

Curriculum Vitae and Publications of Ilan Chabay

January 2022

Home address: Bethesda MD USA

US citizen and resident

Primary work address: IASS, Berlinerstrasse 130, 14467 Potsdam Germany

Secondary work address: Arizona State University, Barrett & O'Connor Washington Center, 1800 I Street NW, Washington, DC 20006 USA

Email: ilan.chabay@iass-potsdam.de

OVERVIEW OF THREE CAREERS:

Ilan's three careers have been driven by his passionate pursuit of a series of questions that motivated him to move from natural science research to social entrepreneurship to social science research and to a transdisciplinary synthesis of all three pursuits. Over the past decade and a half, his focus has been on understanding and facilitating processes of societal change toward just and equitable sustainable futures. This includes understanding scientific, local, and cultural knowledge co-production for decision-making on common resources; characterizing the role of narrative expressions of vision and identity in guiding and motivating collective behavior change; the use of narrative expressions in modeling social dynamics; collaborative creativity and its role in innovation for societal needs; design of games (e.g., mixed reality and narrative-driven role-playing games) that engage diverse populations with playful, easily accessible experiences that stimulate curiosity relevant to the crucial and urgent challenges of global change and sustainability.

EDUCATION:

Ph.D. in Chemical Physics (1972), Thesis: "First Measurements of Circular Dichroism in the Infrared," George Holzwarth, thesis supervisor, University of Chicago, Chicago, IL

Special Program on Infrared Spectroscopy Techniques (1969), Massachusetts Institute of Technology (MIT), Cambridge, MA

B.A. in Chemistry with additional emphasis in American Intellectual History, Physics, and Mathematics. (1966), Clark University, Worcester, MA

CURRENT EMPLOYMENT:

Professor, Head of Strategic Research Initiatives and Programs and Senior Investigator, the Real Deal EU project (2022-2024) at the Institute for Advanced Sustainability Studies e.V. (IASS) Potsdam Germany since 2016 (<https://www.iass-potsdam.de/en/people/ilan-chabay>)

Adjunct Professor, School of Sustainability, Arizona State University USA, Barrett and O'Connor Center in Washington, DC; October 2017 - present

Co-Director, KLASICA 2.0: Knowledge, Learning, and Societal Change International Research Alliance and Platform; 2008 - present

KLASICA was initiated by Ilan Chabay in 2008 as the knowledge, learning, and societal change (KLSC) project with the mission of understanding and catalyzing positive collective behavior change to sustainable futures in different cultures and contexts around the world. KLASICA was formally launched in 2011 as a research alliance in the International Human Dimensions Programme on Environmental Change (IHDP) and became a project of the IASS in Potsdam, Germany in 2015. In the past decade, KLASICA has organized and conducted ten workshops and symposia with international academics, practitioners, and artists. From these workshops and symposia, we have harvested new conceptual and empirical knowledge that has been presented in 40 peer-reviewed journals and reports and more than 80 invited lectures and keynote addresses. One of the key learnings concerns the use of narrative as both a descriptive and prescriptive means of engaging the elusive human elements of sustainability transitions. Narratives offers an invaluable interface to the normative landscape embedded within a

particular context and culture and a powerful way to engage society meaningfully on sustainability in that landscape.

HONORS, AWARDS, AND PATENTS:

Elected Honorary Member of the Swiss Academy of Humanities and Social Sciences, May 2012, "in recognition of his manifold contributions to innovative forms of public understanding of science as well as teaching and learning."

Appointed Erna and Victor Hasselblad Professor of Public Learning and Understanding of Science 2006-2011 in the Sociology Department at the University of Gothenburg and in Applied Information Technology at Chalmers University, Gothenburg, Sweden.

American Association for the Advancement of Science (AAAS), 1999: Alan B. Leviton Award for "Outstanding achievement in the science education of children and youth." The award cited the creativity, artistry, playfulness, and scientific integrity of Ilan's work and his long-standing commitment to science education.

Three patents awarded for games and toys based on scientific phenomena.

National Research Council & National Bureau of Standards (now National Institutes of Standards and Technology) Postdoctoral Fellowship, Gaithersburg, MD, 1974 - 1975.

National Institutes of Health Postdoctoral Fellowship in Biophysical Chemistry, Chemistry Department, University of Illinois, Urbana, 1972 - 1974.

CURRENT AND RECENT PRIOR PROFESSIONAL ACTIVITIES:

Chair of the External Research Evaluation Committee of the Research Institute for Humanity and Nature (RIHN or Chikyū-ken), Kyoto Japan (member 2019-2021; chair 2021-2024)

Visiting Professor, Kyoto University, Japan in the Disaster Prevention Research Institute; January-May 2021

Member, Global Climate Forum (www.globalclimateforum.org) (2012 - present)

Scientific Steering Committee, Future Earth Integrated Risk Governance Project (2010 - present)

Member of Advisory Board, University of Kassel, Germany, Center for Environmental Systems Research (2016 - present)

Charter member, Future Earth Knowledge Action Network (KAN) on Systems of Sustainable Consumption and Production (2016-present)

Member of German Future Earth Committee (DKN FE) Working Groups on a) Societal Resilience and Climate Extremes and b) Integrative social-science concepts to analyze social innovations in energy policy (2012-2019)

Member of Advisory Board, ZIRIUS Center for Interdisciplinary Risk and Innovation Studies, University of Stuttgart, Germany (2012 - 2018)

International Expert for Helmholtz Association review panel on the research activities of the Alfred Wegener Institute (AWI) (Research Program "Marine, Coastal and Polar Systems" with the subtitle "Polar Regions and Coasts in a Changing Earth System") in the research field Earth and Environment. On-site review in Bremerhaven Germany March 2018

Scientific Advisory Board of "Affordable Energy for Humanity" program of the Waterloo Global Science Initiative and Karlsruhe Institute of Technology (2015 - 2017)

Chair, KREYON Scientific Advisory Board (kreyon.net) - an action research project on social dimensions of creativity and innovation funded by the Templeton and LEGO foundations. PI was Vittorio Loreto, Univ. of Rome (2015 - 2017)

PRIOR PROFESSIONAL EMPLOYMENT:

Scientific project co-leader of The Global Sustainability Strategy Forum (GSSF) at IASS (2018-2021) with Professors Ortwin Renn, scientific director of IASS, Sander van der Leeuw, Arizona State University, and Solene Droy, project manager at IASS

The GSSF project, funded primarily by the VW Foundation, seeks to address the urgent need to foster the production, collation, and evaluation of knowledge for concrete transformation processes and ensuring that these are robust, effective, and acceptable to those affected. GSSF brought together a panel of 14 external world-renowned academic experts to address the sustainability conundrum in terms of the characteristics of our scientific approach. Subsequent fora in January and March 2020 broadened the scope to include business, governments, and civil society leaders in dialogue with members of the sustainability science panel. A concluding summit was held in October 2020 with an emphasis on the responsibility of scientific institutions, which has been particularly significant in the context of the Covid-19 pandemic, to address issues of sustainability and also to synthesize the output of the project. In addition to IASS reports, a peer-reviewed paper that expresses the main thrust of the project's conclusions has been published in the Global Sustainability journal (see publication list)

Professor and Senior Fellow, Institute for Advanced Sustainability Studies, Potsdam, Germany as Senior Fellow (2012-2016) at the invitation of the founding director, Professor Dr. Klaus Töpfer

From 2012-2016, I founded and co-led a broadly inter-disciplinary research team on ecological, social, and economic transformations in the Arctic - focusing on the Eurasian Arctic of western Russia and Norway - enabled by climate change, accelerated by resource extraction and utilization, and interacting in feedback loops with the non-Arctic regions of the world (<http://www.iass-potsdam.de/en/content/sustainable-arctic-futures-regional-and-global-challenge>). The goals were to a) enable transformative pathways towards sustainable Arctic futures salient for and valued by stakeholders and rights-holders, b) facilitate informed and effective decision making by stakeholders at multiple governance levels and spatial scales by using co-designed scenarios to consider plausible and feasible options and their consequences, c) understand the interplay between regional and global systems within the Arctic and their impacts within and beyond the Arctic, and d) iteratively refine our understanding of transformation, transformative pathways, and trans-disciplinary research by learning from the project outcomes and processes. This became the IASS Global Change and Arctic Sustainable Transformations (GloCAST) project led by Dr. Nina Döring.

