

Publications

Books

von Thienen, J. P. A. (2013). *Kausalniveaus. Eine Methodenanalyse zur Kausalforschung der Psychologie* [dissertation]. Lengerich: Pabst Science Publishers.

Book chapters

von Thienen, J. P. A., Noweski, C., Meinel, C. & Rauth, I. (2011). The co-evolution of theory and practice in design thinking – or – “mind the oddness trap!”. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking. Understand – improve – apply* (pp. 81-99). Berlin: Springer.

Noweski, C., Scheer, A., Büttner, N., von Thienen, J. P. A., Erdmann, J. & Meinel, C. (2012). Towards a paradigm shift in education practice: Developing twenty-first century skills with design thinking. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Measuring performance in context* (pp. 71-94). Berlin: Springer.

von Thienen, J. P. A., Noweski, C., Meinel, C., Lang, S., Nicolai, C., & Bartz, A. (2012). What can design thinking learn from behaviour group therapy? In H. Plattner, C. Meinel and L. Leifer (eds.), *Design Thinking Research* (pp. 285-302). Berlin: Springer.

von Thienen, J. P. A., Noweski, C., Rauth, I. Meinel, C. & Lang, S. (2012). If you want to know who you are, tell me where you are: The importance of places. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Studying co-creation in practice* (pp. 53-73). Berlin: Springer.

von Thienen, J. P. A., Meinel, C. & Nicolai, C. (2014). How design thinking tools help to solve wicked problems. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Building innovation eco-systems* (pp. 97-102). Berlin: Springer.

von Thienen, J. P. A., Perlich, A. & Meinel, C. (2015). Tele-Board MED: Supporting 21st-century-medicine for mutual benefit. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Building innovators* (pp. 101-130). Berlin: Springer.

von Thienen, J. P. A. (2015). Design Thinking in Theorie und Praxis. In C. Meinel, U. Weinberg and T. Krohn (eds.), *Design thinking live* (pp. 33-48). Hamburg: Murmann.

The chapter has been re-published in English:

von Thienen, J. P. A. (2017). Design thinking in theory and practice. In C. Meinel, U. Weinberg and T. Krohn (eds.), *Design thinking live. 30 perspectives on making innovation happen* (pp. 30-44). Hamburg: Murmann.

Perlich, A., von Thienen, J. P. A., Wenzel, M. & Meinel, C. (2016). Redesigning medical encounters with Tele-Board MED. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Taking breakthrough innovation home* (pp. 101-123). Switzerland: Springer.

von Thienen, J. P. A. & Meinel, C. (2016). Tele-Board MED: Supporting creative problem solving in behaviour psychotherapy. In G. E. Corazza and S. Agnoli (eds.), *Multidisciplinary contributions to the science of creative thinking* (pp. 233-258). Singapore: Springer.

von Thienen, J. P. A., Perlich, A., Eschrig, J. & Meinel, C. (2016): Smart documentation with Tele-Board MED. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Making design thinking foundational* (pp. 203-233). Cham: Springer.

von Thienen, J. P. A., Royalty, A. & Meinel, C. (2017). Design thinking in higher education: How students become dedicated creative problem solvers. In C. Zhou (ed.), *Handbook of research on creative problem-solving skill development in higher education* (pp. 306-328). Hershey: IGI Global.

Perlich, A., von Thienen, J. P. A., Wenzel, M. & Meinel, C. (2018). Learning from success and failure in healthcare innovation: The story of Tele-Board MED. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Making distinctions: Collaboration versus cooperation* (pp. 327-345). Cham: Springer.

von Thienen, J. P. A., Clancey, W. J., Corazza, G. E. & Meinel, C. (2018). Theoretical foundations of design thinking. Part I: John E. Arnold's creative thinking theories. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Making distinctions: Collaboration versus cooperation* (pp. 13-40). Cham: Springer.

von Thienen, J. P. A., Clancey, W. J. & Meinel, C. (2019). Theoretical foundations of design thinking. Part II: Robert H. McKim's need-based design theory. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Looking further: Design thinking beyond solution-fixation* (pp. 13-38). Cham: Springer.

von Thienen, J. P. A., Ney, S. & Meinel, C. (2019). Estimator socialization in design thinking: The dynamic process of learning how to judge creative work. In R. Beghetto and G. E. Corazza (eds.), *Dynamic perspectives on creativity: New directions for theory, research and practice in education* (pp. 67-99). Springer.

