

# Kıvanç Tatar

Assistant Professor in Interactive AI

## Academic Publications

### Journal Papers

- J8 Dignum V., Casey D., Cerratto-Pargman T., Dignum F., Fantasia V., Formark B., Hammarfelt B., Holmberg G., Holzapfel A., Larsson S., Lagerkvist A., Lakemond N., Lindgren H., Lorig F., Marusic A., Rahm L., Razmetaeva Y., Sikström S., **Tatar K.**, Tucker J. (Submitted). *On the importance of AI research beyond disciplines. Submitted to Nature Communications*. Dignum V. is the first author, and the remaining authors share equal contributions. Preprint: <https://arxiv.org/abs/2302.06655>
- J7 \***Tatar, K.**, Ericson P., Cotton K., Núñez del Prado P. T., Batlle-Roca R., Cabrero-Daniel, B., Ljungblad S., Diapoulis G., Hussain J. *A Shift In Artistic Practices through Artificial Intelligence*. Accepted to Leonardo Journal.
- J6 Strauss, L., **Tatar, K.**, Nuro, S. (2021). Iterative Design Processes and Soma-based Practices in *instance*. Organised Sound Special Issue on "Collective and Networked Sound Practices.". Cambridge Press. <https://doi.org/10.1017/S1355771821000479>
- J5 **Tatar, K.**, Bisig, D., & Pasquier, P. Latent Timbre Synthesis: Audio-based variational auto-encoders for music composition and sound design applications. The Special Issue of Neural Computing and Applications: "Networks in Art, Sound and Design." Springer. <https://doi.org/10.1007/s00521-020-05424-2>
- J4 \*\***Tatar, K.** (2020). Initial Remarks on Analyzing Acousmatic Music from the Perspective of Multi-agents. Array, special issue on Agency. International Computer Music Association. <http://dx.doi.org/10.25532/OPARA-46>
- J3 \***Tatar, K.**, Prpa M., & Pasquier, P. (2019). A Virtual Reality Art Piece with a Musical Agent guided by Respiratory Interaction: *Respire*. *Leonardo Music Journal* Vol. 29, p. 19-24. **Cover of the issue**. [https://doi.org/10.1162/lmj\\_a\\_01057](https://doi.org/10.1162/lmj_a_01057)
- J2 **Tatar, K.**, & Pasquier, P. (2018). Musical agents: A typology and state of the art towards Musical Metacreation. *Journal of New Music Research*, 48(1), 56--105. <https://doi.org/10.1080/09298215.2018.1511736>.
- J1 **Tatar, K.**, Macret, M., & Pasquier, P. (2016). Automatic Synthesizer Preset Generation with PresetGen. *Journal of New Music Research*, 45(2), 124-144. <http://doi.org/10.1080/09298215.2016.1175481>

### Conference Papers

- C15 Cotton. K., **Tatar K.**, Bisig, D. (2023). *Sound Design Strategies for Latent Audio Space Explorations Using Deep Learning Architectures*. In Proceedings of Sound and Music Computing 2023.

