William Thies

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Education

Massachusetts Institute of Technology 2002—Feb. 2009
Doctor of Philosophy, Computer Science and Engineering

Thesis: Language and Compiler Support for Stream Programs.
Recipient of the 2010 ACM SIGPLAN Outstanding Doctoral Dissertation Award
Advisor: Saman Amarasinghe.

Massachusetts Institute of Technology 1997—2002
Masters of Engineering, Computer Science and Engineering
Bachelors of Science, Computer Science and Engineering
Bachelors of Science, Mathematics

Undergraduate concentration in economics; graduate concentration in biology. GPA: 5.0/5.0.

New England Biolabs Aug. 2004
Intensive two-week course on experimental molecular biology, with focus on laboratory experience.

Recognition

MacArthur Fellowship	2016
ACM SIGPLAN Outstanding Doctoral Dissertation Award (international co-winner)	2009
Eta Kappa Nu Outstanding EECS Student Award (national co-winner)	2001
Siebel Scholar ($25,000 scholarship to "top 5" computer science students at MIT)	2000
Eta Kappa Nu, Tau Beta Pi, Sigma Xi, and Phi Beta Kappa honor societies	2000, 2001
Finalist, Westinghouse Science Talent Search	1997
Eagle Scout	1994

Paper Recognition

CSCW Impact Award	2022
CHI Best Paper Award	2015
CHI Best Paper Honorable Mention	2011, 2021

Employment

Everwell Health Solutions
Bangalore, India Jun. 2022—present

Co-Founder, Technical Advisor and Chair. Everwell's health platforms have supported over 200M people in India and other countries. Co-founded Everwell in 2015 and joined full time in 2022.

Microsoft Research
Bangalore, India Dec. 2008—Nov. 2017
Cambridge, MA Nov. 2017—Jun. 2022

Senior Principal Research Manager (and other roles). Led several diverse research projects and their transition to scale. Mentored dozens of student interns and predoctoral Research Fellows.

MIT Computer Science and Artificial Intelligence Laboratory, Compilers Group
Cambridge, MA Jan. 2000—Dec. 2008

Research assistant. Led the design and implementation of StreamIt, a domain-specific language and compiler. Also developed programmable microfluidic chips for automating biology protocols.

Compaq Computer Corporation, Cambridge Research Lab
Cambridge, MA Jun. 1999—Aug. 2000

Research intern. Implemented Array SSA Form, a new compiler representation, in Compaq's *Swift* optimizing Java compiler. Developed a multi-threaded model of computation based on Array SSA.

MIT Media Laboratory, Epistemology and Learning Group
Cambridge, MA Sep. 1997—Sep. 1999

Software engineer. Developed a Java version of StarLogo, a massively parallel programming language and modeling environment. Applied StarLogo to research pattern formation in the Drosophila retina.

Jentek Sensors
Watertown, MA May 1998—Aug. 1998

Software engineer. Developed electromagnetic sensing software for use by Army, Navy, and Fortune 500 companies. Specialized in graphical user interface, data visualization, and instrument control.

Pennsylvania State University, Entomology Department
State College, PA Feb. 1996—Aug. 1997

Computer programmer. Designed and implemented fourteen artificial life models for inclusion in Camazine et al., *Self-Organization in Biological Systems*, Princeton University Press, 2001.

Organizational Leadership

Everwell Health Solutions
Bangalore, India 2015—present

Co-Founder and Chair. Played a key role in setting up Everwell, including raising first $1M of grant funding, establishing scaled deployment trajectory, and building the initial team.

CGNet Swara
Raipur, India 2010—present

Co-Founder. Led technology and research for the CGNet Swara project, which grew into the CGNet Swara Foundation. Providing ongoing assistance with fundraising, strategy, and operations.

Innovators In Health
Bihar, India 2009—present

Co-Founder and Board Member. Advisory role in setting up a non-profit organization to extend TB treatment to poor communities in rural India. Ongoing involvement in opportunistic fundraising.

CLT India
Bangalore, India 2013—2025

Board Member. Strategic advisor on deploying electronic teaching aids in K12 classrooms across India, spanning recruiting, fundraising, program evaluation, research engagements, and other topics.

Highlighted Publications

1. Amy Z. Chen, Ravinder Kumar, R. K. Baria, Pramod Kumar Shridhar, Ramnath Subbaraman, and William Thies, Impact of the 99DOTS Digital Adherence Technology on Tuberculosis Treatment Outcomes in North India: A Pre-Post Study, *BMC Infectious Diseases* 23(2023), no. 1.