Wenzel, M., Perlich, A., von Thienen, J. P. A. & Meinel, C. (2019). New ways of data entry in doctor-patient encounters. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Looking further: Design thinking beyond solution-fixation* (pp. 159-177). Cham: Springer.

Perlich, A., Steckl, M., von Thienen, J. P. A., Wenzel, M., & Meinel, C. (2020). Getting hands-on with Tele-Board MED: Experiencing computer-supported teamwork in therapist-patient sessions. In *Design Thinking Research* (pp. 255-272). Cham: Springer.

Meinel, C. & von Thienen, J. P. A. (2021). Design Thinking – Befähigung der Digital Engineering Studierenden zu Kreativität und Innovation. In C. Meinel & T. Krohn (eds.). *Design Thinking in der Bildung. Innovation kann man lernen* (pp. 83-106). Weinheim: Wiley.

The chapter has been re-published in English:

Meinel, C. & von Thienen, J. P. A. (2022). Design thinking – Enabling digital engineering students to be creative and innovate. In *Design Thinking in Education* (pp. 9-23). Cham: Springer.

Plank, I. S., von Thienen, J. P. A. & Meinel, C. (2021). The neuroscience of empathy: Research-overview and implications for human-centred design. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Translation, prototyping and measurement* (pp. 89-124). Cham: Springer.

Traifeh, H., Abou Refaei, R., von Thienen, J., von Schmieden, K., Mayer, L., Osman, S., & Meinel, C. (2021). Mapping Design Thinking in the Arab World. In *Design Thinking Research* (pp. 41-60). Springer, Cham.

von Thienen, J. P. A., Clancey, W. J. & Meinel, C. (2021). Theoretical foundations of design thinking. Part III: Robert H. McKim's visual thinking theories. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Interrogating the doing* (pp. 9-72). Cham: Springer.

von Thienen, J. P. A., Szymanski, C., Santuber, J., Plank, I. S., Rahman, S., Weinstein, T., Owoyele, B., Bauer, M. & Meinel, C. (2021). Neurodesign live. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Interrogating the doing* (pp. 357-425). Cham: Springer.

von Thienen, J. P. A., Szymanski, C., Weinstein, T., Rahman, S. & Meinel, C. (2021). Design Thinking, Neurodesign und Curricula für das Innovation Engineering. In C. Meinel & T. Krohn (eds.). *Design Thinking in der Bildung. Innovation kann man lernen* (pp. 215-266). Weinheim: Wiley.

The chapter has been re-published in English:

von Thienen, J. P. A., Szymanski, C., Weinstein, T., Rahman, S. & Meinel, C. (2022). Design thinking, neurodesign and facilitating worthwhile change: Towards a curriculum for innovation engineering. In C. Meinel & T. Krohn (eds.), *Design thinking in education. Innovation can be learned* (pp. 61-91). Cham: Springer.

von Thienen, J. P. A., Hartmann, C. & Meinel, C. (2022). Different concepts of human needs and their relation to innovation outcomes. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research. Achieving real innovation* (pp. 209-226). Cham: Springer.

von Thienen, J. P. A., Kolodny, O. & Meinel, C. (2023). Neurodesign: The biology, psychology and engineering of creative thinking and innovation. In N. Rezaei (ed.), *Brain, Decision-Making, and Mental Health* (pp. 617–659). Cham: Springer.

von Thienen, J. P. A., Borchart, K.-P., Bartsch, D., Walsleben, L. & Meinel, C. (in press). Predicting creativity and innovation in society: The importance of places, the importance of governance. In H. Plattner, C. Meinel and L. Leifer (eds.), *Design thinking research*. Cham: Springer.