- C14 Tatar K., Cotton, K., Bisig, D. (2023). *Sound Design Strategies for Latent Audio Space Explorations Using Deep Learning Architectures*. In Proceedings of Sound and Music Computing 2023.
- C13 Obaid M., Tatar K., Wiberg M., Said A., Rost M., Weilenmann A., Johal W., Eyssel F. (2022). *Social Drones for Health and Well-being*. In Adjunct Proceedings of the 2022 Nordic Human-Computer Interaction (Nordic-CHI 2022) Conference.
- C12 Zappi V., Tatar, K. (2022) *The Neuralacoustics Project: Exploring Deep-Learning for Lightweight Numerical Modeling Synthesis*. Victor Zappi and Kivanç Tatar. In *Embedded AI for NIME: Challenges and Opportunities Workshop at New Interfaces for Musical Expression (NIME) 2022*.
- C11 Diapoulis G., Zannos I., Tatar, K., Dahlstedt P. (2022). Bottom-up live coding: Analysis of continuous interactions towards predicting programming behaviours. Accepted to New Interfaces for Music Expression Conference 2022.
- C10 Bisig D., Tatar, K. (2021). Raw Music from Free Movements: Early Experiments in Using Machine Learning to Create Raw Audio from Dance Movements. Accepted to AI Music Creativity Conference 2021 (AIMC 2021).
- C9 Boerson R., Liu-Rosenbaum A., Tatar K., Pasquier P. (2020). Chatterbox: an interactive system of gibberish agents. Accepted to the International Symposium of Electronic Arts (ISEA 2020)
- C8 Tatar K., Pasquier P., Siu R. (2019). Audio-based Musical Artificial Intelligence and Audio-Reactive Visual Agents in Revive. In Proceedings of the International Computer Music Conference and New York City Electroacoustic Music Festival 2019 (ICMC-NYCEMF 2019)
- C7 Fan J., Thorogood M., Tatar K., Pasquier P. 2018. Quantitative Analysis of the Impact of Mixing on Perceived Emotion of Soundscape Recordings. In Proceedings of Sound and Music Computing (SMC 2018)
- C6 \*\*Tatar K., Pasquier P., & Siu R. (2018). REVIVE: An Audio-Visual Performance with Musical and Visual Artificial Intelligence Agents. 2018 CHI Conference on Human Factors in Computing Systems, Montreal, QC, Canada ACM 978-1-4503-5621-3/18/04. <https://doi.org/10.1145/3170427.3177771>
- C5 \*\*Prpa M., Tatar K., Schiphorst T., & Pasquier P. (2018). Respire: A Breath Away from the Experience in Virtual Environment. 2018 CHI Conference on Human Factors in Computing Systems, Montreal, QC, Canada ACM 978-1-4503-5621-3/18/04. <https://doi.org/10.1145/3170427.3180282>
- C4 Prpa M., Tatar K., Françoise J., Riecke B., Schiphorts T., Pasquier P. (2018). Attending to Breath: Exploring How the Cues in a Virtual Environment Guide the Attention to Breath and Shape the Quality of Experience to Support Mindfulness. In Proceedings of the 2018 Designing Interactive Systems Conference (pp. 71-84). ACM Press. <https://doi.org/10.1145/3196709.3196765>
- C3 Tatar, K. & Pasquier, P. (2017). MASOM: A Musical Agent Architecture based on Self-Organizing Maps, Affective Computing, and Variable Markov Models. In *Proceedings of the 5th International Workshop on Musical Metacreation (MuMe 2017)*.
- C2 Fan, J., Tatar, K., Thorogood, M., , & Pasquier, P. (2017). Ranking Based Experimental Music Emotion Recognition. In *Proceedings of the 18th International Society for Music Information Retrieval Conference (ISMIR 2017)*.

- C1 Prpa, M., Tatar, K., Riecke, B. E., & Pasquier, P. (2017). The Pulse Breath Water System: Exploring Breathing as an Embodied Interaction for Enhancing the Affective Potential of Virtual Reality. In *Virtual, Augmented and Mixed Reality, 9th International Conference, VAMR 2017, Held as Part of HCI International 2017, Proceedings*. Vancouver: Springer

#### Preprints

- AX1 Tatar K., Bisig D., & Pasquier, P. (2020). Introducing Latent Timbre Synthesis. <https://arxiv.org/abs/2006.00408>

#### Doctoral Thesis

- TH1 Tatar, K. (2019). Musical agents based on self-organizing maps for audio applications [Thesis, Communication, Art & Technology: School of Interactive Arts and Technology]. <http://summit.sfu.ca/item/19665>

All papers are double-blind peer-reviewed unless otherwise is indicated.

\*These papers are single-blind peer-reviewed. The reviewers had access to the list of authors.

\*\*We are invited to submit a paper, and the article is reviewed by the editors.

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## Artworks

- 2023-05-11 **Plastic Biosphere No.2** live audiovisual performance at Kunsthall Nord as a part of *Un-Disciplinary* in Aalborg, Denmark.
- 2022-10-23 **Plastic Biosphere No.3**, a video artwork at the collective exhibiton "Eskizden Piksele", with Nergiz Yeşil, Cem Sonel, Can Büyükberber, Afra Sönmez, Selçuk Artut, Alp Tuğan, Güvenç Özel, Candaş Şişman; at the historical architecture "Sığınak", the shelter of the historical second parliament building of Turkey (which is currently the Atatürk Museum), as a part of the festival *Başkent Kültür Yolu Ankara (Culture Road Ankara)*, received 27480 visitors in-person in 23 days, Ankara, Turkey.
- 2022-03-27 **Plastic Biosphere No.2**, a live performance at a physical concert, using AI for music and moving images, as a part of b.base expo with Maria Pisiou at 4bid Gallery at OT301 in Amsterdam, Netherlands, invited through curatorial selection by 4bid gallery.
- 2022-03-25
- 2021-01-28 **Coding the Latent No.1**, live coding performance using Deep Learning based audio generation with 3D audio and realtime visuals, as a part of Live Coding Hack Lab of on-the-fly, at the Kubus, Center for New Media (ZKM) Karlsruhe, Germany
- 2021-12 **Plastic Biosphere No.2**, a live performance stream, using AI for music and moving images, as a part of Bowed Electrons 2021 hosted from Cape Town, South Africa, invited through curatorial selection by Theo Herbst from University of Cape Town.
- 2021-09-23 **Plastic Biosphere No.2** as a part of collective concert interplay\_2021 with Sidi Chen, Find Mutya, Brandy Leary, Tamar Tabori, Raj Gill, Stéphanie Cyr, hosted from Vancouver, BC, Canada. Selected through an application process, peer-reviewed by three curators.
- 2021-08-16 **Plastic Biosphere No.2** premier with Tamar Tabori, a live performance stream using AI for music and moving images, with the support of Vancouver New Music, supported by the grant (CCA-9) that is acquired competitively.