Professor, Helmholtz Alliance Energy Trans, Institute for Social Science, University of Stuttgart, Germany 2012-2014

Alcatel/Lucent Fellow in Communications Research, International Center for Technology and Culture (IZKT), University of Stuttgart, Germany 2014

Erna and Victor Hasselblad Professor of Public Learning and Understanding of Science for Sustainability (PLUS), University of Gothenburg and Chalmers University of Technology, Gothenburg, Sweden, March 2006 - November 2011

From March, 2006 through December 2008, I was awarded and held the inaugural Victor & Erna Hasselblad Foundation Professorship endowed jointly at Chalmers University of Technology and University of Gothenburg (Göteborg), Sweden and situated in the Sociology Department at University of Gothenburg. In January 2009, I moved to the Department of Applied Information Technology at Chalmers University.

With the generous and visionary support of the Hasselblad Foundation for my tenure in Gothenburg, I focused on increasing attention to and strengthening the connections

between sustainability and public learning, understanding, and use of science (PLUS) in the context of global to local challenges.

As Hasselblad Professor I founded and directed the Gothenburg Center for PLUS (gcPLUS) from July 2006 to December 2010. The mission of gcPLUS was understanding and facilitating engagement of the public in learning and using core ideas and ways of thinking needed to build a sustainable global society. The focus of gcPLUS was on supporting movement toward local and global sustainability by conducting research and public outreach activities related to: 1) communication and use of science for governance, 2) building capacity for socially relevant innovation by facilitating effective communication and learning processes among scientists, engineers, policy makers, and the many facets of the public, and 3) facilitating inclusion of a wide spectrum of people across cultures who have not been adequately represented and supported in adapting appropriate sustainable practices to their circumstances and livelihoods.

The New Curiosity Shop®, a California corporation design and development workshop, September, 1983 – March, 2006

Founder and President

2001 – 2006: *Consulting* on science communication and innovative learning programs, exhibitions, and games grounded in science and technology with an emphasis on engaging people seeing their world with the lenses of science and engineering, and expanding public dialogues on issues of science and society relevant in diverse communities.

1983 – 2000: *Design, development, and production* of interactive exhibitions and learning experiences for museums, science centers, government agencies, corporations, and schools worldwide, consulting on museum exhibition design, and conducting workshops on inquiry and experiential learning for teachers.

Founded the first company in the world to design and produce complete inexpensive hands-on science exhibits for museums and visitor centers. Over more than 20 years, our portfolio of nearly 200 novel devices contributed to improving the quality of science learning experiences available to many millions of children and adults all over the world.

Held full financial responsibility for the company including: developing and presenting business plans for venture funding, raising venture capital from individual investors, managing relationships with the company's Board of Directors, negotiating contracts and directing outside legal support, handling all personnel actions, initiating new products, inspiring and directing R & D and production teams.

Built the company's reputation for expertise in science education and as a source of highly popular elegant, innovative, scientifically sound learning experiences for over 230 institutions in 16 countries, including Disney's EPCOT Center, IBM Japan, Smithsonian Institution National Museum of American History, Franklin Institute Science Center, New England Aquarium, Mirador Science Center in Santiago, Chile, Singapore Science Center, US National Academy of Sciences, and the National Aeronautics and Space Administration (NASA).

With the support of "angel" venture capital, we developed and tested concept of "Guerilla Science" - using existing commercial infrastructure and marketing budgets of businesses, rather than public funds, to engage children and parents in exploring science under the guise of entertainment. Placed resources for science learning in educationally under-served neighborhoods and promoted engagement of parents and caregivers in learning experiences with children. Game-like entertainment products and toys based on scientific phenomena were purchased by the companies to attract and retain customers in business locations. Products were sold to companies, including Shop Rite grocery stores, Royal Caribbean Cruise Lines, Pizza Hut, and McDonald's. They were also effective in urban medical clinics where children often waited for long periods of time with little, if any worthwhile stimulation.

Conceived of and directed the establishment of a rural science education program, which served up to 105 small, isolated schools on the Western Slopes of Colorado with workshops

for teachers and parents and special hands-on exhibits for classroom use. Children become more excited by learning and teachers were inspired, gained confidence in teaching science through inquiry and experiential learning, and began to develop more resources on their own as a direct result of their experience with the project. Begun in 1986, the project influenced development of the current Aspen Science Center in Aspen, CO and an outgrowth of the project continues to operate in Carbondale, CO.

Conducted workshops focused on the process of science using inquiry-driven, active experiential learning for teachers and parents in elementary and secondary schools in the US, Russia, China and Japan

NASA Office of Space Science, Washington, DC / Jet Propulsion Lab, Pasadena, CA, 2003 – 2006

Member of Leadership and Planning Group for the Education Framework in the Office of Space Science, 2003 – 2006

Director of Design Team for NASA's Science Educational Framework, 2004 – 2005

Directed the design of an innovative web site that provides a coherent, context-rich guide for different user groups (educators, curriculum developers, and scientists communicating with the public) to find specific resources among the vast array of exciting NASA educational materials on earth and space science and understand the context and relevance of the materials. The design is a forerunner of a contextual data-mining system that both lay and expert users can use easily.

University of the West of England, Faculty of Applied Science, Bristol, UK 2004:

Visiting Professor

Member of a team teaching a two-year Master's degree (MSc.) program in science communication. Responsible for aspect of course called "science direct" on communicating science to a diverse public through a variety of media, including graphical materials, exhibitions, games, and events.

NASA Goddard Space Flight Center, Universities Space Research Association, Greenbelt, MD 2002

Science education consultant

Collaborated with the high energy astrophysics group to organize and conduct a week-long workshop for middle and high school teachers from the US, Canada, and Italy on the origins of elements in the universe. The workshop included guiding the development of classroom activities designed by the teachers and tested in their classrooms prior to NASA's publication of the activities in Spring, 2003. See <http://imagine.gsfc.nasa.gov/docs/teachers/Elements2002/>. for more information.

American Institutes for Research, Palo Alto, CA, 1991 -1992:

Consulting Scientist

Directed planning for a study of implicit and operational knowledge developed during use of sets of conceptually related hands-on activities by children at elementary grade levels.

College of Notre Dame, Belmont, CA, 1989:

Distinguished Visiting Professor

Held special one-semester endowed professorial chair under the auspices of The Sister Catherine Julie Cunningham Visiting Professorship. Taught an introductory physical science course and gave a series of public lectures on science and pre-college science education.

Stanford University, Stanford, CA, 1984 - 1988:

Consulting Professor of Chemistry

Developed and taught lecture and laboratory courses for undergraduates, including group theory, spectroscopy, physical chemistry, and instrumental analysis.

Universidad Nacional, Bogota, Colombia, March, 1983:

Visiting Professor

Presented lectures for physics faculty of Colombian universities at the invitation of the Asociacion Pro Centro Internacional de Fisica on "Modern Optical Spectroscopy" with an emphasis on richer content and better strategies for teaching at the college level.

The Exploratorium, a science museum, San Francisco, 1982 - 1983:

Associate Director

Represented the Exploratorium in meetings with federal, state, and local government agencies that resulted in increased visibility and funding for the Exploratorium and led to expanded collaborative programs and projects.

Supported Director Frank Oppenheimer's fundraising activities, including identifying donors, arranging fund-raising meetings, and making presentations to potential donors.

Held significant responsibility for aspects of long-term strategic planning, including building renovation and expansion.

Managed planning for special exhibitions and family programs and classes.