Dictionary entry

Corazza, G. E. & von Thienen, J. P. A. (2021). Invention. In V. P. Glăveanu (ed.), *The Palgrave Encyclopedia of the Possible*. Cham: Palgrave Macmillan.

Peer-reviewed conference contributions

von Thienen, J. P. A. & Meinel, C. (2013). Tele-Board MED. Supporting creative problem solving in psychotherapy. Full presentation at the *First International Conference on the Science of Creative Thinking*, Sept 29 to Oct. 1, 2013, Bologna, Italy.

von Thienen, J. P. A., Wallisch, P. & Meinel, C. (2014). Uncovering and overcoming inconsistencies of causal analyses in socioscientific versus biological research. Full presentation at the *VI European Congress of Methodology*, Jul 22-25, Utrecht, Netherlands.

von Thienen, J. P. A., Aquino Shluzas, L. & Meinel, C. (2016). The plurality of research methods in medical and neuroscientific design thinking studies and the challenge of building up joint knowledge. Full presentation at the *VII European Congress of Methodology*, Jul 27-29, Palma, Spain.

von Thienen, J. P. A., Ford, C. & Meinel, C. (2016). The emergence of design thinking in Californian engineering classes: Four historic concepts worth knowing. Full presentation at the *MIC Conference: From Creative Brains to Creative Societies*, Sept 14-16, Bologna, Italy.

Perlich, A., von Thienen, J. P. A. & Meinel, C. (2017). Establishing therapeutic alliance in mental healthcare via cooperative documentation. Full presentation at the *Medinfo 2017: World Congress on Medical and Health Informatics*, Aug 21-25, Hangzhou, China.

von Thienen, J. P. A., Paladini, C. & Meinel, C. (2017). Do creative ideas give rise to unique private-mind or private-language problems? Full presentation at the *25th Annual Conference of the European Society for Philosophy and Psychology*, Aug 14-17, Hertfordshire, Great Britain.

von Thienen, J. P. A., Paladini, C. & Meinel, C. (2018). Innovation modelling in engineering and scholastic philosophy. Full presentation at the *VIII European Congress of Methodology*, Jul 25-27, Jena, Germany.

von Thienen, J. P. A. & Meinel, C. (2019). Balancing child-like and adult approaches in creative pursuits: The Sense-Focus Model of Creative Mastery. Full presentation at the *European Collaborative Creativity Conference EC3*, pp. 36-39.

D'Aleman Arango, N., Chafe, C. & von Thienen, J. P. A. (2020). Brainwave etudes: Composition and improvisation with brain data. Full presentation at the *MIC Conference of Creativity*, Sept. 14-16, Bologna, Italy.

Jaschek, C., Borchart, K., Krebs, E., Meinel, C., Kolodny, O. & von Thienen, J. P. A. (2020). Immune Defense. A video game to measure creativity. Full presentation at the *MIC Conference of Creativity*, Sept. 14-16, Bologna, Italy.

McKee, H., Rahman, S., von Thienen, J. P. A., Seidel, L., Grzelka, F., Gloeckner, P. & Meinel, C. (2020). Measuring creative flow in real-time using consumer-grade EEG coupled with a neural network. Full presentation at the *MIC Conference of Creativity*, Sept. 14-16, Bologna, Italy.

Strauch, T., Hartmann, L., Hilbrich, L., Steigerwald, P., Chafe, C. & von Thienen, J. P. A. (2020). Audible spatialization of EEG data in the context of creativity studies. Full presentation at the *MIC Conference of Creativity*, Sept. 14-16, Bologna, Italy.

Borchart, K.-P., von Thienen, J. P. A., & Meinel, C. (2021). C-Tracer: Automatic creativity measurement for any goal-directed behaviour that leaves digital traces. Full presentation at the *MIC conference of creativity*, Sept 8-10, Bologna, Italy.