2. Saiganesh Swaminathan, Indrani Medhi-Thies, Devansh Mehta, Edward Cutrell, Amit Sharma, and William Thies, Learn2Earn: Using Mobile Airtime Incentives to Bolster Public Awareness Campaigns, In *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2019.

3. Manu Chopra, Indrani Medhi Thies, Joyojeet Pal, Colin Scott, William Thies, and Vivek Seshadri, Exploring Crowdsourced Work in Low-Resource Settings, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2019.

4. Andrew Cross, Nakull Gupta, Brandon Liu, Vineet Nair, Abhishek Kumar, Reena Kuttan, Priyanka Ivatury, Amy Chen, Kshama Lakshman, Rashmi Rodrigues, George D'Souza, Deepti Chittamuru, Raghuram Rao, Kiran Rade, Bhavin Vadera, Daksha Shah, Vinod Choudhary, Vineet Chadha, Amar Shah, Sameer Kumta, Puneet Dewan, Bruce Thomas, and William Thies, 99DOTS: A Low-Cost Approach to Monitoring and Improving Medication Adherence, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2019.

5. Edward Cutrell, Jacki O'Neill, Srinath Bala, B. Nitish, Andrew Cross, Nakull Gupta, Viraj Kumar and William Thies, Blended learning in Indian colleges with Massively Empowered Classroom, In *ACM Conference on Learning at Scale (L@S)*, 2015.

6. Henry Corrigan-Gibbs, Nakull Gupta, Curtis Northcutt, Edward Cutrell and William Thies, Deterring Cheating in Online Environments, *ACM Transactions on Computer-Human Interaction (TOCHI)* 22 (2015), no. 6.

7. Meghana Marathe, Jacki O'Neill, Paromita Pain and William Thies, Revisiting CGNet Swara and its Impact in Rural India, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2015.

8. Aditya Vashistha, Edward Cutrell, Gaetano Borriello and William Thies, Sangeet Swara: A Community-Moderated Voice Forum in Rural India, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2015.

9. Andrew Cross, Edward Cutrell and William Thies, Low-Cost Audience Polling Using Computer Vision, In *ACM Symposium on User Interface Software and Technology (UIST)*, 2012.

10. Nicola Dell, Vidya Vaidyanathan, Indrani Medhi, Edward Cutrell and William Thies, "Yours is Better!" Participant Response Bias in HCI, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2012.

11. Gaurav Paruthi and William Thies, Utilizing DVD Players as Low-Cost Offline Internet Browsers, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2011.

Refereed Journal Publications

12. Joshua S. Steinberg, William Thies, and John R. Weisz, Focal, intervention-specific, and titrated: Which artificial intelligence tools are FIT for mental health care?, *Journal of Consulting and Clinical Psychology*, 94(8), 2026.

13. Nimisha Karnatak, Brooke Loughrin, Tiffany Kuo, Odeline Mateu-Silvernail, Indrani Medhi-Thies, William Thies, and Mohit Jain, *"Is it Even Giving the Correct Reading or Not?"*: How Trust and Relationships Mediate Blood Pressure Management in India, *ACM Transactions on Computer-Human Interaction (TOCHI)* 30(2023), no. 6.

14. Ramnath Subbaraman, Beena E Thomas, J Vignesh Kumar, Maya Lubeck-Schricker, Amit Khandewale, William Thies, Misha Eliasziw, Kenneth H Mayer, and Jessica E Haberer, Measuring Tuberculosis Medication Adherence: A Comparison of Multiple Approaches in Relation to Urine Isoniazid Metabolite Testing Within a Cohort Study in India, *Open Forum Infectious Diseases* 8(2021), no. 11., 2021.

15. Preeti Mudliar, Jonathan Donner and William Thies, Emergent Practices Around CGNet Swara: A Voice Forum for Citizen Journalism in Rural India, *Information Technologies and International Development (ITID)* 9 (2013), no. 2.

16. Indrani Medhi, Somani Patnaik, Emma Brunskill, S. N. Nagasena Gautama, William Thies and Kentaro Toyama, Designing Mobile Interfaces for Novice and Low-Literacy Users, *ACM Transactions on Computer-Human Interaction* 18 (2011), no. 1.

17. Vaishnavi Ananthanarayanan and William Thies, Biocoder: A programming language for standardizing and automating biology protocols, *Journal of Biological Engineering* 4 (2010), no. 13.

18. William Thies, Frédéric Vivien and Saman Amarasinghe, A Step Towards Unifying Schedule and Storage Optimization, *Transactions on Programming Languages and Systems* 29 (2007), no. 6.