- 2021-07-15 **gestalt generation no.1** with Remy Siu, as a part of collective exhibition *Aethereal*,  
 2021-04-15 at the Taiwan National Museum of Fine Arts, **Taichung, Taiwan**, supported by the grant (CCA-7) that is acquired competitively.
- 2021-01-03 **The Silhouettes of Istanbul No.3: The Brush of Artificial Intelligence**, a video  
 2020-12-07 work showcased on 52 public large-scale screens scattered around Istanbul, as a part of Istanbul The Lights festival, produced by the Contemporary Istanbul Foundation (CIF) and the **City of Istanbul, Turkey**, three NFTs from this series is available on Foundation, invited through CIF curatorial selection.
- 2020-09-09 **Plastic Biosphere No.1** an interactive artwork using AI for music and moving images, exhibited as a part of the Kepler's Gardens Series, **Bucharest, Romania** Edition, at the **Ars Electronica 2020** in **Linz, Austria**, selected through an application process for the artist residency (AR-3)
- 2020-08-30 **Instance** telematic music-dance performance of Lucy Strauss and Sumalgy Nuro with the contributions of Kıvanç Tatar, Bob Pritchard, Marina Thibeault, presented as online live stream.
- 2020-06 **The Silhouettes of Istanbul** In the collective exhibition *Genetic Codes of Turkish Design, 4th Edition*, with Abra Design, Ahmet Rüstem Ekici, Ali Bakova, Alper Derinboğaz, Arife Design, Arzu Kaprol, Atasay, Atlas Harran, Atıl Kutoğlu, Aykut Erol, Başak Cankeş, Burcu Yıldız, Craft in İstanbul, Day Studio, Derya Geylani, Devrim Erbil, Dice Kayek, Dila Gökalp, Egemen Kemal Vuruşan, Ela Cindoruk, Elif Gönensay, Emin Barın, Faruk Malhan, Mehmet Girgiç, Fırat Neziroğlu, Geray Gencer, Rollic Games, Güvenç Özel, Hakan Sorar, Hamm Design, Hakan Akkaya, Hasan Kocam İrem Buğdaym İznik Çini Vakfı, Koleksiyon Kunter, Şekercioğlu, Melike Altınışık, Nazan Pak, Nohlab, Omar Baban, Özlem Tuna, Pınar Akkurt, **Refik Anadol**, Reo.tek, Toz Design, Under1Minute, Zehra Çobanlı, Zen Seramik... at the International Departures Lobby, **Istanbul Airport, Turkey**, invited through curatorial selection.
- 2019-11-30 **REVIVE: A CODA Guest Presentation** [Performer & Developer] concert with Philippe Pasquier and Remy Siu at the Performance Works (14 channel, 2 projections), co-produced by Boca Del Lupo Vancouver, BC, Canada.
- 2019-10 **Landscapes Past Futures** [Artist & Technologist] Prints and fixed-media video, in the exhibition as a part of the *Index Media Arts Festival*, at the *gnration* Gallery, **Braga, Portugal**, invited through curatorial selection.
- 2019-07-05 **Under 1 Minute (U1M): Seismic Waves** [Artist & Technologist] concert at the Star Bosphorus Data Center with Mehmet Ünal and Hakan Yılmaz, **İstanbul, Turkey**, invited through curatorial selection
- 2019-09-12 **Under 1 Minute (U1M): Digital Sculpture "The One"** [Artist & Technologist] exhibition at the Contemporary Istanbul PlugIn Exhibition, **74000 visitors in person, 40k social media shares and 10 million online views on social media within one week**, with Mehmet Ünal and Hakan Yılmaz, **İstanbul, Turkey**, invited through CIF curatorial selection
- 2019-07-18 **Under 1 Minute (U1M)** [Artist & Technologist] concert at the Harbiye Cemil Topuzlu Open-Air Theatre, the concert opening performance for Kenan Doğulu (Turkish pop-star), approx. **10000 audience**, with Mehmet Ünal and Hakan Yılmaz, **İstanbul, Turkey**
- 2019-06-20 **REVIVE** [Performer & Technologist] concert at New York Electroacoustic Music Festival (NYCEMF 2019) with Philippe Pasquier and Remy Siu at the Fridman Gallery (8 channel), **New York City, New York, USA**, selected through an application process and academic conference style peer-review process, supported by the grant (CCA-3) that is acquired competitively.
- 2019-04-03 **Under 1 Minute** [Artist & Technologist] concert at the Ace of M.I.C.E Awards Ceremony with Mehmet Ünal and Hakan Yılmaz, **İstanbul, Turkey**, invited through curatorial selection.