Guided development of selected exhibits by museum staff and artists-in-residence.

Organized and hosted "Speaking of Music" - a public arts performance-discussion series.

Institutes for Molecular Science, Okazaki, Japan. November 1980 - July 1981:

Invited by the Japanese Ministry of Education, Science, and Culture

Distinguished Visiting Professor

Set up laser spectroscopy laboratory for faculty and graduate students based on methods originally developed in my laboratory at NIST (see below). Presented lectures on my research at 18 major research institutions and universities throughout Japan.

National Institutes of Science and Technology (NIST) [formerly called the National Bureau of Standards] Gaithersburg, MD, 1975 - 1982:

Senior Research Scientist, Project Leader, and Principal Investigator:

Conducted research and directed research groups in developing new, more accurate and sensitive methods of molecular detection and measurement using laser spectroscopy and other techniques for biological and environmental measurements.

Invented first fundamentally accurate measurement technique for determination of airborne particle sizes using the Doppler shift of laser light scattered from falling particles.

Developed several important new methods for chemical analysis of particles, solutions, surfaces, and reactive mixing using spontaneous and coherent stimulated laser Raman spectroscopy.

Contributed to the elucidation of the mechanism of surface-enhanced Raman spectroscopy and its use for high sensitivity molecular analysis.

Began a program (despite lack of administrative approval or support at the time) that brought middle and high school students into my NIST laboratories and involved them in the process of doing fundamental chemistry and physics research on weekends and over the summer. Two exceptional students who worked with me over summers and weekends starting when they were still in middle school are now very successful professors of physics at major research universities in the US.

Organized and moderated a unique series of chamber music performance by professional musicians (e.g., the Juilliard String Quartet) plus audience participation in discussion about the performative interpretation of music and its parallel with interpretation of data in conducting scientific research. NIST, Gaithersburg, MD (1975 - 1980).

SELECTED PRIOR PROFESSIONAL ACTIVITIES

Member of the International Scientific Committee of the International Human Dimensions Programme for Global Environmental Change (IHDP), 2008 - 2014

Member of the Global Systems Dynamics and Policy coordination and support action project of the European Commission, 2010 - 2013

Chair of the IHDP Special Task Force on Governance and Communication, 2009 - 2010

Member of the Science & Technical Committee of the UN International Strategy for Disaster Reduction (UN-ISDR), 2008 - 2012

Member of forward look of the European Science Foundation (ESF) & European Cooperation in Science and Technology (COST) "Responses to Environmental and Societal Challenges for our Unstable Earth" (RESCUE), 2009-2011.

Member of European Panel on Sustainable Development (EPSD) - Early Childhood Education network, 2009 - 2010

CYSCC - the Children and Youth Science Centers of CAST (Chinese Association for Science and Technology) - produced and distributed licensed copies of science exhibits that were designed in Ilan's former company, the New Curiosity Shop®. The exhibits are used in a fleet of nearly 300 trucks. Ilan conducted workshops on inquiry- and experience-based learning for CYSCC staff on the trucks in China.

Appointed Othmer Visiting Professor in Science, Technology, and Society at the International Christian University, Mitaka, Japan, September 2009

Chair of scientific program committee for 2008 biannual international conference on Public Communication of Science and Technology, PCST-10 in Malmö, Sweden and Copenhagen, Denmark, June 2008.

Member of an international working group sponsored by the Norwegian Foreign Ministry, which prepared a report for the United Nations on the 20th anniversary of the 1987 Brundtland Commission's report, "Our Common Future." Report was presented at UN Conference on Sustainability, New York, May 8, 2007.

On advisory board for ForskarsFredag (European Union sponsored Researchers' Day activities with the public) organized by Vetenskap & Almänhet (Science and Public, a non-profit research organization), Stockholm 2007 - 2009.

National Endowment for Science Technology and Arts (NESTA) Futurelab, UK, October, 2002 participant and team leader in invitational workshop entitled "Enabling Science Education Through Interactive Simulations And Immersive Spaces."

World Bank Center for International Leadership seminar: "The Challenge of Leadership" February, 2002 and January, 2003: Invited participant in workshops for World Bank executives on ethical challenges of economic, educational, and political leadership.

PUBLICATIONS AND INVITED LECTURES:

Papers in international peer-reviewed journals, books, book chapters, reports, and blogs:

1. Towers, S., Kajitani, Y., Chabay, I., and Okada, N., (2022) "Narratives, energy policy, and disasters: comparing power grid failures in Hokkaido, Japan and Texas, USA." Submitted to Energy Research and Social Science
2. Helgeson, J., Glynn, P., Ingen-Housz, T., Chabay, I. (2022) "Sustainability narratives in digital media: insights from rapid many-to-many communications" submitted to Futures journal

3. Maggs, D., Chabay, I. (2022) "The Algebra of the Protagonist: Sustainability, Normativity, and Storytelling" *Innovation: The European Journal of Social Science Research*, in minor revision for resubmission
4. Chabay, I., Renn, O., van der Leeuw, S., & Droy, S. (2021). Transforming Scholarship to Co-create Sustainable Futures. *Global Sustainability* 1–11. <https://doi.org/10.1017/sus.2021.18>
5. Monechi, B., Ubaldi, E., Gravino, P., Chabay, I., & Loreto, V. (2021). Finding successful strategies in a complex urban sustainability game. *Nature Scientific Reports*, 11(1), 15765. <https://doi.org/10.1038/s41598-021-95199-w>
6. Chabay, I. (2021) "Designing Sustainable Futures: Interdisciplinary Science and Social Creativity" in *Water Resource Management in Central Asia and Afghanistan* Kulenbekov, Z., Asanov, B, eds. Springer Nature ISBN: 978-3-030-68336-8
7. Zhang, Y, Chabay, I (2020) "How 'Green Knowledge' Influences Sustainability through Behavior Change: Theory and Policy Implications." *Sustainability* 12(16), 6448; <https://doi.org/10.3390/su12166448>
8. TWI2050-The World In 2050 (2020) co-author (31 authors). "Innovations for Sustainability: Pathways to an efficient and sufficient post-pandemic future." Report prepared by The World in 2050 Initiative for the United Nations High-level Political Forum July 2020. International Institute for Applied System Analysis (IIASA), Laxenburg, Austria. Available at <http://pure.iiasa.ac.at/id/eprint/16533/> DOI: 10.22022/TNT/07-2020.16533
9. Renn, O, Chabay, I., van der Leeuw, S, Droy, S. (2020) "Beyond the Indicators: Improving Science, Scholarship, Policy and Practice to Meet the Complex Challenges of Sustainability" *Sustainability* (MDPI) online at <https://www.mdpi.com/2071-1050/12/2/578/pdf> DOI:10.3390/su12020578
10. Chabay, I., Droy, S., Patwardhan, A., Renn, O., & van der Leeuw, S. (2020). Global Sustainability Strategy Forum. *Science and Business: Working together for sustainability*, workshop summary, Potsdam, 22 - 24 March 2020. IASS publication <http://doi.org/10.2312/iass.2020.024>
11. Cockerill, K, Glynn, P, Chabay, I., Farooque, M, Hämäläinen, R P, Miyamoto, B, McKay P. (2019) "Records of engagement and decision making for environmental and socio-ecological challenges" *EURO J Decis Process* DOI 10.1007/s40070-019-00104-6 <http://link.springer.com/article/10.1007/s40070-019-00104-6>
12. Chabay, I., Koch, L., Martinez, G., Scholz, G. (2019) "Influence of Narratives of Vision and Identity on Collective Behavior Change" *Sustainability* (MDPI) online at <https://www.mdpi.com/2071-1050/11/20/5680/pdf>. DOI:10.3390/su11205680
13. Chabay, I. (2019) "Vision, Identity, and Collective Behavior Change on Pathways to Sustainable Futures" *Evolutionary and Institutional Economics Review* <https://doi.org/10.1007/s40844-019-00151-3>
14. Bai, X., Begashaw, B., Bursztyn, M., Chabay, I., Droy, S., Folke, C., Fukushi, K., Gupta, J., Hackmann, H., Hege, E.-b., Jaeger, C., Patwardhan, A., Renn, O., Safonov, G., Schlosser, P., Skaloud, P., Vogel, C., van der Leeuw, S., Zhang, Y. (2019): "Changing the scientific approach to fast transitions to a sustainable world. Improving knowledge production for sustainable policy and practice." - IASS Discussion Paper, Juli 2019. DOI: <http://doi.org/10.2312/iass.2019.018>
15. Chabay, I. (2019) "Linking Narratives to Dynamics of Social Movements Toward Sustainability" Invited short paper in proceedings of workshop on Narrative and Science, The Royal Society of London and The British Academy, May 2019
16. TWI2050-The World In 2050 (2019) co-author (31 authors). "The Digital Revolution and Sustainable Development: Opportunities and Challenges." Report prepared by The World in 2050 Initiative for the United Nations High-level Political Forum July 2019. International Institute for Applied System Analysis (IIASA), Laxenburg, Austria. Available at pure.iiasa.ac.at/15913/ DOI: 10.22022/TNT/05-2019.15913