19. William Thies, John Paul Urbanski, Todd Thorsen and Saman Amarasinghe, Abstraction Layers for Scalable Microfluidic Biocomputing, *Natural Computing* (2007).

20. Blaise Gassend, Charles W. O'Donnell, William Thies, Andrew Lee, Marten van Dijk and Srinivas Devadas, Learning Biophysically-Motivated Parameters for Alpha Helix Prediction, *BMC Bioinformatics* 8 (2007), no. S3.

21. John Paul Urbanski, William Thies, Christopher Rhodes, Saman Amarasinghe and Todd Thorsen, Digital Microfluidics Using Soft Lithography, *Lab on a Chip* 6 (2006), no. 1.

22. Saman Amarasinghe, Michael I. Gordon, Michal Karczmarek, Jasper Lin, David Maze, Rodric M. Rabbah and William Thies, Language and Compiler Design for Streaming Applications, *International Journal of Parallel Programming* (2005).

Refereed Conference Publications

23. Danielle Bragg, Abraham Glasser, Fyodor Minakov, Naomi Caselli, and William Thies, Exploring Collection of Sign Language Videos through Crowdsourcing, In *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2022.

24. Danielle Bragg, Naomi Caselli, John W. Gallagher, Miriam Goldberg, Courtney J. Oka, and William Thies, ASL Sea Battle: Gamifying Sign Language Data Collection, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2021.

25. Danielle Bragg, Oscar Koller, Naomi Caselli, and William Thies, Exploring Collection of Sign Language Datasets: Privacy, Participation, and Model Performance, In *ACM Conference on Computers and Accessibility (ASSETS)*, 2020.

26. Larwan Berke, William Thies, and Danielle Bragg, Chat in the Hat: A Portable Interpreter for Sign Language Users, In *ACM Conference on Computers and Accessibility (ASSETS)*, 2020.

27. Devansh Mehta, Ramaravind Kommiya Mothilal, Alok Sharma, William Thies, and Amit Sharma, Using Mobile Airtime Credits to Incentivize Learning, Sharing and Survey Response: Experiences from the Field, In *ACM Conference on Computing and Sustainable Societies (COMPASS)*, 2020.

28. Meghana Marathe, Jacki O'Neill, Paromita Pain and William Thies, ICT-Enabled Grievance Redressal in Central India: A Comparative Analysis, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2016.

29. Aditya Vashistha, Rajan Vaish, Edward Cutrell and William Thies, The Whodunit Challenge: Mobilizing the Crowd in India, In *International Conference on Human-Computer Interaction (INTERACT)*, 2015.

30. Aditya Vashistha, Edward Cutrell and William Thies, Increasing the Reach of Snowball Sampling: The Impact of Fixed versus Lottery Incentives, In *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2015.

31. Aditya Vashistha, Erin Brady, William Thies and Edward Cutrell, Educational Content Creation and Sharing by Low-Income Visually Impaired People in India, In *ACM Symposium on Computing for Development (DEV)*, 2014.

32. Andrew Cross, Mydhili Bayyapunedi, Dilip Ravindran, Edward Cutrell and William Thies, VidWiki: Enabling the Crowd to Improve the Legibility of Online Educational Videos, In *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)*, 2014.

33. Niranjan Pai, Pradnya Supe, Shailesh Kore, Y.S. Nandanwar, Aparna Hegde, Edward Cutrell and William Thies, Using Automated Voice Calls to Improve Adherence to Iron Supplements During Pregnancy: A Pilot Study, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2013.

34. Andrew Cross, Mydhili Bayyapunedi, Edward Cutrell, Anant Agarwal and William Thies, TypeRighting: Combining the Benefits of Handwriting and Typeface in Online Educational Videos, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2013.

35. Dipanjan Chakraborty, Indrani Medhi, Edward Cutrell and William Thies, Man versus Machine: Evaluating IVR versus a Live Operator for Phone Surveys in India, In *ACM Symposium on Computing for Development (DEV)*, 2013.

36. Rijurekha Sen, Andrew Cross, Aditya Vashistha, Venkat Padmanabhan, Edward Cutrell and William Thies, Accurate Speed and Density Measurement for Road Traffic in India, In *ACM Symposium on Computing for Development (DEV)*, 2013.

37. Swati Ittan, Gaurav Paruthi and William Thies, Mapping Large Educational Websites to Interactive DVDs, In *IEEE International Conference on Technology for Education (T4E)*, 2012.

38. Nupur Bhatnagar, Abhishek Sinha, Navkar Samdaria, Aakar Gupta, Shelly Batra, Manish Bhardwaj and William Thies, Biometric Monitoring as a Persuasive Technology: Ensuring Patients Visit Health Centers in India's Slums, In *International Conference on Persuasive Technology (PERSUASIVE)*, 2012.