- 2019-02-09 **REVIVE** [Performer & Technologist] concert at the Living Things Festival 2019 with Philippe Pasquier, at Kelowna Art Gallery (6 speakers), **Kelowna, BC, Canada**, invited through curatorial selection.
- 2018-12-14 **ZETA** [Artist & Technologist] touch-based interactive installation for 360 immersive interface with multichannel audio, at the Immersive Lab at the Institute for Computer Music and Sound Technologies, Zurich University of the Arts with Philippe Pasquier; **Zürich, Switzerland**, invited through curatorial selection, supported by the grant (CCA-2) that is acquired competitively.
- 2018-12-08 **REVIVE** [Performer & Technologist] concert at Zurich University of the Arts with Philippe Pasquier and Remy Siu at the Konzertsaal 2 (26 speakers and 4 subwoofers), **Zürich, Switzerland**
- 2018-08-23 **REVIVE** [Performer & Technologist] concert at **MUTEK Montreal 2018** with Philippe Pasquier and Remy Siu at the Société des Arts Technologique (SAT) dome (157 speakers and 8 projectors), 2 performances, **Montreal, Quebec, Canada**, invited through curatorial selection, supported by the grant (CCA-2) that is acquired competitively.
- 2018-08-31 **RESPIRE** [Artist & Technologist] exhibition at Digital Carnival 2018 with Mirjana Prpa and Philippe Pasquier Vancouver, BC, Canada, invited through curatorial selection.
- 2018-05-20 **In the Engine** [Composer] in the collective concert, İstanbul Soundspace Project: Haydarpaşa'da Bir Gar. @arkaoda, **İstanbul, Turkey**, invited through curatorial selection.
- 2018-04-24 **REVIVE** [Performer&Developer] concert at CHI Connexitions with Philippe Pasquier and Remy Siu at the Société des Arts Technologique (SAT) dome (157 speakers and 8 projectors), 7 performances as a part of **CHI 2018** Conference on Human Factors in Computing Systems, **Montreal, Quebec, Canada**
- 2018-04-27 **RESPIRE** [Artist & Technologist] exhibition at CHI Virtual Reality exhibiton with Mirjana Prpa and Philippe Pasquier, as a part of **CHI 2018** Conference on Human Factors in Computing Systems, **Montreal, Quebec, Canada**.
- 2018-04-18 **RESPIRE** [Artist & Technologist] exhibition at **Vancouver Art Gallery** with Mirjana Prpa and Philippe Pasquier as a part of the conference Museums and the Web MWX18, Vancouver, BC, Canada
- 2018-03-08 **Eternal Pink Noise Machine** [Artist & Technologist], sound installation with Philippe Pasquier, at the *Pink Noise Pop Up* Exhibition in **Seoul, South Korea**.
- 2018-02-04 **Trumpet & Electronics** Solo performance at the collective concert *Blue prints\_new prints* with Alanna Ho, Ben Brown, and Roxanne Nesbitt; at the Gold Saucer Studio, Vancouver, Canada
- 2018::2017 **Collaborator & Developer** Linda Bouchard's Live Structures project
- 2017-11-16 **Trading Places: Un Échange d'Improvisateurs** Concert [Trumpet&Electronics]; with Vicky Mettler, Torsten Muller, and Ross Birdwise; at the Roundhouse, Vancouver, Canada
- 2017-09-24 **Theta** [Artist & Technologist] MASOM joins two media art companies from Istanbul, Ouchhh and AudioFil for a projection mapping piece on **the Facade of the Bolshoi Theatre**, at the Circle of Light 2017, **Moscow, Russia**
- 2017-09-16 **Theta** [Artist & Technologist] MASOM joins two media art companies from Istanbul, Ouchhh and AudioFil for a projection mapping piece on **the Facade of the Romanian Parliament**, at the IMap Bucharest 2017, **Bucharest, Romania**
- 2017-09-07 **IOTA\_AI** [Artist & Technologist], MASOM joins two media art companies from Istanbul, Ouchhh and AudioFil for a performance at the **Ars Electronica Festival 2017** with the theme Artificial Intelligence. The team performed three times at the Deep Space 8K during the festival. **Linz, Austria**

