)

IT37. **Nagashima, T**. (2026). TBD. *EVENT NAME*. The University of Tsukuba Bochum Office.

IT36. **Nagashima, T**. (2026). Working as a professor in Germany. *Overseas Postdoctoral Fellow Orientation and Career Forum.* Japan Society for Promotion of Science Bonn Office.

IT35. **Nagashima, T**. & Han, B. (2026). Achieving effective, engaging, and ethical AI use in multi-stakeholder environments: The case of school classrooms. *The International Forum IAA+Soc (Intelligence Augmentation and Amplification plus Society),* organized by the Fondation France-Japon de l'EHESS, with the partnership of Japan Science and Technology Agency.

IT34. **Nagashima, T**. (2026). AI und adaptive Lerntechnologie: Co-Design adaptiver Lerntechnologien zusammen mit Lehrkräften, Chancen und Herausforderungen [AI and adaptive learning technology: Co-designing adaptive learning technologies together with teachers: opportunities and challenges]. *Workshop at Bildungscampus Saarland*.

IT33. **Nagashima, T**. (2025). How students learn in MINT and how technology can help. *Dagstuhl Seminar "Lehrerfortbildung in Informatik."* [**link**].

IT32. **Nagashima, T**. (2025). Who decides? Rethinking agency when students co-create with AI. *Future(s) of Educational Design Symposium*. Technical University of Munich (TUM) (Hosted by Prof. Dr. Anna Keune)

IT31. **Nagashima, T**. (2025). MCLS Trainee special on "Building Your Professional Identify Online*". Mathematical Cognition and Learning Society (MCLS),* Online. (Hosted by Dr. Nicholas Vest)

IT30. **Nagashima, T**. (2025). The complexity of human learning: Technology as a solution or a threat? Guest talk at the StEP Program, Saarland University.

IT29. **Nagashima, T**. (2025). Promoting strategic use of visual information: Insights from design and experimental studies in US schools with intelligent tutoring software. University of Münster, Münster, Germany. (Hosted by Prof. Dr. Angela Schwering)

IT28. **Nagashima, T**. (2025). "Kann KI individuelle Förderung verbessern – und was bedeutet das für Lehrkräfte? [Can AI improve individual support – and what does this mean for teachers?]." *Podcast series "Mensch und Machine [Humans and Machines]."* Johannes Gutenberg-Universität Mainz, Germany [**link**].

IT27. Sato, S., König, S., & **Nagashima, T**. (2025). What is "learning"? – how we can leverage technology to better understand and support learning. *Summer workshop offered at Nara Women's University Secondary School*, Nara, Japan.

IT26. **Nagashima, T**. (2025). Co-designing adaptive learning technologies together with school teachers: Opportunities and challenges. *Keynote talk at the Bundesarbeitskreis Lehrerbildung e.V. [Federal Working Group for Teacher Training],* Saarbrücken, Germany.

IT25. **Nagashima, T**. (2025). Adaptive learning technologies for STEM education. *Invited workshop at the Bundesarbeitskreis Lehrerbildung e.V. [Federal Working Group for Teacher Training]*, Saarbrücken, Germany.

IT24. **Nagashima, T**. (2024). Childhood education and my personal experience in Japan, the US, and Germany. The Education University of Hong Kong, Hong Kong. (Hosted by Prof. Dr. Jenny Yun-Chen Chan)

IT23. **Nagashima, T**. (2024). Understanding and supporting complex interactions of AI-supported classroom teaching and learning: *Keynote talk at the Hybrid Intelligence Hi-light Seminar*, University of Oulu, Oulu, Finland. (Hosted by Prof. Dr. Sanna Järvelä and Prof. Dr. Andy Nguyen)

IT22. **Nagashima, T**. (2024). Participatory design with educators: Three myths. *Discussant at the online forum, "Unlocking the Power of Collaborative Partnerships between Researchers and Practitioners in Early Childhood Education*." The Education University of Hong Kong, Hong Kong. (Hosted by Prof. Dr. Jenny Yun-Chen Chan)

IT21. **Nagashima, T**. (2024). Understanding and supporting students' choice making with intelligent learning technologies. DIPF: Leibniz Institute for Research and Information in Education, Goethe University, Frankfurt am Main, Germany (Hosted by Prof. Dr. Garvin Brod)