17. Bogardi, J.J., Chabay, I., Kerekes, S. (2019) "Uncertainty and Complexity: Scientific challenges in understanding the unsustainable present and preparing for an unknown future" in *Risk, Responsibility, and Resilience - New Strategies in the Labyrinths of Uncertainty*, Jensen, J. editor, Institute of Advanced Studies (iASK), Hungary ISBN 978-615-5742-12-5
18. Chabay, I. (2019) "Narratives, Networks, and Knowledge: Finding Pathways to Sustainable Futures" in *Risk, Responsibility, and Resilience - New Strategies in the Labyrinths of Uncertainty*, Jensen, J. editor, Institute of Advanced Studies (iASK), Hungary ISBN 978-615-5742-12-5
19. Chabay, I. (2018) "Taking Time and Using Spaces: Adaptive risk governance processes in rural Japan" *International J. Disaster Risk Science*, online at <https://doi.org/10.1007/s13753-018-0191-8>
20. Okada, N., Chabay, I., Renn, O., (2018) "Participatory Risk Governance for Reducing Disaster and Societal Risks: Collaborative Knowledge Production and Implementation" Introduction to special section in *International J. Disaster Risk Science* online at <https://doi.org/10.1007/s13753-018-0201-x>
21. Sato, T., Chabay, I., Helgeson, J. eds. Transformations of Social-Ecological Systems: Studies in Co-creating Integrated Knowledge Toward Sustainable Futures. pp430. Springer, Singapore (2018) DOI: 10.1007/978-981-13-2327-0
22. Chabay, I. "Sources and Uses of Knowledge in Co-designing Sustainable Futures in the Arctic" in Sato, T., Chabay, I., Helgeson, J., eds. Transformations of Social-Ecological Systems: Co-creating integrated knowledge toward sustainable futures, Springer, Singapore (2018) DOI: 10.1007/978-981-13-2327-0
23. van der Leeuw, S.E., A.P. Aguiar, L. Berg, D. Buscaglia, S. Busch, I. Chabay, K. Ebi, A. Goujon, H. Haberl, D. Messner, A. Miola, K. Murray, R. Muttarak, N. Nakicenovic, A. Popp, J.- M. Puyana, V. Rauchenwald, P. Scheelbeek, J. Schmidt, S. Sellers, U. Svedin, A. Vafeidis, G. Verburg, 2018, "The Challenge Ahead: Non-linear Interactions in Current Societal Dynamics" Chapter 2 in: *Transformations to Achieve the Sustainable Development Goals – Report from "The World in 2050" Initiative* (E. Kriegler, D. Messner, N. Nakicenovic, K. Riahi, J. Rockström, Jeffrey Sachs, S.E. van der Leeuw, D. van Vuuren, coordinating authors), Laxenburg, Austria, International Institute for Applied Systems Analysis (IIASA), pp. 35-68, Report for the United Nations High-level Political Forum July 2018 prepared by The World in 2050 initiative. <http://pure.iiasa.ac.at/15347>
24. Chabay, I. "Land Degradation and Restoration" in Companion to Environmental Studies, Castree, N., Hulme, M., and Proctor, J., eds., Routledge, London, New York (2018) ISBN-13: 978-1138192201
25. Chabay, I. "Sources and Uses of Knowledge in Co-designing Sustainable Futures in the Arctic" translated to Japanese in Sato, T. and Kikuchi, N. eds. Transdisciplinary Local Environment Studies: Co-creating knowledge base for societal transformation toward sustainability. University of Tokyo Press, Tokyo, Japan pp 386-401 (2017) ISBN 978-4-13-060320-1
26. Chabay, I., Golumbic, Y.N., Lewenstein, B., Pellegrini, G. "How do communities engage with science and scientists engage with each other to address critical societal needs?" *Public Understanding Of Science* Sage Press blog posted at <https://sagepubs.blogspot.de/2017/10/how-do-communities-engage-with-science.html> (2017)
27. Chabay, I., Frick, M., Helgeson, J., eds. Land Restoration: reclaiming landscapes for a sustainable future, Elsevier Academic Press (2016) ISBN 978-0-12-801231-4
28. Schmale J, von Schneidmesser E, Chabay I, Maas A, Lawrence M. "Building Interfaces That Work: A Multi-stakeholder Approach to Air Pollution and Climate Change Mitigation." In: Drake, J.L., Kontar, Y.Y., Eichelberger, J.C., Rupp, T.S., Taylor, K.M. (eds). Communicating Climate-Change and Natural Hazard Risk and Cultivating Resilience, vol. 45. Springer International Publishing, pp 65-76 (2016)

29. Li, H., Chabay, I., Renn, O., Weber, A., Mbungu, G. "Exploring smart grids with simulations in a mobile science exhibition" *Energy, Sustainability and Society* (2015) 5:37 DOI: 10.1186/s13705-015-0066-4
30. Chabay, I. "Responding To Challenges Of Rapid Global Change By Strengthening Local Science, Math, Engineering, and Technology Education" in International Science and Technology Education: Exploring Culture, Economy and Social Perceptions, Renn, O., Karafyllis, N.C., Hohlt, A., Taube, D. eds., Berlin-Brandenburg Academy of Sciences, Rutledge Press (2015)
31. Chabay, I., "Narratives for a Sustainable Future: Vision and Motivation for Collective Action" in B. Werlen editor Global Sustainability, Cultural Perspectives and Challenges for Transdisciplinary Integrated Research, Springer International Publishing, Switzerland (2015)
32. Schmale, J., D. Shindell, E. von Schneidemesser, I. Chabay, M. G. Lawrence "Clean Our Skies: Coupled Human-Atmosphere-Systems: Improve air quality and mitigate climate-change simultaneously" Comment in *Nature* 515 335-337 (2014)
33. K. Keil, I. Chabay, T. Wiertz, "Engaging Stakeholders in Interdependent Arctic and Global Change: Developing the SMART Research Project" IASS Working Paper (2014)
34. C. Stöhr and I. Chabay, "From Shouting Matches to Productive Dialogue – Establishing Stakeholder Participation in Polish Fisheries Governance." *Int. J. Sustainable Development*, Vol. 17, No. 4, 403-419 (2014)
35. C. Stöhr, C. Lundholm, B. Crona, I. Chabay, "Stakeholder participation and sustainable fisheries: an integrative framework for assessing adaptive co-management processes" *Ecology & Society* 19(3):14 (2014)
36. J. Schmale, A. Maas, I. Chabay, M. G. Lawrence, "Co-designing Usable Knowledge with Stakeholders and Fostering Ownership – A Pathway through the communication problem?" proceedings of the Impacts World 2013, International Conference on Climate Change Effects, Potsdam, Germany (2013)
37. J. D. Tàbara and I. Chabay, "Coupling Human Information and Knowledge Systems with social-ecological systems change: Reframing research, education, and policy for sustainability," *Environmental Science and Policy* 28 71–81 (2013)
38. I. Chabay "Sustainability and Science Education" in Springer online Encyclopedia of Science Education, R. Gunston, editor [http://www.springerreference.com/index/ chapterbid/331080](http://www.springerreference.com/index/chapterbid/331080) Springer-Verlag Berlin Heidelberg (2013)
39. S. Cornell, F. Berkhout, W. Tuinstra, Tàbara, J. D., Jäger J., Chabay, I. de Wit, B., Langlais, R., Mills, D., Moll, P., Otto, I., Petersen, A., Pohl, C., van Kerkhoff, L. "Opening up knowledge systems for engagement with global environmental change." Special Issue on "Responses to Environmental and Societal Challenges for our Unstable Earth (RESCUE)" project. *Environmental Science and Policy* 28 60-70 (2013)
40. J. Helgeson, S. van der Linden, I. Chabay, "The role of knowledge, learning and mental models in public perceptions of climate change related risks" chapter in Learning for Sustainability in Times of Accelerating Change, A. Wals, P. B. Corcoran, eds., pp. 329-346 Wageningen Academic Publishers, (2012)
41. Blackmore, C., Chabay, I., Collins, K., Gutscher, H., Lotz-Sisitka, H., McCauley, S., Niles, D., Pfeiffer, E., Ritz, C., Schmidt, F., Schreurs, M., Siebenhüner, B., Tàbara, J.D., van Eijndhoven, J. (2011) "Knowledge, Learning, and Societal Change: Finding paths to a sustainable future" <http://klscproject.org/wp-content/uploads/2014/04/KLSC-Science-Plan-v2.9-110904.pdf>
42. J. Helgeson, S. Dietz, I. Chabay, (2010) "Analyzing Preferences over Climate-Related Risks: Proposed Mental Models" in proceedings of the International Society for Ecological Economics, September, 2010.
43. C. Stöhr and I. Chabay, (2010) "Science and Participation in Governance of the Baltic Sea Fisheries," *Environmental Policy and Governance*, **20**(5) 350-363