- 2017-06-19 **MA\_Test SOM\_Pattern** [Performer & Technologist] with the project Patar, in the collective concert by *Musical Metacreation Concert* **Atlanta, Georgia, USA**
- 2017-04-22 **Patar @CoCreaTive** [Performer & Technologist] in the collective concert *Barely Constrained* by Co.Crea.Tive Vancouver, BC, Canada
- 2017-03-23 **A Big MASOM Family** [Performer & Technologist] in the collective concert *RE-UN-SOLVED* by Co.Crea.Tive Vancouver, BC, Canada
- 2016-12-25 **Tatar and MASOM take the AID train** [Performer & Technologist] in the collective concert *Take the AID Train* by A.I.D, **Istanbul, Turkey**
- 2016-12-02 **madMethod** [Performer & Technologist] by NOW Society, with Stefan Smulovitz, Sammy Chien, MASOM, Philippe Pasquier, Lisa Cay Miller, Jon Bentley, JP Carter, James Meger, Skye Brooks, at Orpheum Annex, Vancouver, BC, Canada
- 2016-11-10 **Pulse.Breath.Water** [Artist & Technologist] with Mirjana Prpa, Philippe Pasquier, Bernhard Reicke in the VR exhibition at **MUTEK\_IMG** - Virtual Reality (head mounted display and headphones), generative audio, embodied interaction (via breath sensors), **Montreal, Quebec, Canada**
- 2016-10-22 **A Conversation with AI** [Performer & Technologist] in the collective concert *Open to Enter* by CoCreaTive, Vancouver, BC, Canada
- 2016-08-31 **Musebot Chill-out Session** [Artist & Technologist] with Arne Eigenfeldt, Paul Paroczai, Oliver Bown, Ben Carey, Toby Gifford, Jeffrey Morris, and Si Wait, Sound and Music Computing, SMC 2016, **Hamburg, Germany**
- 2016-07-18 **P.O.E.M.A.** [Artist & Technologist] with Regina Miranda, Mirjana Prpa, Philippe Pasquier, and Bernhard Reicke; Generative Audio (quadrophonic setup), Choreographic Installation, Virtual Reality (head mounted display and projection), Embodied Interaction (via respiration sensors), at the gallery *Oi Futuro*, as a part of the cultural program at **OLYMPICS 2016, Rio de Janeiro, Brazil**
- 2016-07-11 **Musebot Chill-out Session** [Artist & Technologist] sound installation with Arne Eigenfeldt, Paul Paroczai, Oliver Bown, Ben Carey, Toby Gifford, and Jeffrey Morris, International Conference on New Interfaces for Musical Expression, NIME 2016, **Brisbane, Australia**
- 2016-04-07 **Organic Strategies** [Trumpet & Electronics] Matthew Ariaratnam in the collective concert: *Constrained Improv*, @Red Gate Arts Society, Vancouver, BC, Canada
- 2016-03-10 **Pulse.Breath.Water** [Artist & Technologist] with Mirjana Prpa, Philippe Pasquier, and Bernhard Reicke, in the exhibition *Scores+Traces: exposing the body through computation* - Virtual Reality (head mounted display and headphones), generative audio, embodied interaction (via breath sensors) @One Art Space, **New York, NY, USA**
- 2016-03-10 **Tuned Ocean no.2** [Artist & Technologist] sound installation in the exhibition *Scores+Traces: exposing the body through computation* - sound installation, generative audio, @One Art Space, **New York, NY, USA.**
- 2016-01-23 **Code of Silence Nb.2** [Composer] graphic notation for any number of performers. Premiered by Plastic Acid Orchestra at One-Page Score event. Vancouver, BC, Canada
- 2016-01-16 **Code of Silence** [Trumpet & Electronics] in the collective concert - *Improvised Resolutions* @Gold Saucer Studio, Vancouver, BC, Canada
- 2015-12-09 **Musebot Chill-out Session** [Artist & Technologist] with Arne Eigenfeldt, Paul Paroczai, Oliver Bown, Ben Carey, Toby Gifford, and Jeffrey Morris, Generative Art Conference 2016, **Venice, Italy**
- 2015-11-16 **Musebots for PROCJAM 2015** [Artist & Technologist] generative music piece with Arne Eigenfeldt, Oliver Bown, Ben Carey, Toby Gifford