39. Aakar Gupta, William Thies, Edward Cutrell and Ravin Balakrishnan, mClerk: Enabling Mobile Crowdsourcing in Developing Regions, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2012.

40. Preeti Mudliar, Jonathan Donner and William Thies, Emergent Practices Around CGNet Swara, A Voice Forum for Citizen Journalism in Rural India, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2011.

41. Abhishek Udupa, Kaushik Rajan and William Thies, Alter: Leveraging Breakable Dependences for Parallelization, In *Conference on Programming Language Design and Implementation (PLDI)*, 2011.

42. Jay Chen, David Hutchful, William Thies and Lakshminarayanan Subramanian, Analyzing and Accelerating Web Access in a School in Peri-Urban India, In *International World Wide Web Conference (WWW)*, 2010.

43. Shashank Khanna, Aishwarya Ratan, James Davis and William Thies, Evaluating and Improving the Usability of Mechanical Turk for Low-Income Workers in India, In *ACM Symposium on Computing for Development (DEV)*, 2010.

44. Kiran Gaikwad, Gaurav Paruthi and William Thies, Interactive DVDs as a Platform for Education, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2010.

45. William Thies and Saman Amarasinghe, An Empirical Characterization of Stream Programs and its Implications for Language and Compiler Design, In *International Conference on Parallel Architectures and Compilation Techniques (PACT)*, 2010.

46. Nada Amin, William Thies and Saman Amarasinghe, Computer-Aided Design for Microfluidic Chips Based on Multilayer Soft Lithography, In *International Conference on Computer Design – Invited Paper (ICCD)*, 2009.

47. William Thies, Steven Hall and Saman Amarasinghe, Manipulating Lossless Video in the Compressed Domain, In *ACM Multimedia*, 2009.

48. Somani Patnaik, Emma Brunskill and William Thies, Evaluating the Accuracy of Data Collection on Mobile Phones: A Study of Forms, SMS, and Voice, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2009.

49. William Thies, Vikram Chandrasekhar and Saman Amarasinghe, A Practical Approach to Exploiting Coarse-Grained Pipeline Parallelism in C Programs, In *International Symposium on Microarchitecture (MICRO)*, 2007.

50. Michael I. Gordon, William Thies and Saman Amarasinghe, Exploiting Coarse-Grained Task, Data, Pipeline Parallelism in Stream Programs, In *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2006.

51. William Thies, John Paul Urbanski, Todd Thorsen and Saman Amarasinghe, Abstraction Layers for Scalable Microfluidic Biocomputers, In *International Meeting on DNA Computing (DNA)*, 2006.

52. Sitij Agrawal, William Thies and Saman Amarasinghe, Optimizing Stream Programs Using Linear State Space Analysis, In *International Conference on Compilers, Architecture, Synthesis for Embedded Systems (CASES)*, 2005.

53. William Thies, Michal Karczmarek, Janis Sermulins, Rodric Rabbah and Saman Amarasinghe, Teleport Messaging for Distributed Stream Programs, In *Symposium on Principles and Practice of Parallel Programming (PPoPP)*, 2005.

54. Janis Sermulins, William Thies, Rodric Rabbah and Saman Amarasinghe, Cache Aware Optimization of Stream Programs, In *Conference on Languages, Compilers, Tools for Embedded Systems (LCTES)*, 2005.

55. Amy Williams, William Thies and Michael D. Ernst, Static Deadlock Detection for Java Libraries, In *European Conference on Object-Oriented Programming (ECOOP)*, 2005.

56. Andrew A. Lamb, William Thies and Saman Amarasinghe, Linear Analysis and Optimization of Stream Programs, In *Conference on Programming Language Design and Implementation (PLDI)*, 2003.

57. Michal Karczmarek, William Thies and Saman Amarasinghe, Phased Scheduling of Stream Programs, In *Conference on Languages, Compilers, Tools for Embedded Systems (LCTES)*, 2003.

58. Michael I. Gordon, William Thies, Michal Karczmarek, Jasper Lin, Ali S. Meli, Andrew A. Lamb, Chris Leger, Jeremy Wong, Henry Hoffmann, David Maze and Saman Amarasinghe, A Stream Compiler for Communication-Exposed Architectures, In *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, 2002.

59. William Thies, Michal Karczmarek and Saman Amarasinghe, StreamIt: A Language for Streaming Applications, In *International Conference on Compiler Construction (CC)*, 2002.

