

PERSONAL INFORMATION

MIT Media Lab; Opera Of The Future
Massachusetts Institute of Technology
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RESEARCH INTERESTS

Shared Human Experiences, New Interfaces for Musical Expression, Vocal Interaction Design, Technologies for Self-Reflection, Affective Computing, TechStyle, Fauna and Flora Interface Innovation, Craft of Perception, Wearables for Empathy, Hand Made Creativity

EDUCATION

- 2014 - present **Doctor of Philosophy in Media Arts and Sciences**
MIT Media Lab
Tod Machover
- 2012 - 2014 **Master of Science in Media Arts and Sciences**
MIT Media Lab
Tod Machover
- 2011 - 2012 **Master of Research in Virtual Environment Imaging and Visualisation (CS)**
University College London
Antony Steed
- 2010 - 2011 **Master in Mechanical Engineering**
Ecole Nationale Supérieure des Arts et Métiers ParisTech Graduate School
- 2010 **Bachelor Degree in Mathematics and Engineering**
Ecole Nationale Supérieure des Arts et Métiers ParisTech

WORK EXPERIENCE

- 2012 - present Research Assistant
MIT Media Lab, Opera of the Future Group - Massachusetts Institute of Technology, 77 Massachusetts Ave, Cambridge, 02139, MA, USA
- 2016 Research Intern,
Microsoft Research, HXB group - 21 Station Rd, Cambridge CB1 2FB, United Kingdom
- 2010 Invited Researcher, worked on the LuminAR project directed by Natan Linder
MIT Media Lab, Fluid Interface Group - Massachusetts Institute of Technology, 77 Massachusetts Ave, Cambridge, 02139, MA, USA
- 2010 Internship as project manager assistant (3D Modelisation and animation)
College de France; Laboratory of perception and action physiology directed by Alain Bertoz, 11 Place Marcelin Berthelot, 75005 Paris, France
- 2005 - 2006 Performer with a professional troupe
Madani Compagnie, 20 Rue Rouget de Lisle, 93500 Pantin, France

TALKS, WORKSHOPS & EXHIBITIONS

- 2018 **TED.com talk**
Why we don't like the sound of our own voice
- 2018 **Exhibit of Enchanted Wear at Kulturhuset**
Digitally Enchanted Dress
Kulturhuset, Stockholm, Sweden

- 2017 **Talk at TedXBaconStreet**
Your Three Voices
Lincoln School, Brookline, MA
- 2017 **Cat Caffee: Pop-Up Exhibition at the MFA**
Performing Science at the Museum
Museum of Fine Art, Boston, MA
- 2017 **Demo at Hacking Consciousness Event**
Self Reflection and the voice
Harvard Divinity School, MA
- 2017 **Digital Spa: Pop-Up Exhibition at the MFA**
Performing Science at the Museum
Museum of Fine Art, Boston, MA
- 2017 **Exhibition for the Opening of OpenMind:OpenArt Gallery**
I is plural wearable projection piece
MIT, MA
- 2017 **Series of Workshop in Tokyo**
Toyota, DENSO, Panasonic, Dentsu
Tokyo, Japan
- 2016 **Partition: Pop-Up Exhibition at the MFA**
Performing Science at the Museum
Museum of Fine Art, Boston, MA
- 2016 **Talk at Colorado College**
Animal and Music
Colorado Springs, CO
- 2016 **Talk at the MIT Museum for Girl's day series**
Robotics and life choices
MIT Museum Cambridge, MA
- 2016 **Talk at the EMF camp 2016**
Inside the MIT Media Lab
Loseley Park, UK
- 2015 **Workshop at the EMF camp 2016**
Loseley Park, UK
- 2015 **Exhibition at SIGGRAPH Art Gallery**
Dandelion Diptych
Collaborators: Jie Qi and Nicole Teeny
Los Angeles Convention Center, CA
- 2015 **Whorshop at the White House**
Circuit stickers for "Take Our Daughters and Sons to Work Day"
White House, Washington, DC
- 2015 **Presentation at the Acera Innovator Symposium**
"Changing minds: a craft of perception?"
Acera School in 5 Lowell Ave, Winchester
- 2015 **Talk at the MIT Museum Second Fridays Series**
"Good Vibrations: From Music To Medicine"
MIT Museum Cambridge, MA
- 2015 **Multisensory exhibition at Le Laboratoire Cambridge**
Vocal Vibrations