- 2015-06-07 **Together () Apart** [Sound Designer] performance piece by Isabelle Kirouac, Vancouver, BC, Canada
- 2015-08 **Black and White: Where the bomb meets the toys** [Composer] graphic notation for three performers, Vancouver, BC, Canada
- 2015-08-22 **Dissonant Disco Collective** performance with made instruments and trumpet at *Vines Festival*, Vancouver, BC, Canada
- 2015-04-23 **Antiphons** [Performer] composition by Ben Wylie *Antinomial Antiphonies, Mixed Greens Performance Series*, SFU Woodward, Vancouver, BC, Canada
- 2015-03-31 **Deep Breath** [Trumpet & Electronics] solo live performance, Black Box, Interactive Arts and Technology, SFU, Surrey, BC Canada
- 2014-05-19 **Tat-Kal-Dem trio** [Trumpet & Electronics] Karakedi, İstanbul, Turkey
- 2014-05-05 **Soundscapes from Poland** [Trumpet] Sonic Arts Day Concert, free improvisation session, Mustafa Kemal Hall, İstanbul
- 2013-05-02 **Tuned Ocean** for electronics and recorded piano, live performance, ELECTROSONIC CITY 3.0, Borusan Music House, İstanbul
- 2013-03-16 **Tin Men and the Telephone (NL) and Furt(DE, UK):** Doğaçlamada Avangard Perspektifler [Guest Musician, Trumpet & Electronics]
- 2013-02-09 **Take it** [Electronics] MIAM Groove Collective Concert, Wake Up Call, İstanbul
- 2012-12-05 **Beyond Trumpet** [Trumpet & Electronics] live solo performance, four channels, MIAM NOISE COLLECTIVE XV Concert, MIAM Recording Studio, İstanbul
- 2012-10-31 **İstanbul in Boring Stereo without Clarinet** [Composer] four channels electroacoustic piece, MIAM Electroacoustic Collective XV Concert, MIAM Recording Studio, İstanbul
- 2008-2012 **Principal Trumpet**, METU Big Band, two concerts per year, Ankara
- 2009-09-12 **Point, Line, Space and Sound** [Trumpet & Electronics] performance as a part of Bauhaus project, in collaboration between Bauhaus University and Middle East Technical University **Weimar, Germany**
- 2009-07-30 **Point, Line, Space and Sound** [Trumpet & Electronics] performance as a part of Bauhaus project, in collaboration between Bauhaus University and Middle East Technical University, METU, Ankara, Turkey

## Grants

PI: Principal Investigator, CI: Co-Investigator, CA: Co-Applicant, CL: Collaborator

NSERC: Natural Sciences and Engineering Research Council of Canada

SSHRC: Social Sciences and Humanities Research Council of Canada

CCA: Canada Council for the Arts

CHAIR: Chalmers AI Research Centre

### Ongoing

- WASPHS-1 *Interactive AI - Ethics and Aesthetics of Human-Machine Interaction in Art, Music, and Games*; kindly offered to Kivanç Tatar (PI) as a starting package for Assistant Professorship position. 12 million SEK = 1.2 million EUR approx.
- WASPHS-2 Cross-collaboration grant; Kivanç Tatar (PI), Morten Fjeld (Co-PI), Andre Holzapfel (Co-PI). 100 000 SEK
- CHAIR-2 *AI for People*, CHAIR Research Theme 2023, Gordana Dodig Crnkovic (PI), Kivanç Tatar (Co-PI), in-progress of budgeting, approx. 100 000 SEK.

2022

CHAIR-1 CHAIR X + AI Call- *AI + Social Drones: Towards Autonomous and Adaptive Social Drones*.  
Mohammad Obaid (PI), Kıvanç Tatar (co-PI), Mikael Wiberg (co-PI). 400 000 SEK

2021

- CCA-10 CCA - Explore and Create - Concept to Realization. Kıvanç Tatar (PI); with support from Paul Paroczai, Esra Özkan, Nancy Lee, and Lucy Strauss. CAD \$51505
- CCA-9 CCA - Explore and Create - Concept to Realization. Kıvanç Tatar (PI); with support from Tamar Tabori, Dan O'Shea, and Remy Siu. CAD \$23100
- BCAC-1 BC Arts Council - Pivot for Individuals - Professional Development. Kıvanç Tatar (PI); with support from Paul Paroczai and Remy Siu. CAD \$12000
- CCA-8 CCA - Explore and Create - Research and Creation. Kıvanç Tatar (PI). CAD \$19500