Jaschek, C., Borchart, K.-P., Krebs, E., von Thienen, J. P. A., Meinel, C. (2021). Improving creative team performance and togetherness in remote interaction via motion-based games. Full presentation at the *MIC conference of creativity*, Sept 8-10, Bologna, Italy.

McKee, H., von Thienen, J. P. A., Rahman, S. & Meinel, C. (2021). Comparing different forms of automated creativity measurement in the study of individual and collaborative creative writing. Full presentation at the *MIC Conference of Creativity*, Sept 8-10, Bologna, Italy.

von Thienen, J. P. A., Szymanski, C., Weinstein, T. & Meinel, C. (2021). Neurodesign Cards: From neuroscience research to creative practice. Full presentation at the *MIC conference of creativity*, Sept 8-10, Bologna, Italy.

von Thienen, J. P. A., Borchart, K.-P., Walsleben, L., Bartsch, D. & Meinel, C. (2022). Modelling the impact of political environments on creativity and innovation. Full presentation at the *MIC conference on creativity*, Aug 31 – Sept 2, Bologna, Italy.

Journal articles, conference papers, ECDTR

von Thienen, J. P. A. & Meinel, C. (2014). Let's bring home even more benefits from design thinking: Ideas for an iterated design thinking process model. *Electronic colloquium on design thinking research*. Available at: <http://ecdtr.hpi-web.de/report/2014/001>

von Thienen, J. P. A. & Meinel, C. (2014). A design thinking process to tackle individual life problems (created for use in behaviour psychotherapy). *Electronic colloquium on design thinking research*. Available at: <http://ecdtr.hpi-web.de/report/2014/002>

Perlich, A., von Thienen, J. P. A. & Meinel, C. (2014). Supporting talk-based mental health interventions with digital whiteboards. *Studies in Health Technology and Informatics, vol. 205, e-Health – for Continuity of Care*, pp. 433-437.

von Thienen, J. P. A. & Meinel, C. (2015). Building on a Stages of Change Model to bring home more big design thinking ideas. *Electronic colloquium on design thinking research*. Available at: <http://ecdtr.hpi-web.de/report/2015/001>

Meinel, C. & von Thienen, J. P. A. (2016). Design Thinking. Aktuelles Schlagwort. *Informatik-Spektrum*, 39(4), 310-315.

von Thienen, J. P. A., Meinel, C. & Corazza, G. E. (2017). A short theory of failure. *Electronic colloquium on design thinking research*. Available at: <http://ecdtr.hpi-web.de/report/2017/001>

von Thienen, J. P. A., Perlich, A., Meinel, C. & Corazza, G. E. (2017). Success-Failure Analysis: A tool for advancing domain knowledge – design thinking style. *Electronic colloquium on design thinking research*. Available at: <http://ecdtr.hpi-web.de/report/2017/002>

von Thienen, J. P. A., Traifeh, H., Meinel, C., Schubotz, A., Diez, M., Krogmann, S., Bourazan, A., Radunski, A., Boockmeyer, A. & Gharib, R. (2018). Bring home methods: Additions to the Bootcamp Bootleg. *Electronic colloquium on design thinking research*. Available at: <https://ecdtr.hpi.de/report/2018/001/>

D'Aleman Arrango, N., von Thienen, J. P. A. & von Coler, H. (2020). The Brainwave Virtual Instrument: Musical improvisation and brainwave sonification via Faust programming. Proceedings of the 2nd International Faust Conference (IFC-20), Maison des Sciences de l'Homme Paris Nord, France, December 1-2. Full paper available at: <https://ifc20.sciencesconf.org/332720/document>

Krebs, E., Jaschek, C., von Thienen, J. P. A., Borchart, K. P., Meinel, C., & Kolodny, O. (2020). Designing a video game to measure creativity. IEEE Conference on Games (CoG 2020), full paper no. 148, available at https://ieee-cog.org/2020/papers/paper_148.pdf.

Traifeh, H., Bin Tareaf, R., Abou Refaie, R., Meinel, C., & von Thienen, J. P. A. (2021). How did design thinking develop in the Arab World? Findings from Twitter analysis. *Journal of Design Thinking*, 2(2).