60. Libby Levison, William Thies and Saman Amarasinghe, Providing Web Search Capability for Low-Connectivity Communities, In *International Symposium on Technology and Society (ISTAS)*, 2002.

61. William Thies, Janelle Prevost, Tazeen Mahtab, Genevieve T. Cuevas, Saad Shakhshir, Alexandro Artola, Binh D. Vo, Yuliya Litvak, Sheldon Chan, Sid Henderson, Mark Halsey, Libby Levison and Saman Amarasinghe, Searching the World Wide Web in Low-Connectivity Communities, In *International World Wide Web Conference (WWW)*, 2002.

62. William Thies, Frédéric Vivien, Jeffrey Sheldon and Saman Amarasinghe, A Unified Framework for Schedule and Storage Optimization, In *Conference on Programming Language Design and Implementation (PLDI)*, 2001.

Refereed Workshop Publications

63. Sudheesh Singanamalla, William Thies, and Colin Scott, Avatar: Enabling Immersive Collaboration via Live Mobile Video, In *International Workshop on Multimedia Alternate Realities (AltMM)*, 2018.

64. Erin Brady, William Thies and Edward Cutrell, No access, no knowledge, or no interest? Examining use and non-use of assistive technologies, In *Workshop on Technology Non-use (CHI Workshop)*, 2014.

65. Aditya Vashistha and William Thies, IVR Junction: Building Scalable and Distributed Voice Forums in the Developing World, In *6th USENIX/ACM Workshop on Networked Systems for Developing Regions (NSDR)*, 2012.

66. Arunesh Mathur, Harshal Choudhary, Priyank Vashist, William Thies and Santhi Thilagam, An Empirical Study of License Violations in Open Source Projects, In *IEEE Software Engineering Workshop (SEW)*, 2012.

67. Prasanta Bhattacharya and William Thies, Computer Viruses in Urban Indian Telecenters: Characterizing an Unsolved Problem, In *ACM Workshop on Networked Systems for Developing Regions (NSDR)*, 2011.

68. William Thies, Aishwarya Ratan and James Davis, Paid Crowdsourcing as a Vehicle for Global Development, In *Workshop on Crowdsourcing and Human Computation (CHI Workshop)*, 2011.

69. Michael Paik, Navkar Samdaria, Aakar Gupta, Julie Weber, Nupur Bhatnagar, Shelly Batra, Manish Bhardwaj and William Thies, A Biometric Attendance Terminal and its Application to Health Programs in India, In *Workshop on Networked Systems for Developing Regions (NSDR)*, 2010.

70. Pratik Kotkar, William Thies and Saman Amarasinghe, An Audio Wiki for Publishing User-Generated Content in the Developing World, In *HCI for Community and International Development (CHI Workshop)*, 2008.

71. Blaise Gassend, Charles W. O'Donnell, William Thies, Andrew Lee, Marten van Dijk and Srinivas Devadas, Predicting Secondary Structure of All-Helical Proteins Using Hidden Markov Support Vector Machines, In *Workshop on Pattern Recognition in Bioinformatics (PRIB)*, 2006.

72. Jiawen Chen, Michael I. Gordon, William Thies, Matthias Zwicker, Kari Pulli, and Frédo Durand, A Reconfigurable Architecture for Load-Balanced Rendering, In *SIGGRAPH / Eurographics Workshop on Graphics Hardware*, 2005.

73. Libby Levison, Bill Thies and Saman Amarasinghe, The TEK Search Engine, In *Workshop on Development by Design (DYD)*, 2001.

Refereed Poster Abstracts and Short Publications

74. Ramnath Subbaraman, Katherine Fielding, William Thies, and Kevin Schwartzman, Randomized trial findings suggest an uncertain trail ahead for TB digital adherence technologies, In *International Journal of Tuberculosis and Lung Disease (Comment)*, 26(4), 2022.

75. Devansh Mehta, Alok Sharma, Ramaravind Kommiya Mothilal, Chiraag, Anurag Shukla, Vishnu Prasad, William Thies, Venkanna U, Colin Scott, and Amit Sharma, Facilitating Media Distribution with Monetary Incentives, In *ACM Conference on Human Factors in Computing Systems, Late-Breaking Work (CHI LBW)*, 2020.

76. Ramaravind Kommiya Mothilal, Devansh Mehta, Alok Sharma, William Thies, and Amit Sharma, Learnings from an Ongoing Deployment of an IVR-based Platform for Voter Awareness, In *Poster Session, ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW Poster)*, 2019.