2020

- CCA-7 CCA - Research and Creation - Remy Siu (PI, 1st author), Kıvanç Tatar (Creative AI consultant, developer). CAD \$37700 CAD
- CCA-6 CCA - Strategic Funds and Initiatives, COVID-19 Emergency Support Fund. CAD \$ 5000
- CCA-5 CCA - Concept to Realization - Liz Solo (PI, 1st author), Dr. Jeremy O Turner (PI, 2nd author), Mike Kean (composer), Kıvanç Tatar (Creative AI consultant, developer). CAD \$58930
- CC-1 Canada Compute - Research Allocation - Philippe Pasquier (PI), Kıvanç Tatar (1st author), Jeff Ens (2nd author), Omid Alemi (3rd author) computing resources of 60 CPU years and 3 GPU years, with estimated worth of CAD \$14,588

2019

- SNSF-1 Swiss National Science Foundation (SNF): Research Exchange - Kıvanç Tatar (CA, Visiting Researcher, 1st author), Daniel Bisig (PI), Philippe Kocher (CI), Martin Neukom (CI), Germàn Toro-Pérez (CI) - CHF 19500
- CCA-4 SSHRC Connection: Marcelo Wanderlay (PI), Pascal Baltazar (CL, 1st author), Philippe Pasquier (CI), Kıvanç Tatar (CL, 2nd author) - CAD \$ 24900
- CCA-3 CCA - Arts Abroad: Travel - Kıvanç Tatar (PI), Philippe Pasquier (CA) - CAD \$3950
- CCA-2 CCA - Arts Abroad : Residencies - Kıvanç Tatar (PI), Philippe Pasquier (CA) - CAD \$7800

2018

- CCA-1 CCA - Arts Across Canada: Travel - Kıvanç Tatar (PI), Philippe Pasquier (CA), Remy Siu (CA) - CAD \$5100
- NSERC-1 NSERC Engage, Canada - Philippe Pasquier (PI), Kıvanç Tatar (1st author), Tangible Interaction (industry partner) CAD \$15000



2017

SSHRC-1 SSHRC Small Grant - Philippe Pasquier (PI), Mirjana Prpa (CA), Kıvanç Tatar (CA), Bernhard Riecke (CI) - CAD \$7000

## Supervision

### Post-doctoral Fellow

Hiring To be hired. *Postdoc in Interactive AI for interdisciplinary Artistic Practices.* 2023-2026. **Supervisor: Kıvanç Tatar.**

### Ph.D.

Ongoing Kelsey Cotton. *Interactive Music Systems using Artificial Intelligence.* Expected graduation 2027. **Main Supervisor: Kıvanç Tatar**, Co-supervisor: Palle Dahlsted, Examiner: Charlotte Wiberg. Funded by WASP-HS-1.

Ongoing Georgios Diapoulis. *Bottom-up Live Coding* .Expected graduation 2023. Main Supervisor: Palle Dahlsted, Co-supervisor: Mohammad Obaid, **Co-supervisor: Kıvanç Tatar**, Examiner: Staffan Björk.

### Masters

2023 Anton Eriksson. *Applying Affect Estimation to 3D Music Visualization.* **Main Supervisor: Kıvanç Tatar**, Examiner: Palle Dahlsted.

2023 David Högberg. *Latent Vector Synthesis.* **Main Supervisor: Kıvanç Tatar**, Examiner: Staffan Björk.

2023 Chaoming Wang. *Machine Learning for generative painting informed by visual arts.* **Main Supervisor: Kıvanç Tatar**, Examiner: Palle Dahlsted.

Lin Luo and Zixi Geng. *The EaseFit: An Interactive Sonic Design with E-textile.* **Main Supervisor: Kıvanç Tatar**, Co-Supervisor: Palle Dahlsted, Examiner: Staffan Björk.