44. I. Chabay (2010) "Voices at the table: participation, collaboration, and ownership in social-ecological issues" in *Overcoming the Challenges of 'Doing Participation' in Environment and Development: Workshop Summary of Lessons Learned and Ways Forward*, John Forrester and Åsa Gerger Swartling (eds), Stockholm Environmental Institute Working Papers, 2010.
45. C. Stöhr, O. Stepanova, I. Chabay, (2010): "Wissenschaft und Partizipation. Eine Fallstudie zum Fischereimanagement in der Ostsee." In Halfmann, J., Morisse-Schilbach, M. (Ed.): Wissen, Wissenschaft und Global Commons. Konturen eines interdisziplinären Forschungsfeldes. Series: Internationale Beziehungen edited by DVPW Sektion Internationale Politik. Nomos, Baden-Baden.
46. I. Chabay (2010) "Learning, Knowing, and Behaving: Education and Adaptation to Global Change" in Glocal Environmental Education, Y. Himiyama, R. B. Singh, F. Kanda, J. Hindson, eds., Rawat Publications Jaipur, India (2010)
47. A. Serra, J. D. Tàbara, I. Chabay, "Assessing the role of vertical and horizontal communication in disaster risk reduction learning and planning: The case of the Spanish Tous dam-break, 1982" Report for the UN ISDR for mid-term review of the Hyogo Framework for Action, (2010)
48. I. Chabay, J. David Tabara, Christian Pohl "A new vision of knowledge systems" report for forward look "Responses to Environmental and Societal Challenges for our Unstable Earth" (RESCUE) for the European Science Foundation & COST (2010)
49. W. Ammann, I. Chabay, H. Gupta, G. McBean, V. Murray, "Reducing Disaster Risks through Science Issues and Actions: The Full Report of the ISDR Scientific and Technical Committee 2009" report for the UN Global Platform, Geneva (2009)
50. I. Chabay, Siebenhüner, B., von Eijndhoven, J., Schreurs, M. "Earth System Governance from the Perspective of the Knowledge, Learning, and Societal Change IHDP Initiative" IHDP Update **3** (2009)
51. I. Chabay, C. Stöhr, O. Stepanova, Report to the Baltic Sea 2020 Foundation, Sweden: "Facilitating Governance of Baltic Seas Fisheries By Improving Communication Among Stakeholders" (2008)
52. O. Stepanova, C. Stöhr, I. Chabay, Report for Vetenskapsrådet (Swedish Research Council): "Scientists' Engagement in Public Communication of Science in Sweden: A preliminary study of motivations, incentives, and practices" (2008)
53. I. Chabay, "Connecting Visual Representation and Conceptual Understanding of Models of Complex Systems," chapter in a book produced from the Dahlem Conference on Is There a Mathematics of Social Entities? C. Jaeger and R. Klein, eds, Potsdam Climate Research Institute, Germany (2008)
54. I. Chabay and M. Letell, Report written at the request of the Swedish Research Council, Vetenskapsrådet: "National Strategies for Public Science Communication: Sweden's approach in light of strategies adopted by other countries" (2006)
55. T. Hennes, I. Chabay, "From Looking Environment to Learning Environment: The Networked Aquarium of the 21st Century," *Marine Technology Society Journal* (2001)
56. I. Chabay, "Learning Science In and Beyond Museums," Guest Editorial, *Chemistry & Engineering News*: **77**(17), April 26, 1999 American Chemistry Society, Washington, DC.
57. I. Chabay, "Big Exhibits from Small Toys Grow (and Vice Versa)," in Sharing Science: Issues in the Development of Interactive Science and Technology Centres, The Nuffield Foundation, London, 1989.
58. I. Chabay, "Flow Commotion and Crystal Spider: Translating Scientific Concepts into Hands-on Learning Devices," in Science Learning in the Informal Setting, Symposium Proceedings, P. G. Heltne, L. A. Marquardt, eds., Chicago Academy of Sciences, 1988.
59. I. Chabay, "Hands-on Science Exhibits for Teaching and Learning Science and Technology in Developing Countries," in Popularizing Science in Developing Countries