77. Henry Corrigan-Gibbs, Nakull Gupta, Curtis Northcutt, Edward Cutrell and William Thies, Measuring and Maximizing the Effectiveness of Honor Codes in Online Courses, In *Work In Progress Session, ACM Conference on Learning at Scale (L@S WiP)*, 2015.

78. Nakull Gupta, Jacki O'Neill, Andrew Cross, Edward Cutrell and William Thies, Source Effects in Online Education, In *Work In Progress Session, ACM Conference on Learning at Scale (L@S WiP)*, 2015.

79. Andrew Cross, Rashmi Rodrigues, George D'Souza and William Thies, 99DOTS: Using Mobile Phones to Monitor Adherence to Tuberculosis Medications, In *Global mHealth Forum*, 2014.

80. Linda Nixon, Jona Roy, Hema Latha, Sachin Rao, Bhagya Rangachar and William Thies, Measuring the Learning Benefits of Electronic Teaching Aids in Low-Resource Classrooms, In *Poster Session, ACM Symposium on Computing for Development (DEV Poster)*, 2014.

81. Krittika D'Silva, Meghana Marathe, Aditya Vashistha, Gaetano Borriello and William Thies, A Mobile Application for Interactive Voice Forums: Design and Pilot Deployment in Rural India, In *Poster Session, ACM Symposium on Computing for Development (DEV Poster)*, 2014.

82. Andrew Cross, B. Ashok, Srinath Bala, Edward Cutrell, Naren Datha, Rahul Kumar, Viraj Kumar, Madhusudan Parthasarathy, Siddharth Prakash, Sriram Rajamani, Satish Sangameswaran, Deepika Sharma and William Thies, Online Learning versus Blended Learning: An Exploratory Study, In *Poster Session, ACM Conference on Learning at Scale (L@S Poster)*, 2014.

83. Aditya Vashistha and William Thies., How Should Users Convey Their Location to an Interactive Voice Response System?, In *Poster Session, ACM Symposium on Computing for Development (DEV Poster)*, 2013.

84. Pranav Ramkrishnan, Aditya Vashistha, Edward Cutrell and William Thies, DocTalk: Extending Doctors' Visits with Personalized Voice Messages, In *Poster session, ACM Symposium on Computing for Development (DEV Poster)*, 2013.

85. William Thies, Why it is Hard to Identify Technical Research Problems in ICT4D and How to Make it Easier, In *CCC Workshop on Computer Science and Global Development*, 2009.

86. Vaishnavi Ananthanarayanan and William Thies, Towards a High-Level Programming Language for Standardizing and Automating Biology Protocols, In *International Workshop on Bio-Design Automation (IWBDA)*, 2009.

87. Pratik Kotkar, William Thies and Saman Amarasinghe, An Audio Wiki for Building Local Repositories of Knowledge in the Developing World, In *Poster Session, Workshop on Wireless Systems: Advanced Research and Development (WISARD)*, 2008.

88. Blaise Gassend, Charles W. O'Donnell, William Thies, Andrew Lee, Marten van Dijk and Srinivas Devadas, Learning Biophysically-Motivated Parameters for Alpha Helix Prediction, In *Poster Session, International Conference on Research in Computational Molecular Biology (RECOMB Poster Session)*, 2006.

89. William Thies, John Paul Urbanski, Mats Cooper, David Wentzlaff, Todd Thorsen, and Saman Amarasinghe, Programmable Microfluidics, In *Wild and Crazy Ideas Session, International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS WACI)*, 2004.

90. William Thies, Michal Karczmarek, Michael Gordon, David Maze, Jeremy Wong, Henry Hoffmann, Matthew Brown and Saman Amarasinghe, A Common Machine Language for Grid-Based Architectures, In *ACM SIGARCH Computer Architecture News*, 2002.

91. William Thies, Chemical Weathering in Bondhusbreen Glacier Valley, Norway: Implications for Global Carbon Cycle Models. In *EOS Trans. American Geophysical Union, 78 (17)* Spring Meeting, 1997.

Other Publications

92. Ananditha Raghunath, William Thies, Mohit Jain, Designing Medical Chatbots where Accuracy and Acceptability are in Conflict: An Exploratory, Vignette-based Study in Urban India, arXiv preprint arXiv:2603.22115, 2026.

93. Patricia Moscibrodzki, Steven Parkinson, Raphael Ferry, Nnamdi Nwaneri, and William Thies, Mapping the Technology Landscape of National TB Programs, The Global Fund to Fight AIDS, Tuberculosis and Malaria; Geneva, Switzerland, 2021.

94. William Thies, Language and Compiler Support for Stream Programs, Ph.D. Thesis, Massachusetts Institute of Technology, February, 2009.