IT20. **Nagashima, T**. (2023). "Intelligent tutoring systems" *The EduTech XP podcast interview.*

IT19. **Nagashima, T**. (2023). Opportunities and challenges of digital education: A technological perspective. *Keynote talk at the Digital Education Day,* Tübingen Center for Digital Education, University of Tübingen. (Hosted by Prof. Dr. Andreas Lachner)

IT18. **Nagashima, T**. (2023). Promoting students' self-regulated choices in learning with visual representations. *AECT Annual Convention (as part of AECT awardees' presentations).*

IT17. **Nagashima, T**. (2023). Promoting and understanding students' strategic learning choices with visual representations in early algebra with technology. Department of Education Sciences, Saarland University. (Hosted by Dr. Sarah Malone)

IT16. **Nagashima, T**. (2023). Promoting students' strategic learning choices in AI-based math tutoring software. Center for Advanced Internet Studies (CAIS), Bochum. (Hosted by Prof. Dr. Nikol Rummel)

IT15. Chan, J. Y.-C., **Nagashima, T**., & Chua, S. (2023). COIL: What is it? How to get started? Ideas for feedback. Department of Early Childhood Education, The Education University of Hong Kong.

IT14. **Nagashima, T**. (2023). How might we support engaging and effective math learning using technology? *Future+Learning Working Group*, Harvard University Berkman Klein Center for Internet and Society, Cambridge, MA.

IT13. **Nagashima, T**. (2023). Choose wisely: Promoting strategic learner choices in intelligent tutoring software for early algebra. *Future Learning Initiative*, ETH Zürich. (Hosted by Prof. Dr. Manu Kapur & Dr. Julia Chatain)

IT12. **Nagashima, T**. (2022). Fostering learners of the future through human-centered design of advanced technologies. Hokkaido University, Sapporo. (in Japanese). (Hosted by Prof. Dr. Katsusuke Shigeta)

IT11. **Nagashima, T**. (2021). Supporting learners of the future through human-centered learning analytics research. TU Delft, Delft.

IT10. **Nagashima, T**. (2021). Pedagogical Affordance Analysis: Leveraging learning sciences approaches in designing technology. Tilburg University, Tilburg.

IT9. **Nagashima, T.** (2021). Learning analytics and gamification. *Presented at the Symposium on Digital Transformation in Higher Education*. National Institute of Informatics. Tokyo, Japan. (in Japanese).

IT8. **Nagashima, T**. (2021). Open Educational Resources and the COVID-19 pandemic: Opportunities and challenges. Hokkaido University, Sapporo (in Japanese). (Hosted by Prof. Dr. Katsusuke Shigeta)

IT7. **Nagashima, T.** (2021). Co-design in open education practices. International Christian University, Tokyo. (Hosted by Prof. Dr. Insung Jung)

IT6. **Nagashima, T.** (2020). Pedagogical Affordance Analysis. AECT Annual Convention (as part of AECT awardees' presentations).

IT5. **Nagashima, T.** (2020). Connecting education research with classroom practices through co-design. Keio University, Tokyo (in Japanese). (Hosted by Prof. Dr. Mutsumi Imai)

IT4. **Nagashima, T.** (2020). Designing instruction by leveraging pedagogical affordances and constraints. International Christian University, Tokyo. (Hosted by Prof. Dr. Insung Jung)

IT3. **Nagashima, T.** (2019). Recent trends in learning analytics research. Hokkaido University, Sapporo. (in Japanese). (Hosted by Prof. Dr. Katsusuke Shigeta)

IT2. **Nagashima, T.** (2016). Effective use of ICT in higher education: lessons learned at Hokkaido University. Academic Link Seminar. Chiba University, Chiba. (in Japanese)

IT1. Allen, N., Beckett, M., Lesko, I., Wiens, K., Jacob, M., & **Nagashima, T.** (2015). Open Education: Policy and Practice [Invited panel]. OpenCon 2015, Brussels.