- Collaborators: Tod Machover, Neri Oxman, Charles Holbrow
Le Laboratoire Cambridge, 650 E Kendall St, Cambridge, MA
- 2014 **Multisensory exhibition at Le Laboratoire Paris**
Vocal Vibrations
Collaborators: Tod Machover, Neri Oxman, Charles Holbrow, Elly Jessop
Le Laboratoire, 4 Rue du Bouloi, Paris, France
- 2012 **The Other Festival, Interactive Installation**
Migration project
Collaborators: Jon Fergusson
MIT Media Lab
- 2012 **Hyperscore Workshop**
Royal Opera House, London, UK

**PERFORMANCES
& PRODUCTION
WORK**

- March 2018 Voice Research and Creative Tools
Philadelphia Voices (Symphony for full orchestra, 300 singers and electronics from Tod Machover)
Philadelphia Orchestra, Kimmel Center, Philadelphia, PE
Philadelphia Orchestra, Carnegie Hall, New York, NY
- August 2015 Electronics Restoration and Preparation
Hyperstring Trilogy (Pieces for hyperinstruments from Tod Machover and his team at the Media Lab in 1986)
Luzern Festival, Switzerland
- May 2015 Conceptual and Textual Research
De L'Experience (Piece for narrator, organ and electronics from Tod Machover)
Maison Symphonique de Montreal, Canada
- February 2014 Robot Operator
Death and the Powers and global multicast (Robotic Opera, music from Tod Machover, story and lyrics from Robert Pinsky)
Winspear Opera House, Dallas TX
- December 2013 Hardware and Software Design, Author, Performer
Babel or not Babel (performance for WOOD-WATER-WHISPER-WILD)
MIT Media Lab, Cambridge MA

**TECHNICAL
SKILLS**

- Coding skills C, C++, Python, Java, Matlab, R, VB.NET, SQL, HTML, JavaScript, PHP, G Code, Fortran
- Softwares Excel, MaxMSP, Reaper, Ableton Live, Modalys, Praat, Audacity, OpenGL, Adobe After Effect, Adobe Illustrator, CATIA V6, Vtools, SolidWorks, Rhino, Maya, 3DS Max, Unity, Photoshop, LaTeX, Star CCM+
- Statistical skills Experimental Design, Analysis of Variance, Null Hypothesis Significance Testing, Error Computation, Probability Computation, Bias Estimation, Inferential Statistics, Machine Learning,
- Data analysis Data Collection, Filtering, Normalization, Regression Anazysis, Correlation computation, Database management, Data Visualisation, DSP
- Fab skills Machining (milling machines, lathe, CNC, laser cutting, water jet cutting), Forge (deep drawing, swaging), Casting(mold making, sand casting, die casting), 3D printing, 3D scanning, Electronics, Robotics, CNC machine building, Musical instrument making, Ceramic, Egg Carving, Sewing, Printmaking

SELECTED AWARDS

2018	First Prize in the Technical Usability category at MIT ATHACK (Assistive Technology HAckathon) for the Cipods project
2017	Director's Grant from the Council for the Arts at MIT, Digital Spa project
2017	Bill Mitchell Design Award 2017, 1st place winner of Connected Care Hackathon, sponsored by BNP Paribas Cardiff, MIT
2013 - 2018	International Fellow, MIT
2017	Graduate Woman of Excellence Award, MIT
2016	Director's Grant from the Council for the Arts at MIT, Fablur project
2016	Audience award, Virtual Reality Hackathon, PitchPaint project
2016	2nd Price for Entertainment, Virtual Reality Hackathon, PitchPaint project
2012	Magnes Scholarship, Paris
2011	SOCE Grant, Paris
2010	First Prize "2084 a brave new world?" ENSTA-ParisTech writing contest organised by the CEA (Commissariat à l'Énergie Atomique), Paris
2010	Prix d'Excellence Scientifique et Technique, from Ecole Nationale Supérieure des Arts et Métiers ParisTech Graduate School, Lille