- Symposium Proceedings, AAAS national meeting, Los Angeles, May, 1985; edited by James Cornell, published through the International Science Writers Association, 1986.
60. R A Fletcher, I Chabay, D A Weitz, J C Chung, "Laser Desorption Mass Spectroscopy of Surface-Adsorbed Molecules," *Chem. Phys. Lett.* 104: 615 (1984).
 61. I Chabay, "A Role in Chemical Education for Science Museums: Criteria for Development of Interactive Chemistry-Related Exhibits," Division of Chemical Education, American Chemical Society, March 1983.
 62. I Chabay, "The Bigger They Are, the Harder They Fall: Aerosol Size Measurements by Doppler Shift Spectroscopy," in Measurement of Suspended Particles by Quasi-elastic Light Scattering, B Dahneke, editor, Wiley Interscience, NY (1983) [invited review].
 63. I Chabay, "Optical Waveguides: Photon Plumbing in the Chemistry Lab: Fiber Optics, Waveguides, and Evanescent Waves as Tools for Chemical Analysis," *Analytical Chemistry* 54: 1071A (1982) [invited review].
 64. I Chabay, "Observations on Scientific Research and the Research Environment at the Institute for Molecular Science in Okazaki, Japan," *Scientific Bulletin of the Office of Naval Research*, Tokyo 6: 48 (1981).
 65. R Dornhaus, R E Benner, R K Chang, I Chabay, "Surface Plasmon Contribution to Surface Enhanced Raman Scattering (SERS)," *Surface Science* 101: 367 (1980).
 66. R A Fletcher, D S Bright, I Chabay, "Low Reynolds Number Fluid Flow Induced by Settling Aerosol Particles as Measured by the Particle Doppler Shift Spectrometer," *J. Phys. Chem.* 84: 1611 (1980).
 67. D S Bright, R A Fletcher, I Chabay, "Particle Doppler Shift Spectrometer: Accurate Size Determination of 5 - 15 Micrometer Aerosols," *J. Phys. Chem.* 84: 1607 (1980).
 68. R A Fletcher, G W Mulholland, I Chabay, D S Bright, "Calibration of an Optical Particle Counter by Doppler Shift Spectrometry in the 4 - 8 Micrometer Range," *J. Aerosol Sci.* 11: 53 (1980).
 69. J C Shaefer, I Chabay, "Generation of Enhanced Coherent Anti-Stokes Raman Spectroscopic (CARS) signals in Liquid-Filled Waveguides," *Optics Letters* 4: 227 (1979).
 70. I Chabay, G J Rosasco, T Kashiwagi, "Species Specific Raman Spectroscopic Measurements of Concentrations in Unsteady Flow," *J. Chem. Phys.* 70: 4149 (1979).
 71. D S Bright, I Chabay, "Measuring Aerosol Particles," *Chemtech* 9: 694 (1979) [invited review].
 72. I Chabay, D S Bright, R A Fletcher, "Particle-Sizing Device for Research and Calibration," National Bureau of Standards *DIMENSIONS*, page 17, December, 1978.
 73. I Chabay, G J Rosasco, T Kashiwagi, "FFT Analysis of Raman Intensities: A Probe of Concentration Fluctuations in Turbulent Flow," Proc. Sixth International Conf. On Raman Spectroscopy (Bangalore, India, 1978); Schmid, et al, editors, Heyden and Son, Ltd., 2 516 (1978).
 74. I Chabay, G J Rosasco, T Kashiwagi, "Non-Intrusive Technique Measures Concentration Fluctuation in Turbulent Gas Flow," National Bureau of Standards *DIMENSIONS*, page 22, April, 1978.
 75. I Chabay, D S Bright, "Measurement of the Size Distribution of Liquid and Solid Aerosols by Doppler Shift Spectroscopy," *J. Coll. Interface Sci.* 63: 304 (1978).
 76. I Chabay, G J Rosasco, E S Etz, "Alternative Techniques for Fiber Characterization: Particle Size Distribution Measurement by Doppler Shift Spectroscopy and Chemical Identification by Micro-Raman Spectroscopy," Proc. of FDA Symposium on Electron Microscopy of Microfibers, FDA Publication No. 77-1033, page 181 (1977).
 77. I Chabay, "Measurement of Aerosol Size Distribution with a Particle Doppler Shift Spectrometer," National Bureau of Standards Special Publication 464: 175 (1977).

78. B S Hudson, W Heatherington, S Cramer, I Chabay, G K Klauminzer, "Resonance Enhanced Coherent Anti-Stokes Raman Scattering," *Proc. Nat'l. Acad. Sci.* 73: 3798 (1976).
79. I Chabay, G K Klauminzer, B S Hudson, "Coherent Anti-Stokes Raman Spectroscopy (CARS): Improved Experimental Design and Observation of New Higher Order Processes," *Appl. Phys. Lett.* 28: 27 (1976).
80. I Chabay, G Holzwarth, "Infrared Circular Dichroism and Linear Dichroism Spectrometer," *Appl. Opt.* 14: 454 (1975).
81. I Chabay, "Rapid Measurement of Droplet Size Distributions by Optical Heterodyne Spectroscopy," National Bureau of Standards Special Publication 412: 65 (1974).
82. J P Gollub, I Chabay, W H Flygare, "Laser Heterodyne Study of Water Droplet Growth," *J. Chem. Phys.* 61: 2139 (1974).
83. J P Gollub, I Chabay, W H Flygare, "Optical Heterodyne Measurement of Cloud Droplet Size Distributions," *Appl. Opt.* 12: 2838 (1973).
84. G Holzwarth, I Chabay, N A W Holzwarth, "Infrared Circular Dichroism and Linear Dichroism of Liquid Crystals," *J. Chem. Phys.* 58: 4816 (1973).
85. I Chabay, "Absorption and Scattering Circular Dichroism of Cholesteric Liquid Crystals in the Infrared," *Chem. Phys. Lett.* 17: 283 (1972).
86. G Holzwarth, I Chabay, "Optical Activity of Vibrational Transitions: A Coupled Oscillator Model," *J. Chem. Phys.* 57: 1632 (1972).
87. I Chabay, E C Hsu, G Holzwarth, "Infrared Circular Dichroism Measurement Between 2000 and 5000 cm^{-1} : Pr^{+3} Tartrate Complexes," *Chem. Phys. Lett.* 15: 211 (1972).

Comments and Interviews:

1. Chabay, I. forward to Participatory Sensing, Opinions and Collective Awareness in Understanding Complex Systems Loreto, V. et al. (Editors) Springer International, Switzerland (2017)
2. Interview with Ilan on creativity, social innovation, and sustainability published in Italian in Nòva magazine, February 2018: http://nova.ilsole24ore.com/progetti/lo-sviluppo-parte-dai-contesti/?refresh_ce=1
3. I. Chabay, B. Siebenhüner, J. van Eijndhoven, M. Schreurs "Earth Systems Governance from the Perspective of the Knowledge, Learning, and Societal Change IHDP Initiative" *IHDP UPDATE* November 2009
4. I. Chabay "From Research to Social Change: The Case of Ecosystem Services" in *IHDP UPDATE* extra edition, August 2008
5. I Chabay, "Build A Working Model of the Internet in Your Classroom – No Computer Needed!" a hands-on, minds-on technology activity for K – 12 schools, on web site of National Academy of Engineering (USA) for National Engineering Week, 2002
6. I Chabay, B. Friedman "Frozen Bubbles: A Chemistry Experiment for Elementary, Secondary, and College Students" A teacher's guide to a hands-on chemistry, physics, & biology exhibit, The New Curiosity Shop, 1987.
7. F Oppenheimer, I Chabay, R Semper, "Proposal for the Development of Regional Exhibit-Based Teacher Training Centers Located in Public Science Centers and Museums," written testimony, National Science Board Commission on Precollege Education in Mathematics, Science, and Technology, March 26, 1983
8. I Chabay, F Oppenheimer, "Testimony before [US] House Subcommittee on Elementary, Secondary, and Vocational Education," *Congressional Record*, September 30, 1982

Selected invited, keynote lectures delivered since 2008 (numerous prior invited lectures in chemistry and physics are not included here):