Traifeh, H., von Thienen, J. P. A., Abou Refaei, R. & Meinel, C. (2022). Survey findings on the spread of design thinking in Arab countries: The educational sector as a driving force, and its current challenges. In *EDULEARN22 Proceedings*, pp. 9188-9197. IATED.

von Thienen, J. P. A., Borchart, K.-P., Jaschek, C., Krebs, E., Hildebrand, J., Rätz, H. & Meinel, C. (2021). Leveraging video games to improve IT-solutions for remote work. IEEE Conference on Games (CoG 2021), full paper no. 102, available at: https://ieee-cog.org/2021/assets/papers/paper_102.pdf

Jachek, C., von Thienen, J. P. A., Borchart, K.-P. & Meinel, C. (2023). The CollaboUse Test for automated creativity measurement in individuals and teams: A construct validation study. *Creativity Research Journal. Special Issue on Advancements in the Measurement and Evaluation of Creativity*, 1-21.

Invited Speeches¹

von Thienen, J. P. A. (1.6.2017). *Design Thinking Innovationsforschung: Muster in der Entstehung kreativer Neuerungen*. [English: Design thinking innovation research: Patterns in the emergence of creative novelty.] Talk for the Berlin Scientific Society, Berlin, Germany.

von Thienen, J. P. A. (8.3.2017). *Understanding why and how design thinking works. Research at the Hasso Plattner Institutes at Stanford and Potsdam*. Talk at the Opening of the Design Research Lab of Aalborg University, Aalborg, Denmark.

von Thienen, J. P. A. (8.11.2017). *Science as humanity's grand creative endeavour*. Talk at the Mike-Beaney-Colloquium at Humboldt University, Berlin, Germany.

von Thienen, J. P. A., Traifeh, H. & Meinel, C. (2018). *Design thinking powered learning experiences*. Invited talk at the Stanford-Potsdam Hasso Plattner Design Thinking Research Community Building Workshop, Stanford, USA, March 14.

von Thienen, J. P. A. (8.3.2019). Estimator socialization in design thinking: The dynamic process of learning how to judge creative work. Symposium chaired by Giovanni Corazza and Ronald Beghetto at the *International Convention of Psychological Science*, Paris, France.

¹This includes only speeches apart from regular presentations in the Stanford – Potsdam Hasso Plattner Design Thinking Research Program.

von Thienen, J. P. A. (10.1.2019). *Why and how does design thinking work? A review after ten years of research*. Talk for the Digital Engineering Faculty. Potsdam, Germany. Recording available online at: <https://www.tele-task.de/lecture/video/7274>

Bartsch, D., von Thienen, J. P. A. & Hartmann, C. (6.2.2020). *Modellierung von Innovationsräumen in der Biotechnologie*. Talk for the Berlin Scientific Society, Berlin, Germany.

Bartsch, D. & von Thienen, J. P. A. (4.10.2020). Modellierung von Innovationsräumen und -prozessen zur Europäischen Biotechnologie. Tagung „*Was heißt Innovation in der Bioökonomie?*“, Dialogreihe „Innovation und Verantwortung“. Evangelische Akademie Tutzing, in Kooperation mit der Deutschen Akademie der Technikwissenschaften (acatech) und dem Institut Technik-Theologie-Naturwissenschaften (TTN) der LMU München, Tutzing, Deutschland.

Bartsch, D., von Thienen, J. P. A. & Hartmann, C. (3.12.2020). *Recht als Grundlage der Innovationsentwicklung am Beispiel der Biotechnologie*. Talk for the Berlin Scientific Society, Berlin, Germany.

von Thienen, J. P. A. (3.12.2020). Ethics and human need assessments as fundamentals for the development of worthwhile innovation – introducing design thinking templates for risk-benefit assessments. Presentation at the research meeting *Design Thinking – Innovation, Law and Politics*, Hasso Plattner Institute at the University of Potsdam, Potsdam, Germany.

von Thienen, J. P. A. & Meinel, C. (8.9.2021). Neurodesign – Synergies at the intersection of engineering, neuroscience and design thinking innovation. Invited presentation in the Symposium *Cross-disciplinary perspectives on Neurodesign* [chaired by Christoph Lattemann and Radwa Khalil]. MIC conference of creativity, Bologna, Italy.