95. Peter Mattson, William Thies, Lance Hammond and Michael Vahey, Streaming Virtual Machine Specification, Version 1.0, Tech. report, 2004.

96. William Thies, A Unified Framework for Schedule and Storage Optimization, M.Eng. Thesis, Massachusetts Institute of Technology, June, 2002.

Selected Talks

1. Panelist, MISTI Social Impact Pre-Departure Training
   MIT International Science and Technology Initiatives (MISTI) May 2026

2. I Had No Idea: Adventures and Misadventures Beyond the Incubator
   Keynote, MIT IDEAS Social Innovation Challenge - Awards Ceremony Apr. 2026

3. Scaling Technology Innovations in Global Health: Lessons and Opportunities
   AIxHealth Virtual Seminar Series Mar. 2026
   Public Goods Community Day by Funding the Commons (Bangalore) Dec. 2024
   ACT Grants Portfolio Stepback (Bangalore) Apr. 2024
   MIT Hacking Medicine Bootcamp (Bangalore) Jan. 2024
   Keynote, Tricog Innovation Conference (Trinnovate 2023) May 2023
   ACM SIGCHI Symposium for HCI and Friends, IIT Bombay Dec. 2022

4. Panelist, Having Impact After MIT IDEAS
   MIT IDEAS Social Innovation Challenge - Alumni Dinner Jan. 2026

5. Impacting Tuberculosis Care in India
   MIT Alumni Leadership Conference Sep. 2025

6. Innovating with Underserved Communities: Successes, Failures, and Lessons Learned
   Computer Science Colloquium, Wellesley College Sep. 2025

7. Panelist, The Future of Trustworthy AI
   CRA Fellows Panel - Microsoft Research and the MacArthur Foundation Aug. 2025

8. From Zero to Billions? Insights from Scaling Innovations in the Public Sector
   ACM COMPASS 2024, New Delhi (Panel Organizer and Moderator) Jul. 2024

9. Compiling Adventures in the Tropics
   MIT CSAIL 20/60 Anniversary Celebration Jun. 2023

10. Panelist, Inspirational Personal Journeys of Top AI Researchers and Practitioners
    KDD Data Science in India Workshop Aug. 2022

11. Panelist, US-India Roundtable on Trustworthy AI for Social Good
    Indo-U.S. Science and Technology Forum (IUSSTF) Jul. 2021

12. Opening and Mini-Keynote
    MIT IDEAS Competition - Final Awards Ceremony Apr. 2019

13. Designing Technologies for Global Social Inclusion (joint with Indrani Medhi Thies)
    MIT Sidney Pacific Presidential Fellows Distinguished Lecture Oct. 2018
    IIT Guwahati (Invited Lecture) Mar. 2017

14. Frugal Innovations for a Developing World
    Dertouzos Distinguished Lecture, MIT CSAIL Feb. 2017

15. Compilers Without Borders:
    Repurposing Paper, Plastic, and Household Devices as Computational Substrates.
    POPL Off the Beaten Track, Mumbai, India Jan. 2015

16. Toward Scalable Voice Forums in Rural Communities
Cornell Tech Sep. 2014
United Nations Democracy Fund (Joint with Meghana Marathe) Sep. 2014

17. MOOCs in the Developing World: Lessons from India.
Learning At Scale (Joint talk with Ed Cutrell) Mar. 2014

18. Impacting Global Health and Human Development via Mobile Technologies
Carnegie Mellon HCII Seminar Series Feb. 2014
FHIES 2013 (Keynote), Macau Aug. 2013
CMU Rwanda (Distinguished Lecture) Apr. 2013
John's Hopkins University (mHealth Seminar Series) Mar. 2013

19. Mobile Systems Research in the Developing World (panel presentation)
HotMobile Feb. 2013

20. Social Media in India - From Text to Voice
Social Media Innovations for the Everyday Man, IIT Bombay Feb. 2012

21. Offline Wikipedia on Low-Cost Devices.
WikiConference India, Mumbai, India Nov. 2011

22. The Future of Social Media in India: From Text to Voice
"India's Digital Futures: A Blockbuster Funda" at Godrej, Mumbai, India Nov. 2011

23. Technologies for Healthcare Delivery
IIIT Bangalore Sep. 2011

24. Bringing Programmability to Experimental Biology
International Conference on Information Processing (Keynote), Bangalore, India Aug. 2011

25. Microfluidic Biochips: Design, Programming, and Optimization.
4th Workshop on Nanocomputing and Biochips, Kolkata, India Mar. 2011