1. National Institute of Environmental Studies, International Forum on Sustainable Future, Kyoto Japan and online. Keynote: "Looking Over The Horizon: Systemic Risks, Global Crises, and Social-Environmental Change" January 2022
2. Griffiths University, Public Health Seminar, "Learning to look beyond the lamp post: coping with unfamiliar systemic risks to human well-being" Australia October 2021
3. Kwansai Gakuin University, Department of Human Welfare Studies, Institute of disaster revitalization regrowth and governance "Pathways to Sustainable Futures Through Mutual Learning." Nishinomiya, Japan May 2021
4. Kyoto University, Disaster Prevention Research Institute, "Narrative Signals of Systemic Risk in the Noise of Media" Kyoto Japan May 2021
Available on Kyoto University's Open Course Ware websites:
Japanese site: <https://ocw.kyoto-u.ac.jp/course/1032/>
English site: <https://ocw.kyoto-u.ac.jp/en/course/221/>
5. TIAS Learning Community webinar "Narratives and Learning Toward Sustainable Futures" October 2020
6. International Society of Integrated Disaster Risk Management (IDRiM Society) online webinar session co-led with Norio Okada on "Participatory creative design to address complex challenges of risk governance" September 2020
7. International Dialogue on STEM Education (IDoS), Haus der kleinen Forscher Foundation conference on early childhood learning of STEM for sustainability: Opening keynote "Launching Children on Pathways to Sustainable Futures With Curiosity and STEM Learning" Berlin, Germany December 2019 https://youtu.be/axpliMaa4_0
8. The Institute of Advanced Studies Kőszeg (iASK) Blue Sky Conference, "Design for Change to Sustainable Futures: From Mitigating Bad Consequences to Designing Good Futures" Budapest, Hungary November 2019
9. The Learning Community Webinar, "Playful games for serious purposes" July 2019
10. American University of Central Asia, Bishkek, Kyrgyzstan conference on water management in Central Asia "Designing Sustainable Futures with Interdisciplinary Science and Social Creativity" June 2019
11. Sony Computer Science Laboratory, Paris: "Guerrilla Science For the Anthropocene Age: Curiosity, Play, and Learning For Sustainable Futures" March 2019
12. The Institute of Advanced Studies Kőszeg (iASK) Winter School, "Imagination, Indicators, and Interpretation: pathways and processes to sustainable futures" Kőszeg Hungary February 2019 <https://iask.hu/en/video/global-political-aspects-of-sustainability-intercultural-encounters-as-an-asset-and-a-liability/>
13. Kyoto University Graduate School of Advanced Integrated Studies in Human Survivability (GSAIS): invited keynote on "Pathways to the Sustainable Development Goals: Vision, Identity, and Behavior Change." Kyoto Japan December 2018
14. The Institute of Advanced Studies Kőszeg (iASK), conference on Risk, Responsibility and Resilience – New Strategies in the Labyrinths of Uncertainty with the Hungarian Academy of Sciences and UNESCO, "Imagination, Indicators, and Interpretation: pathways and processes to sustainable futures" Budapest Hungary, November 2018
15. National Taiwan University College of Social Sciences, "Complexity, computation, and creativity on pathways toward sustainability in an increasingly digitized world" Taipei Taiwan, October 2018
16. Conference on Indigenous Education For Sustainability in Taiwan, panel member, Taitung City, Taiwan, October 2018

17. World Social Science Forum, Fukuoka Japan, session organizer: "Narratives of identity and visions of sustainable futures in diverse cultures and contexts" and one of four speakers: "Social dynamics of collective behavior change to sustainable futures from narratives of vision and identity." September 2018
18. World Social Science Forum, Fukuoka Japan: invited speaker "Sources and uses of knowledge in co-designing sustainable futures in the Arctic" in session on "Co-creation of knowledge and co-planning towards sustainable and resilient futures." September 2018
19. The World in 2050 Project Governance Workshop, German Institute for Development (DIE), Bonn Germany "Narratives of vision and identity in transformations to sustainability" January 2018
20. European Environmental Agency, Copenhagen Denmark "Exhibit design principles for engaging diverse publics" November 2017
21. 6th International Symposium on Environmental Sociology in East Asia (ISESEA), Taipei Taiwan invited keynote "Narratives, Models, and Societal Change: Identity, vision, and models for inclusive decision- making toward sustainable futures" October 2017
22. Templeton Foundation KREYON project final workshop, Palazzo delle Esposizioni, Rome Italy "Creativity, Collectives, and Complexity: enabling innovation in diverse socio-ecological contexts" September 2017
23. Public Engagement with Science Online (PESO) research workshop, Technion University, Haifa, Israel, invited keynote "Science Communication, Transdisciplinarity, And Sustainable Futures: Collaborating with society in addressing complex social-environmental issues" June 2017
24. Para Limes Symposium, Complexity Science Program, Nanyang Technologic University, Singapore invited lecture on "Behavioral Causality — Anthropocene Reality: Collective behavior change toward sustainable futures in the Anthropocene Era" March 2017
25. Research Institutes for Humanity and Nature, Kyoto, Japan,: invited keynote in final synthesis conference of Integrated Local and Environmental Knowledge for Governance of the Commons (ILEK) project, "Sources and Uses of knowledge in co-designing Arctic sustainable futures" January 2017
26. American Geophysical Union conference, San Francisco, CA invited keynote for session on climate change in the Arctic, "Decision making for sustainable futures in a rapidly changing Arctic" December 2016
27. Center for Environmental Systems Research workshop, Kassel Germany "Using multi-mode games to explore complexity in the SDGs" October 2016
28. International Climate Alliance annual conference keynote, Krems, Austria "Learning Our Way Toward Just And Sustainable Futures" October 2016
29. Future Earth International Webinar on the Transformations Knowledge Action Network (TKAN) "Collective Behavior Change: the KLASICA action research agenda" June 2016
30. National Taiwan Normal University, Taipei "Understanding And Enabling Collective Behavior Change Toward Just and Equitable Sustainable Futures" May 2016
31. Research Institutes for Humanity and Nature, Tokyo strategic symposium: keynote "Researching Pathways To Sustainable Futures With And For Stakeholders" March 2016
32. Technische Universität, Berlin "Linking Social And Technical Innovation For Sustainable Futures" December 2015
33. IIASA Laxenburg, Austria "Making Meaning and Making Decisions For Sustainable Futures In The Eurasian Arctic" December 2015
34. University of Rome - La Sapienza "Nurturing Curiosity, Collaboration, And Creativity Across Disciplinary Silos" September 2015
35. Caux Dialogues on Land and Security, Caux, Switzerland: facilitated workshop on "Diverse Knowledge Systems For Governance of Sustainable Land Use" July 2015

36. Hochschule für Gestaltung, Schwäbisch Gmünd, Germany "Designing for Sustainability: linking curiosity, creativity, and innovation" May 2015
37. Tokyo University of Science "Science, Communication, and Sustainable Futures: we need more than the best science and technology"
38. Extreme Events and Environments From Climate to Society (E3S) workshop, Berlin, Germany "Stakeholders and Collaboration in Global Change Research" March 2015
39. Future Earth webinar presentation "ArcticSTAR: Solution Oriented Transdisciplinary Research for a Sustainable Arctic" with V. Faye McNeill (Columbia University), February 2015
40. IASS Climate Engineering summer course "Engaging Stakeholders In Decision Making At Multiple Scales And Levels in the contested discourse on geo- and climate engineering" Potsdam Germany August 2014
41. International Sociological Association Annual Conference, "Socio-Ecological Risks and Governance of Resource Extraction in the Eurasian Arctic and Global Feedback Loops" with Kathrin Keil and J. David Tabara, Yokohama, Japan July 2014
42. Potsdam Summer School on Sustainability: "The Arctic in the Anthropocene" Potsdam, Germany June, July 2014
43. Land Ocean Interactions In The Coastal Zone (LOICZ-Future Coasts) scientific steering committee meeting, "Enabling Societal Change Through Rigorous Science + Mutual Learning: Using rigorous science with stakeholder engagement to enable transformations toward a sustainable future" Hamburg, Germany May 2014
44. Alcatel-Lucent Foundation Masters course together with Professor Ortwin Renn on linking science communication with the challenges of finding pathways toward sustainable futures for all, University of Stuttgart, Germany May 2014
45. Climate Services Center annual conference at Potsdam Institute for Climate Research (PIK) "Enabling societal change through mutual learning processes" Potsdam, Germany February 2014
46. Habib University, Climate Change Conference, "Scientific Information, Narrative Visions, And Global Challenges In Local Contexts" Karachi, Pakistan January 2014
47. TERI University "Developing linked research and educational strategies for the Anthropocene Era" New Delhi, India January 2014
48. Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) keynote address for high level workshop on Intercultural Comparison of the Understanding of Science and Technology in Selected Countries: "Strengthening Science, Technology, Engineering, and Math Education In Light of Global Challenges" Berlin, Germany December 2013
49. EPFL Center on Risk Analysis and Governance (CRAG) & International Risk Governance Council (IRGC) symposium, "Engaging The Public In Energy Issues: Design of a new exhibition on energy transition, smart grids, and sustainability" Lausanne, Switzerland November 2013
50. Santa Fe Institute & International Institute for Applied System Analysis (IIASA) workshop, "Narratives For Societal Transformation Toward Sustainability", Santa Fe, New Mexico October 2013
51. University of Zürich Global Change & Biodiversity retreat, "Thinking Across Boundaries: on transdisciplinary global change research" Switzerland September 2013
52. Caux Dialogue on Land and Security, Switzerland "On Land, Information, and Sustainable Provisioning of Humanity" Caux Switzerland July 2013
53. IASS/PIK Global Sustainability Summer School, "Stakeholders, Context, and Conflict" Potsdam, Germany July 2013
54. Japan Science & Technology Agency, Tokyo, "Knowledge Systems For Sustainability: Challenges In Providing Food For Humanity" May 2013