RESEARCH & PROFESSIONAL EXPERIENCES

2023 - 2024	**Institute for the Study of Knowledge Management in Education (ISKME)**, Half Moon Bay, CA *Independent Contractor*
2018 - 2022	**Human-Computer Interaction Institute,** Carnegie Mellon University, Pittsburgh, PA *Graduate Student Researcher* with Vincent Aleven (and Martha Alibali, through collaborative funding)
2021	**Institute for Policy Research**, Northwestern University, Evanston, IL *Participant, Summer Research Training Institute on Improving Evaluations of R&D in STEM Education*
2017 - 2019	**Program in Interdisciplinary Education Research,** Carnegie Mellon University, Pittsburgh, PA *Associate*
2017 - 2018	**Human-Computer Interaction Institute,** Carnegie Mellon University, Pittsburgh, PA *Graduate Student Researcher* with John Stamper
2018	**LearnLab Summer School**, Carnegie Mellon University, Pittsburgh, PA *Participant, Educational Data Mining track*
2016 - 2018	**Open Education Group**, Brigham Young University, Provo, UT *OER Research Fellow*
2015 - 2018	**Center for Open Education**, Hokkaido University, Sapporo, Japan *Research Collaborator*
2017	**Open Learning Initiative**, Stanford University, Stanford, CA *Learning Engineer Intern* with Candace Thille
2015 - 2016	**Fujitsu/Hokkaido University**, Sapporo, Japan *Research Fellow*
2014 - 2016	**Center for Open Education**, Hokkaido University, Sapporo, Japan *Instructional Designer / Project Manager*
2014 - 2015	**Innovation Nippon**, Tokyo, Japan *Research Assistant* with Tomoaki Watanabe
2013 - 2014	**International Christian University**, Tokyo, Japan *Undergraduate Research Assistant* with Masako Miyahara & Atsuko Watanabe
2013 - 2014	**International Christian University**, Tokyo, Japan *Undergraduate Research Assistant* with Insung Jung

TEACHING & MENTORING

Teaching

Winter 2026/27	**Saarland Informatics Campus,** Saarbrücken, GERMANY *Co-Instructor (Main Instructor: Bingyi Han)* Course Title: From Research Ideas to Empirical Study Designs in Human–AI Interaction (Seminar)
Winter 2025/26 -	**Saarland Informatics Campus,** Saarbrücken, GERMANY *Instructor/Organizer* Course Title: Perspectives of Computer Science
Summer 2025	**Saarland Informatics Campus,** Saarbrücken, GERMANY *Instructor* Course Title: Intelligent Systems and Human Learning (Advanced Lecture) (78 graduate and undergraduate students)

***Won the Busy Beaver Award (outstanding teaching award)**

Winter 2024/25 - **Saarland Informatics Campus,** Saarbrücken, GERMANY
Co-Instructor with Sarah Malone (Education Science at Saarland University)
Course Title: Living "AI-ducation" Dashboard (Seminar) (20 graduate students each, offered every semester)
***Nominated for the Busy Beaver Award (outstanding teaching award)**

Summer 2024 **Saarland Informatics Campus,** Saarbrücken, GERMANY
Co-Instructor (Main Instructor: Man Su)
Course Title: Design and Development of Interactive Technologies for Teaching Complex Systems (Seminar)
***Won the Busy Beaver Award (outstanding teaching award)**

Summer 2024 **Saarland Informatics Campus,** Saarbrücken, GERMANY
Instructor
Course Title: User-Centered Research (Seminar) (9 graduate students)
***Nominated for the Busy Beaver Award (outstanding teaching award)**

Winter 2022-24 **Saarland Informatics Campus,** Saarbrücken, GERMANY
Instructor
Course Title: Intelligent Systems for Supporting Human Learning (Seminar) (12 and 18 students for the two iterations)

2021 **Carnegie Mellon University,** Pittsburgh, PA
Teaching Assistant with Raelin Musuraca and Motahhare Eslami
Course Title: User-Centered Research and Evaluation (99 graduate and undergraduate students)
- Gave lectures in 80-min lab sessions every week (15 weeks, 24 students)
- Graded weekly assignments and course projects on user research
- Helped design course materials including lecture slides, quizzes, and assignments
- Held weekly office hours to support student learning
- Mid-term teaching evaluation: 4.83/5.00

2018 **Carnegie Mellon University,** Pittsburgh, PA
Teaching Assistant with John Stamper and Adam Perer
Course Title: Interactive Data Science (70 graduate and undergraduate students)
- Taught four 70-min lectures on experimental design and data analysis
- Graded students' weekly assignments and course projects on data science
- Designed course materials including lecture slides and assignments
- Helped student groups with their course projects