PUBLICATIONS

THESES	R. Kleinberger " Singing about Singing: Using the Voice as a Tool for Self-Reflection " MS Thesis. Massachusetts Institute of Technology 2014
	R. Kleinberger " Musical virtual environment: an interactive machine vision tool for live performance " UCL VEIV program. Virtual Environment, Imaging and Visualisation 2013
CONFERENCE PAPERS	R. Kleinberger " Vocal Musical Expression with a Tactile Resonating Device and its Psychophysiological Effects " New Interface for Musical Expression (NIME 2018), Blacksburg, VA, USA
	R. Kleinberger, A. Panjwani " Digitally Enchanted Wear: A Novel Approach in the Field of Dresses as Dynamic Displays " International Conference on Tangible, Embedded, and Embodied Interaction (TEI 2018) Stockholm, Sweden
	A. Rieger, R. Kleinberger " Learning from Lullabies: A Cognitive-Behavioral Exploration of the Role of Lullabies in Infant and Adult Well-Being " Global Arts and Psychology Seminar (GAPS 2017) Tufts University, Somerville
	R. Kleinberger, A. van Troyer " Dooremi: a Doorway to Music " 16th International Conference on New Interfaces for Musical Expression (NIME 2016). Griffith University, Brisbane, Australia, 2016
	X. Xiao, D. D. Haddad, T. Sanchez, A. van Troyer, R. Kleinberger, P. Webb, J. Paradiso, T. Machover, H. Ishii " KinéPhone: Exploring the Musical Potential of an Actuated Pin-Based Shape Display " 16th International Conference on New Interfaces for Musical Expression (NIME 2016). Griffith University, Brisbane, Australia, 2016
	R. Kleinberger, G. Dublon, T. Machover, J. A. Paradiso " PHOX Ears: Parabolic, Head-mounted, Orientable, eXtrasensory Listening Device " 15th International Conference on New Interfaces for Musical Expression (NIME 2015). Baton Rouge, LA 2015

R. Kleinberger "**V3: an Interactive Real-Time Visualization of Vocal Vibrations**" (SIGGRAPH 2015), Los Angeles Convention Center, CA, CA 2015

C. Holbrow, E. Jessop, and R. Kleinberger "**Vocal Vibrations: A Multi-sensory Experience of the Voice**" 14th International Conference on New Interfaces for Musical Expression (NIME 2014) Goldsmiths, University of London 2014

J. Kory and R. Kleinberger "**Social agent or machine? The framing of a robot affects people's interactions and expressivity**" (HRI 2014) 2nd Workshop on Applications for Emotional Robots held in conjunction with the 9th ACM/IEEE International Conference on Human-Robot Interaction 2014.

R. Kleinberger "**PAMDI Music Box Primarily Analog-Mechanical, Digitally Iterated Music Box**" 13th International Conference on New Interfaces for Musical Expression (NIME 2013) Daejeon + Seoul, Korea Republic 2013.

NE. Gold, OE Sandu, PN Palliyaguru, RB. Dannenberg, Z. Jin, A. Robertson, A. Stark, R. Kleinberger "**Human-Computer Music Performance: From Synchronized Accompaniment to Musical Partner**" Proceedings of the Sound and Music Computing Conference (SMCC 2013) Stockholm, Sweden 2013.

C. Jacques, D. Calian, C. Amati, R. Kleinberger, A. Steed, J. Kautz, T. Weyrich. "**3D-printing of non-assembly, articulated models.**" (SIGGRAPH Asia 2012), Singapore

ORGANISER J. Paradiso, C. Schmandt, K. Vega, C. Kao, R. Kleinberger, X. Liu, J. Qi, A. Roseway, A. Yetisen, J. Steimle, M. Weigel, ACM UbiComp/ISWC'16 workshop - 'Underware: Aesthetic, Expressive, and Functional On-Skin Technologies'

OTHER R Kleinberger "Nanometre 551", Science Fiction short novel published in a short story collection, "2084, le meilleur ou le pire des mondes", broche, 2010.

SERVICES	2015 - 2018	MIT Engineering Advisory Board for the MIT Maker Portfolios
	2014 - 2016	Reviewer for the NIME conference
	2013 - 2018	Graduate Resident Tutor MIT New House

Additional Information	Languages	French, English, German
	Born	Paris, France