55. Tokyo University of Science, "Models, narratives, and social innovation for a more sustainable future" May 2013
56. Mote Marine Laboratory, Sarasota, FL research conference on Integrated Environmental and Local Knowledge for Sustainable Governance of the Commons (ILEK), "Reflections on ILEK Research Projects In The Context Of The Knowledge, Learning, and Societal Change (KLSC) Alliance" May 2013
57. Association of Polar Early Career Scientists workshop at Arctic Science Summit Week, Krakow, Poland "Inter-, multi-, and trans-disciplinary research in the Anthropocene era: Addressing complex systemic challenges in which we humans are inherently significant actors in the system" April 2013
58. Global System Dynamics and Policy Conference, Brussels. Narratives session co-organizer and presenter "The Role of Models And Narratives In Global Systems Science" November 2012
59. Berlin Conference on the Human Dimensions of Global Environmental Change, Berlin member of scientific advisory committee and chair of session on Co-Production of Knowledge October 2012
60. National Taiwan Normal University, Taipei Symposium on Climate Change and Sustainability Literacy keynote lecture "Finding Our Way Toward Future Earth: Issues, Methods, and Collaborations" September 2012
61. Research Institute For Humanity and Nature, Kyoto, Japan, workshop on Integrating Local and Environmental Knowledge Project (ILEK), keynote "Making Models, Telling Stories, And Changing Behaviors In The Context Of The ILEK Project" July 2012
62. International Council for Science (ICSU) and International Social Science Council (ISSC) workshop on Transdisciplinary Intercultural Ecological Research, Friedrich Schiller University, Germany keynote address "Providing Options, Inspiring Actions: Models and Narratives For A Sustainable Future." June 2012
63. Center for Environmental Systems Research, University of Kassel, Germany "Providing Options, Inspiring Actions: Models and Narratives For A Sustainable Future" June 2012
64. Institute for Science, Innovation and Society, University of Oxford, Oxford, UK "Making models, telling stories, and changing behaviors toward a more sustainable future" May 2012
65. Tokyo University of Science, University lecture "Science, Innovation, and Society: Creating Pathways To A Sustainable Future." April 2012
66. Research Institute For Humanity and Nature, Kyoto, Japan kickoff symposium for new international transdisciplinary project, keynote lecture "Knowledge, Learning, and Societal Change: Finding Paths To A Sustainable Future For All" April 2012
67. Planet Under Pressure conference, London, organizer and chair of session on "Building Capacity For Sustainability By Learning To Model Nature and Society" March 2012
68. Planet Under Pressure conference, London, organizer and co-chair with Sander van der Leeuw of session on "Collective Action For The Transition To A Sustainable Society: Building The Research And Action Agenda" March 2012
69. Baltic Sea 2020 Foundation, Stockholm, "Formation, Operation, and Outcomes of the Polish Fisheries Roundtable" February 2012
70. US National Science Foundation and the Center for the Advancement for Informal Science Education symposium on Sustainability Science Education and Informal Science Education, Ballston Virginia, "Models and Narratives in Transitioning To A Sustainable Future For All" February 2012
71. International Hydrological Program Conference on Extreme Events, Kyoto University, keynote lecture on "Models And Heuristics: Learning To Cope With Risk And Complexity." October 2011

72. European Science Foundation and Centre for Social Innovation conference on humanities and social innovation, Challenge: Social Innovation, Vienna, Austria September 2011, "Once upon a future time: visions, models, and narratives to lead us to a sustainable future"
73. IIASA Risk, Policy & Vulnerability program, Laxenburg, Austria, September 2011, "Learning, risk, and sustainability"
74. Global System Dynamics and Policy workshop on Agent-Based Models, Paris, September 2011, "Learning to cope with complexity by understanding models of nature and society"
75. Chinese Meteorological Administration, Beijing, August 2011 "Learning science through inquiry and experience"
76. Dept of Applied IT, Chalmers University, Sweden and the Institute of Science, Qafqaz University, Azerbaijan (live video link), Masters Course on change management, May 2011: "Learning to cope with complexity in a rapidly changing world"
77. Swiss Global Change Day conference, Bern, Switzerland, April 2011: "Changing learning so we can learn to change society"
78. Center for Digital Systems (CeDiS), Freie Universitat Berlin: concluding conference on eKnowNet project funded by the European Commission under the Lifelong Learning Program, December 2010: "Who needs and who wants science literacy and why: lessons learned in USA, Europe, and Asia."
79. Swiss Re & Virginia Tech Univ. conference on "Community Resiliency, Integrated Risk, Response, and Recovery - Policy and Management: International Perspectives across Multiple Scales" Zürich, Switzerland October 2010: Speaker and panelist on Resilience Issues - integrating science and practice.
80. Kiel Institute for the World Economy, Kiel, Germany August 2010 "Seeking empirical methods and data for better modeling of social-ecological-economic systems"
81. International Society of Ecological Economics annual conference, Oldenburg, Germany, August 2010 "Analyzing perceptions of climate change risk: mental models and their formation"
82. Socially Coupled Systems and Informatics Workshop, Virginia Biotech Institute, Alexandria, VA July 2010 "Knowing, Learning, and Adapting: Understanding coupled social, ecological, and economic systems"
83. International Workshop on Sustainability and Social Learning, Stockholm Resilience Center, Stockholm, Sweden June 2010, "Knowing, Learning, and Changing in Transitioning to a Sustainable Future"
84. Chinese Institute for Science Popularization (CRISP) 17th annual conference on Public Communication of Science and Technology (PCST), Beijing May 2010, "PCST for Knowing, Learning, and Adapting"
85. Research Institute for Humanity and Nature (RIHN), Kyoto, Japan March 2010 – Symposium on environmental governance in China, "Linking Environmental Governance With Learning and Knowledge."
86. Disaster Prevention Research Institute, Kyoto University, Japan – Symposium on sustainability, resilience, and extreme weather conditions January 2010, "Knowledge, Understanding, and Risk"
87. Education for Sustainable Development in a River Basin Context, Swedish International Development Agency (SIDA) lecture held at Chalmers, November 2009: "Learning for a Sustainable Future: fishermen at sea and children at school"
88. Opening address, Alliance for Global Sustainability, ETH, Zürich, Switzerland, October 2009, "Catalyzing Adaptive Thinking: universities, communities, and global priorities."

89. University of Modena and Reggio Emilia, Italy, September 2009, "Pathways and Priorities: Connected pathways through life for learning, collaborating, and innovating."
90. J. Wang, J. Zhao, C. Stöhr, I. Chabay, paper presented at the IHDP Open Meeting, Bonn, Germany April 2009: "Growing Up To Be Migrant Workers? -- How Migrant Workers' Learning and Understanding of Science Affect Their Children's Education in China"
91. International Human Dimensions Program capacity building workshop, held at the Institute for Economic Development, University of Delhi, India, October 11-16, 2008, Professors Kanchan Chopra and Ilan Chabay, convenors: "From Research to Societal Action: The Case of Ecosystem Services"
92. Conference on L'Apprentissage des Sciences dans L'Europe de la Connaissance; for French Presidency of the EU, Grenoble, France, October, 2008: "Representing Sustainability Science in Informal Science Learning Environments"
93. First International Sociological Association (ISA) Forum, Barcelona, Spain, September, 2008: plenary lecture in session on collaboration between natural and social sciences: "Bellwethers, Beacons, and Behaviors"