2014, 2018 **Open Education Lab,** Sapporo, Japan
Teaching Assistant with Katsusuke Shigeta, Toshiyuki Takeda, and Hideki Mori
Course Title: Open Education and the Future of Learning (offered on Japanese MOOC; approx. 8,000 participants)
- Designed course assignments and quizzes
- Managed online discussions daily
- Provided instructional support for learners
- Offered "in-person" sessions with about 30 learners in the course to promote deeper understanding of the topics covered in the course

2015 **Hokkaido University,** Sapporo, Japan
Teaching Assistant with lead instructors Tamotsu Kozaki and Naoko Watanabe
Course Title: Effects of Radiation: An Introduction to Radiation and Radioactivity (offered on edX; approx. 5,000 participants)
- Co-developed lecture materials and assignments with instructors
- Facilitated online discussions
- Helped with technical and content-related issues
- Provided online support for learners

2014 - 2016 **Hokkaido University**, Sapporo, Japan
Instructional Designer & Project Manager
- Co-designed with university faculty over 200 educational materials (modules) in various domains, which were shared widely and publicly as Open Educational Resources (OER)

2014 - 2016 **Hokkaido University**, Sapporo, Japan
Teaching Assistant with Katsusuke Shigeta
Course Title: Introduction to Information Science (30 undergraduate students)
- Co-developed course materials (lectures and assignments)
- Taught two 60-min lectures on the topics of cybersecurity and copyright
- Facilitated classroom discussions
- Graded assignments

Invited Guest Lectures

2024 **Working with Teachers in Educational Technology Research,** in *Research Methods & Proposal in Early Childhood and Family Studies*, The Education University of Hong Kong

2022 - 2026 **Understanding and Supporting Human Learning with Advanced Technology,** in *EduTech 1* (lecture), Saarland University

2022, 2023 **Understanding and Supporting Human Learning with Advanced Technology,** in *Perspectives of Computer Science* (lecture), Saarland University

Mentoring (*co-authored a peer-reviewed publication)

Saarland - Doctoral Students and Postdoctoral Researchers

2026 - **Krithik Ranjan** (Postdoctoral researcher at Saarland as a Humboldt Research Fellow)
2026 - ***Bingyi Han** (Postdoctoral researcher at Saarland as a Humboldt Research Fellow)
2026 - **Sina Elahi Manesh** (prep-phase Doctoral researcher, in the lab as an RIL student for one semester)
2025 - ***Meiyi Chen** (Doctoral researcher in Computer Science at Saarland)
2024 - ***Mirella Hladký** (Doctoral researcher in Psychology at Saarland)
2024 - ***Shintaro Sato** (Doctoral researcher in Education Sciences at Saarland)
2023 - 2025 ***Man "Echo" Su** (Postdoctoral researcher at Saarland, currently Junior Group Leader at IWM Tübingen)
2024 **Günce Su Yilmaz** (Doctoral researcher in Computer Science at Saarland, in the lab as an RIL student)

Saarland - Master's and Undergraduate Students

2026 - **Louisa Marlen Garnich** (Master's student in Clinical Psychology at Saarland)
2026 - **Vanshika Garg** (Master's student in Computer Science at Saarland)
2026 - **Qingqing Wang** (Master's student in Educational Technology at Saarland)
2026 - **Shiza Aman** (Master's student in Computer Science at Saarland)
2026 - **Chaeeun Lee** (Master's student in Educational Technology at Saarland)
2026 - **Niloofar Nazari** (Master's student in Cognitive Science at Osnabrück University)
2026 - **Hendrik Akyol** (Undergraduate student in Data Science and AI at Saarland)
2025 - **Inaaya Khan** (Master's student in Computer Science at Saarland)
2025 - **Kevin Gaffga** (Undergraduate student in Media Informatics at Saarland)
2025 - **Divya Gupta** (Master's student in Computer Science at Saarland)
2025 - **Felix Herz** (Undergraduate student in Computer Science at Saarland)
2025 - ***Vera Rief** (Master's student in Media Informatics at Saarland)
2024 - **Pascal Bauser** (Master's student in Educational Technology at Saarland)
2024 - **Kanika Gupta** (Master's student in Computer Science at Saarland)
2024 - **Samarth Joshi** (Master's student in Computer Science at Saarland)
2024 - 2026 **Saskia König** (Undergraduate student in Cultural Studies at Saarland)
2026 **Stefanny Molina Vega** (Undergrad student in Systems Engineering and CS at Universidad Pontificia Bolivariana)
2024 - 2026 **Helene Nüttgens** (Master's student in Computer Science at Saarland (prep-phase PhD student)))
2024 - 2026 ***Amit Nair** (Master's student in Computer Science at Saarland)
2024 - 2026 ***Nina Quach** (Master's student in Data Science and AI at Saarland)
2024 - 2026 **Lina Stein** (Master's student in Educational Technology at Saarland)
2025 **Aleksey Morshnev** (Master's student in Computer Science at Saarland)