Borchart, K.-P., von Thienen, J. P. A., Molitorisova, A. (30.3.2021). *Introducing the Needs-Based Design Template for assessments of product risks and benefits based on human needs*. Presentation for the Bundesamt für Verbraucherschutz und Lebensmittelsicherheit and the University of Bayreuth, online.

Walsleben, L. & von Thienen, J. P. A. (17.6.2021). *Understanding large corpora of EU-stakeholder consultations via semi-automated text analysis*. Invited talk at the HUBJ-Workshop, organized by the Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, online.

von Thienen, J. P. A. & Walsleben, L. (2021). Modelling individual, organisational, and governmental decisions concerning the development of sustainable, new products. Invited talk at the conference *Sustainable Development and the Law: Potential and Challenges of Using Behavioural Insights* [organised by Eva van der Zee, University of Hamburg, and Kai Purnhagen, University of Bayreuth; online], Sept 23-24.

von Thienen, J. P. A. (2021). Innovation modelling with the example of sustainability developments – insights for governance and administration. Presentation at the Annual Symposium of the Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, *Modern Biotechnology in a changing world: Health, Environment and Regulation* [online], Oktober 6-7.

von Thienen, J. P. A. & Borchart, K.-P. (2022, May 11). *Design thinking methods for stakeholder analyses*. Invited presentation for the Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, Berlin, Germany.

Bartsch, D., von Thienen, J. P. A., Borchart, K.-P. (2023, Feb 28). Modellierung von Innovationsräumen am Beispiel der modernen Biotechnologie. Rede auf der Festveranstaltung der Berliner Wissenschaftlichen Gesellschaft, HPI, University of Potsdam, Germany.

Tool co-development

Digital health (role: team member)

Tele-Board MED [<https://hpi.de/meinel/knowledge-tech/innovation-research/tele-board-med.html>]

Automated creativity measurement (role: PI)

Immune Defense [<https://hpi.de/neurodesign/tests/immunedefense>]

Collabo-Use [<https://hpi.de/neurodesign/tests/collabouse>]

Schaeffer's Charades [<https://hpi.de/neurodesign/projects/schaeffers-charades.html>]

Remote collaboration (role: PI)

Sonic Scopes – Smart Garden Office [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/Smart_Garden_Sonic_Scopes.pdf]

Motion-based warmup games [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/Warmup_Motion_Games.pdf]

Data analysis (role: PI)

C-Tracer [<https://goesontangents.shinyapps.io/C-Tracer>]

EEG Sonification Platform [<https://luuuucaaa.github.io/braindataSpatialization>]

Music (role: PI)

Brainwave etudes [<https://ifc20.sciencesconf.org/332720/document>]

Playlist selection for creative work [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/DT_Background_Music.pdf]

Further tool (co-)developments

Game of invention [<https://hpi.de/neurodesign/projects/game-of-invention.html>]

Game of innovation [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/Game_of_Innovation.pdf]

Templates: Design thinking in psychotherapy [<https://ecdtr.hpi-web.de/report/2014/002>]

Templates: Designing places [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/Place_Design_Template.pdf]

Templates: Success-failure-analysis for prototypes [<https://ecdtr.hpi-web.de/report/2017/002>]

NOA Cards – Need-based outcome assessment [https://hpi.de/fileadmin/user_upload/fachgebiete/Neurodesign/Card_Set_Needs_Based_Outcome_Assessment.pdf]

Selective tool outcomes from students in neurodesign classes

Bird Ear [<https://birds-ear.de/>]

Corona Noise [<https://marcelgarus.dev/coronoise>]

Sonification Playground [<https://hpi.de/neurodesign/projects/sonification-playground.html>]

Sonyx [<https://hpi.de/neurodesign/projects/sonyx.html>]