26. Bridging the Connectivity Divide from an Applications Perspective:
Experiences, Challenges, Opportunities
COMSNETS 2011, Panel on "Bridging the Connectivity Divide", Bangalore, India Jan. 2011

27. Improving Access and Usability of Technologies in Developing Regions.
IIT Delhi Aug. 2010

28. Leveraging Familiar Technologies for Citizen Journalism, Education, and Healthcare in India.
Stanford University, Seminar on Liberation Technology Mar. 2010

29. Technologies for Healthcare Delivery
Birla Institute of Technology Feb. 2010
International Conference on VLSI Design Jan. 2010
GE Healthcare Symposium Nov. 2009

30. Designing Mobile Interfaces for Novice and Low-Literate Users
India International HCI Conference (USID) Sep. 2009

31. Monitoring and Improving Rural Tuberculosis Treatment
mHealth India Workshop, Bangalore, India Apr. 2009

32. Improving Rural Healthcare Delivery via Transparent Monitoring
Medical Informatics and Telemedicine Conference (MEDITEL), Chennai, India Dec. 2008

33. Extending the Capabilities of the Internet to the Rural Developing World
Carnegie Mellon University Apr. 2008
Microsoft Research India Jan. 2008
Princeton University Mar. 2007
Google New York Jul. 2005

34. Stream Programming: Luring Programmers into the Multicore Era
Stanford University Apr. 2008
University of Texas at Austin Apr. 2008
Carnegie Mellon University Apr. 2008
University of Washington Mar. 2008
Cornell University Mar. 2008
University of Toronto Mar. 2008
University of Illinois at Urbana-Champaign Mar. 2008
University of Wisconsin-Madison Mar. 2008
University of California at Berkeley Feb. 2008
Harvard University Feb. 2008

35. Programmable Microfluidics
Microsoft Research India Dec. 2007
University of California, Berkeley Oct. 2007
Stanford University Oct. 2007
Pennsylvania State University Apr. 2007

36. StreamIt: A Compiler Infrastructure for Stream Programs
IBM Programming Languages Day May 2004

37. Architectures, Languages, and Compilers for the Streaming Domain (Tutorial)
International Conf. on Parallel Architecture and Compilation Techniques Sep. 2003

38. The TEK System: Browsing the Web in Low-Connectivity Communities
HP Labs India Jan. 2002
Indian Institute of Technology, Madras Jan. 2002
University of Moratuwa Jan. 2002

Professional Activities

Advisory Activities

Mentor, MIT IDEAS Social Innovation Challenge	2026
Microsoft Ethics Review Program (external member)	2022—present
Microsoft Ethics Review Program (vice chair)	2018—2022
Everwell Health Solutions (Board Member)	2015—present
CLT India (Board Member)	2013—2025
CGNet Swara (Advisory Board)	2009—present
Innovators In Health (Board Member)	2008—present

Editorial Boards and Conference Governance

ACM Journal on Computing and Sustainable Societies (Area Editor)	2023—present
COMPASS (Steering Committee)	2016—2022
ITID (Associate Editor)	2014—2020

Conference Chairing

COMPASS (Co-organizer of a Research-to-Impact Collaborative on AI in Global Health)	2024
CHI (Sub-committee chair)	2014
CHI (Deputy sub-committee chair), DEV (General co-chair)	2013
DataDev (Co-organizer), DEV (PC co-chair), NetHealth (PC co-chair)	2012
IUI4DR (Organizing committee), NetHealth (Organizing committee), NSDR (PC co-chair)	2011
ICTD (Demo co-chair)	2010
CCC Workshop on Computer Science and Global Development (Organizing committee)	2009

Program Committees

COMPASS, ICTD, India HCI	2022
COMPASS, ML4D	2021
ICTD, ML4D	2020
COMPASS, ICTD, ML4D	2019
COMPASS, ML4D	2018
ICTD	2017
AfriCHI, DEV, ICTD, India HCI, IoT of Health	2016
ASSESS, CHI, DEV, ICTD, India HCI	2015
ASSESS, CHI, DEV-3, DEV-4, HTC, India HCI (Posters)	2014
APCHI, ASPLOS (ERC), CHI, DEV, ICTD, India HCI, IUI4DR	2013
CHI, ExtremeCom, HCIDE, ICACCI, ICTD, IT4D, India HCI, MobiCASE, NetHealth, NSDR	2012
ASPLOS (Ideas), CHI, ExtremeCom, NetHealth, NSDR, PLDI (ERC), WiTRUE, WWW	2011
CHI, DEV, ICTD, NSDR, PLDI (ERC), QMQ	2010
ICTD, NSDR	2009
STMCS	2008