2025 **Tooba Ahmed** (Master's student in Media Informatics at Saarland)
2025 *__Minju Yoo__ (Undergraduate student in Educational Technology at Ewha Womans University)
2025 *__Stephanie Heel__ (Master's student in Psychology at FernUnivesität in Hagen)
2023 - 2025 *__Justin Gole__ (Master's student in Educational Technology at Saarland)
2023 - 2025 *__Niklas Scholz__ (Undergraduate student in Computer Science at Saarland)
2023 - 2025 *__Narek Shamamyan__ (Master's student in Educational Technology at Saarland)
2024 **Abdul Wahab** (Master's student in Computer Science at Saarland)
2024 *__Lisa Siegrist__ (Master's student in Educational Technology at Saarland)
2024 *__Qingzhi Zhang__ (Undergraduate student in Media Informatics at Saarland)
2023 - 2024 *__Katharina Bonaventura__ (Master's student in Computer Science at Saarland)
2023 - 2024 **Michelle Mielke** (Master's student in Educational Technology at Saarland)
2023 - 2024 *__Mareike Silber__ (Master's student in Educational Technology at Saarland)
2023 - 2024 *__Helena Kilger__ (Master's student in Educational Technology at Saarland)
2023 - 2024 *__Shintaro Sato__ (Master's student in Educational Technology at Saarland, currently PhD researcher at Saarland)
2023 **Benjamin Ridder** (High-school student at Gymnasium am Schloss, currently a CS bachelor at Saarland)
2023 *__Martina Vincoli__ (Master's student in HCI at Trento University, currently PhD student at ETH Zürich)

Saarland - Supervised Master's Theses as a primary supervisor (*thesis student first/co-authored a peer-reviewed publication on the thesis research)

2026 **Vanshika Garg** (with Bingyi Han)**:** Title TBD
2026 **Shiza Aman** (with Meiyi Chen)**:** Title TBD
2026 **Niloofar Nazari** (with Bingyi Han)**:** Title TBD
2026 **Inaaya Khan:** Title TBD
2026 **Chaeeun Lee** (with Bingyi Han)**:** *How informal L2 learners navigate between AI-mediated practice and human interaction*
2026 **Samarth Joshi**: Design, development, and evaluation of an adaptive goal-setting system for math learning: Effects on learning outcomes, engagement, and students' learning experiences
2026 **Divya Gupta**: Trust calibration, Fairness perception, and error attribution in AI interview feedback systems across different levels of spoken English proficiency
2026 **Kanika Gupta** (with Man Su): The effects of LLM-based virtual agent design on learning in an interactive epidemic spread simulation.
2026 **Helene Nüttgens** (with Man Su): *Exploring personalized interventions in AlgeSPACE: Analyzing learner choice-making in school settings*
2026 *__Amit Nair__ (with Man Su): *Designing and developing interactive technologies for teaching complex systems and emergent science concepts* (published at ISLS2026 [C38] and Studies in Higher Education [J10])
2026 *__Nina Quach__ (with Adish Singla): *Exploring the impact of elementary-level programming curricula on students' problem-solving strategies* (published at ISSEP [C43])
2026 **Pascal Bauser** (with Man Su): *A systematic review of experimental studies on LLM-supported K-12 education.*
2026 **Lina Stein** (with Mirella Hladký): *Co-designing for emotion regulation of students in the classroom.*
2025 **Justin Gole** (with Man Su): *Adaptive prompting in an open simulation environment: the effects on motivation, cognitive load, and learning gains*
2025 *__Narek Shamamyan__ (with Man Su): *Co-designing a trustworthy peer-agent with middle-school students for learning math* (published at IDC2025 [C32])
2025 *__Mareike Silber__ (with Mirella Hladký): *The impact of brief mindfulness interventions on students' math anxiety and performance* (published at CHI EA2025 [C30])
2025 *__Lisa Siegrist__ (with Man Su): *Exploring students' and teachers' perspectives in AI-supported classrooms* (published at CSCW2026 [J9])
2024 *__Katharina Bonaventura__: *Algebra scaffolding with pedagogical agents and concrete examples* (published at IDC LDT2024 [C29], ISLS2025 [P3], ECTEL2025 [P4])
2024 **Michelle Mielke** (with Man Su): *Exploring the effects of gamified self-assessment*
2024 *__Helena Kilger__ (with Man Su): *Guiding children's choice making in an Intelligent Tutoring System* (published at IDC LDT2024 [C28])
2024 *__Shintaro Sato__ (with Melanie Platz): *Feedback strategies in intelligent tutoring software to enhance learning and positive attitudes: Effort vs performance-based feedback* (published at CogSci2024 [C27])
2023 *__Martina Vincoli__ (with Gianluca Schiavo): *Learning with AI systems: Towards design guidelines for intelligent tutors.* (published at ECTEL2026 [C41])

Saarland - Supervised Bachelor's Theses (as a primary supervisor) (*first/co-authored a publication on the thesis research)

2026 **Hendrik Akyol** (with Shintaro Sato): *Adaptive scaffolding with an LLM feedback tutor: Design and classroom evaluation of learning and interaction patterns in 7th-grade algebra.*

2026 **Kevin Gaffga** (with Man Su): *Design and evaluation of an AI-supported climate simulation to foster conceptual understanding and self-regulated learning*
2026 **Stefanny Molina Vega** (with Mirella Hladký): *Learning and emotion regulation in AlgeSPACE*
2026 *__Vera Rief__ (with Mirella Hladký): *The impact of an LLM-enhanced learning environment on students' math anxiety and performance* (published at ECTEL2026 [P8])
2026 **Felix Herz** (with Julia Chatain): *Developing and evaluating learning software with virtual concrete representations for supporting mathematics learning*
2025 *__Niklas Scholz__ (with Adish Singla): *Partnering with AI: The role of LLMs in providing pedagogically sound feedback in programming education* (published at ECTEL2025 [P6], thesis selected for the FdSI Bachelor Preis [**link**])
2024 *__Qingzhi Zhang__ (with Shintaro Sato): *How can we re-design the Feedback Tutor's user interface to increase student motivation in the learning process?* (published at ECTEL2025 [P5])

Saarland - Doctoral Dissertation Committee Member
2026 **Tung Phung** (Chair: Adish Singla): *Title TBD.*
2026 **Ahana Ghosh** (Chair: Adish Singla): *Quizzes in elementary-level visual programming: Synthesis, feedback, and Curriculum*

Saarland - Committee Member for Doctoral Students' Qualifying Exams
2026 **Sina Elahi Manesh** (Chair: Anna Feit): *Title TBD.*

Saarland - Secondary Reviewer for Master's and Bachelor's Theses
2026 **Alakshendra Singh** (Primary supervisor: Antonio Krüger): *Color histogram equalization and fine-tuning to improve expression recognition of (partially occluded) faces on sign language datasets*.
2026 **Mohamed Adbelmagied** (at University of Duisburg-Essen: Primary supervisor: Irene-Angelica Chounta): *LLM4OLM: Large Language Models for Negotiable Open Learner Modeling in Jupyterlab*.
2026 **Mohammed Saad** (Primary supervisor: Sven Apel): *Exploring software architecture using data-flow-based design rule spaces.*
2026 **Julius Gabelmann** (Primary supervisor: Verena Wolf): *Artificial learning assistance; A modular architecture for LLM-based educational chatbots.*
2026 **Elham Hamidia** (Primary supervisor: Paul Strohmeier): *Effect of vibrotactile feedback on agency and performance*.
2026 **Maryamsadat Ziaziabari** (Primary supervisor: Sarah Malone): *Adapting the Australian Framework for Generative AI in Schools into an inclusive micro-curriculum: A design-based research study with autistic learners*.
2026 **Simone Hüning** (Primary supervisor: Antonio Krüger): *Digital boundaries: Developing and evaluating the usability of a serious game on sexual consent for queer men online on sexual consent for queer men online.*
2026 **Veronica Ruberti** (Primary supervisor: Sarah Malone): *Exploring experiences with a living dashboard on AI in education*
2025 **Jan Such** (Primary supervisor: Antonio Krüger): *Application for guiding climbing novices in virtual reality*
2025 **Lukas Finkler** (Primary supervisor: Antonio Krüger): *JumpRopeQuest: A VR exertion experience for rope skipping*
2024 **Manuel Schott** (Primary supervisor: Anna Feit): *Accessible learning of touch-typing for blind and visually impaired people*
2024 **Robin Matura** (Primary supervisor: Antonio Krüger): *Benchmarking ASR systems beyond word error rate*.

CMU
2022 - 2023 *__Cindy Liu__ (Undergraduate student at CMU, currently master's student at Stanford)
2021 - 2022 *__Bin Zheng__ (Undergraduate student at CMU)
2022 **Hwayoung Jeong** (Undergraduate student at CMU)
2022 **Yuling Sun** (Undergraduate student at Wellesley College)
2022 **Dreami Chambers** (Undergraduate student at CMU, currently UX Researcher at VGM)
2021-2022 *__Elizabeth Ling__ (Undergraduate student at Harvard, currently Software Engineer at Figma)
2020-2022 **Xiaoying Meng** (Undergraduate student at CMU, currently master's student at CMU)
2020-2022 *__Stephanie Tseng__ (Undergraduate student at CMU, currently Senior UX Researcher at JPMC)
2019-2022 *__John Britti__ (Undergraduate student from Georgia Tech, currently master's student at GT)
2021 **Marcus Artigue** (Undergraduate student at Hope College)
2021 **Michelle Ma** (Undergraduate student at UCLA, currently Product Designer at CNN)
2019-2022 *__Xiran Wang__ (Undergraduate student at CMU, currently Design Engineer at Apple)
2020-2021 **Jeff Chen** (Undergraduate student at CMU)
2020-2021 **Sihan Wu** (Undergraduate student at CMU, currently UX Designer at Amazon)
2020-2021 *__Xinying Hou__ (Graduate student at CMU, currently PhD student at the UMich)
2020 **Ruitao Li** (Undergraduate student at CMU)
2020 **Jordan Love** (Undergraduate student at University of Kansas, currently at Samsung)
2020 *__Gautam Yadav__ (Graduate student at CMU, currently Learning Engineer at CMU HCII)

2020 **Junhui Yao** (Graduate student at CMU, currently Software Engineer at Huawei)
2020 **Alan Zhao** (Undergraduate student at Pomona College)
2019 **Evan Fang** (Undergraduate student at CMU)
2019 **Emilie Guermeur** (Undergraduate student at CMU)
2019 **Trula Rael** (Undergraduate student at Harvard, currently at World Food Programme)
2019 ***Kexin Yang** (Graduate student at CMU, currently PhD student at CMU HCII)

Other Mentoring

2020, 2021 **LearnLab Summer School**, Carnegie Mellon University, Pittsburgh, PA
Mentor, Intelligent Tutoring System track
- Mentored two participant groups (five students in total) on their design and implementation of an intelligent tutoring system

PRACTITIONER RESOURCES

2024 **AlgeSPACE (Algebra Scaffolding with Pedagogical Agents and Concrete Examples)**
Free intelligent learning exercises that use pedagogical agents and concrete representations to support conceptual learning in solving systems of equations
https://algespace.sic.saarland/
*media coverage: here and here

2020 **Tape Diagram Template for Equations**
Tape diagram representation template made in Google slides, provided under CC-BY-NC
https://tinyurl.com/tapetemplate

2020 **Tape Diagram Generation Tool**
Automatic tape diagram generation tool available on MathTutor
https://preview.ctat.cs.cmu.edu/home

SERVICE

Editorial Board Roles

2025 - Journal of the Learning Sciences
2021 - CIRCLS/ISLS Rapid Community Reports

Advisory Roles

2026 - Member of the Expertennetzwerk "KI in der saarländischen Bildung" (Expert Network: "AI in Saarland Education"), organized by the Saarland Ministry of Education and Culture
2025 - 2028 Advisory board for the grant project, *ELLA (Empowering Lifelong Learning with AI-Driven Self-Regulation Tools for Schools)*, funded by EU Erasmus+ (Coordinator Organization: University of Oulu)
2024 - 2026 Advisory board for a grant project, *Playful Learning of Math Equivalence: Design, Testing, and Analysis of a Game with Children and Caregivers*, funded by the Hong Kong University Grants Committee (PI: Jenny Yun-Chen Chan)

Conference Committee Roles

2026 Social Media and Communications Co-Chair, Annual Meeting of the International Society of the Learning Sciences (ISLS)
2023 Workshop Co-Chair, European Conference on Technology Enhanced Learning (EC-TEL)

Conference Program Committee/Senior Reviewer

2026 Associate Chair, ACM Conference on Human Factors in Computing Systems (CHI)
2024 - Senior Reviewer, Annual Meeting of the International Society of the Learning Sciences (ISLS)
2024 - Senior Program Committee, International Conference on Artificial Intelligence in Education (AIED)
2023 Program Committee, International Conference on Computer Supported Education (CSEDU)

Reviewer for Conferences, Journals, and Grants

Conferences

2026 -	ACM Designing Interactive Systems Conference (DIS)
2022 -	International Conference on Artificial Intelligence in Education (AIED)
2021 - 2023	ACM Interaction Design and Children Conference (IDC)
2020 -	Annual Meeting of the International Society of the Learning Sciences (ISLS)
2018 -	ACM Conference on Human Factors in Computing Systems (CHI) (**Outstanding Reviewer Recognition, 2025, 2026)**
2018 - 2024, 2026	European Conference on Technology Enhanced Learning (EC-TEL)
2017 - 2019, 2024-26	International Learning Analytics and Knowledge Conference (LAK)
2019 - 2021	Open Education Conference (OpenEd)
2019 - 2020	Mathematical Cognition and Learning Society Conference (MCLS)
2017 - 2020	International Conference of the Learning Sciences (ICLS)

Journals (ad-hoc)

2026 -	Cognitive Development
2026 -	Computers & Education
2026 -	Learning and Individual Differences
2026 -	International Journal of Human-Computer Interaction
2024 -	Journal of Computing in Higher Education
2022 -	ACM Transactions on Computer-Human Interaction (TOCHI)
2021	Journal of Interactive Media in Education (JIME)
2016 -	International Review of Research in Open and Distributed Learning (IRRODL)

Grants

2026 -	Spencer Foundation Grants
2026 -	Humboldt Research Fellowships

University Service

2026 -	Examination Board Member (Prüfungsausschüsse), Digital Sciences for Transformation (Scheer School), Saarland University
2026 - 2028	Examination Board Member (Prüfungsausschüsse), BSc in Cybersecurity, Department of Computer Science, Saarland University
2025 - 2027	Examination Board Member (Prüfungsausschüsse) (Deputy), MSc in Entrepreneurial Cybersecurity, Department of Computer Science, Saarland University
2025 -	The Ethics Committee, Faculty of Mathematics and Computer Science, Saarland University
2025 -	Consultations with students, tasked by the Examination Board of the BSc/MSc, Department of Computer Science, Saarland University (meeting with a handful of students every semester to offer support and guidance)
2025 - 2026	Committee member, Tenure-Track Professor Search Committee, Department of Computer Science, Saarland University

Other Service

2022 -	**Berkman Klein Center for Internet and Society, Harvard University** *Organizer, Future+Learning Working Group*
2021 -	**Creative Commons Copyright Platform** *Member, Artificial Intelligence, Copyright, & Open Sharing Working Group*
2021 -	**Creative Commons Copyright Platform** *Member, Beyond Copyright: The Ethics of Open Sharing Working Group*
2012 -	**Creative Commons Japan**, Tokyo, Japan *Member*

2017 - 2022	**Global OER Graduate Network,** The Open University, Milton Keynes, UK *Ph.D. Student Member*
2014 - 2022	**OER World Map**, Köln, GERMANY *Country Champion of Japan*
2018 - 2021	**Japan Society for Educational Technology**, Tokyo, Japan *Organizing Committee, Game Learning and Open Education Special Interest Group*
2016 - 2017	**The Rotary Club of Los Altos,** Los Altos, CA *Honorary Member*
2013	**International Christian University**, Tokyo, Japan *Organizer, Senior Thesis Poster Session Program*

MEMBERSHIP

Association for Computing Machinery (ACM)
Cognitive Science Society (CogSci)
European Association for Research on Learning and Instruction (EARLI)
International Society of the Learning Sciences (ISLS)