## Teaching Experiences

M00C: Massive OpenOnline Course

2022 Fall **Co-Teacher**, CIU281 - Emerging trends and critical topics in interaction design, 37 students, Chalmers University of Technology, Gothenburg, Sweden

2022 Spring **Co-Teacher**, CIU180 / TIA107 Tangible interaction, 40 students, Chalmers University of Technology, Gothenburg, Sweden

2021 Fall **Co-Teacher**, CIU281 - Emerging trends and critical topics in interaction design, 37 students, Chalmers University of Technology, Gothenburg, Sweden

2018 Spring **Teaching Assistant**, Lab Instructor, *IAT 340 - Sound Design*, 47 students, SIAT, Simon Fraser University, Vancouver, BC Canada

2017-2019 **Teaching Assistant**, Lab Instructor, *Kadenze: Advance Generative Art and Computational Creativity*, M00C

- 2016-2019 **Teaching Assistant**, *Kadenze: Generative Art and Computational Creativity*, MOOC
- 2017 Spring **Teaching Assistant**, Lab Instructor, *IAT 340 - Sound Design*, 50 students, SIAT, Simon Fraser University, Vancouver, BC Canada
- 2016 Spring **Sessional Instructor**, *FPA 149 - Sound*, 135 students, School of Contemporary Arts, Simon Fraser University, Vancouver, BC Canada
- 2015 Fall **Teaching Assistant**, Lab Instructor, *IAT 222 - Interactive Arts*, SIAT, Simon Fraser University, Vancouver, BC Canada
- 2013-2014 **Lecturer**, SAE Institute İstanbul, Courses: *Basic Electronics, Studio Cabling and Patchbays, dB&Metering*, İstanbul, Turkey

## Pedagogy Training

- 2023 PIL 101: Teaching and Learning in Higher Education 1. Gothenburg University.
- 2023 PIL 102: Teaching and Learning in Higher Education 2. Gothenburg University. Currently taking the course.

## Residencies

- 01/2022 **Artist in Resident (AR-4)**: at Center for Art and Media Karlsruhe, as part of on-the-fly project sponsored by Creative Europe Programme of European Union, selected as an artist in resident out of 76 applications, in **Karlsruhe, Germany**
- 07/2020 **Artist in Resident (AR-3)**: Virtual artist residency at the International Center for Research and Education in Innovative and Creative Technologies (CINETic), National University of Theatre and Film "I.L. Caragiale" Bucharest (UNATC), **Bucharest, Romania**
- 10/2020
- 03/2019 **Visiting Researcher**: the the Centre for Interdisciplinary Studies in Rhythm, Time and Motion (RITMO) at the University of Oslo **Oslo, Norway**
- 12/2018 **Artist in Resident**: Institute for Computer Music and Sound Technologies (ICST), Zurich University of Arts (ZHdK), **Zurich, Switzerland**
- 05/2017 **Visiting Researcher**: the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT), at the Schulich School of Music at McGill University **Montreal, QC, Canada**
- 05/2016 **Visiting Researcher**: *movement.futures* - May Residency 2016 at the Emily Carl University of Arts, Vancouver, BC, Canada
- 07-09/2009 **Artist in Resident**: *Bauhaus Project*, Bauhaus University in collaboration with the Middle East Technical University, **Weimar, Germany** and Ankara, Turkey

## Press

- 2020-05-22 **Neural** - *Respire, breathing in sound and vision*
- 2019-12-12 **Exclaim!** - *The Artificial Intelligence Takeover of Music in 2019*, with Holly Herndon, YACHT, Endel, and Algorave artists.
- 2019-12-10 **The La Source**, Volume 20, Issue 09 - *Kıvanç Tatar: crossing the boundaries of science and the arts*, authored by Xi Chen.
- 2019-10-16 **SFU News** - *Graduate takes New Media to new creative levels with Artificial Intelligence*, Vancouver, BC, Canada
- 2020-06-19 **SFU News** - *Exploring Creative Artificial Intelligence*, Vancouver, BC, Canada
- 2019-01-01 **Istanbul Arts News** - *Piyasa* - January Issue, Interview on Creative AI, Turkey, authored by Güniz Anıl
- 2018-01-04 **Artful Living**, *Dev Kadro: İki Görsel Sanatçı, Bir Besteci ve Bir Yapay Zeka*, authored by Esra Özkan, Turkey

- 2016-11-06 **VANDOCUMENT**, *A Conversation with Artificial Intelligence*, authored by Ash Tanasiychuk, Vancouver, BC, Canada
- 2016-08-08 **MetroNews Vancouver**, local newspaper front page, *Vancouver artists making waves at the Olympics*, Vancouver, BC, Canada
- 2016-08-09 **Daily Hive**, *Rio Olympics showcases SFU virtual reality dance installation*, Vancouver, BC, Canada
- 2016-08-17 **SFU News**, *SIAT art project at Rio Olympics takes your breath away*, authored by Allen Tung, Vancouver, BC, Canada
- 2016-07-24 **O Imparcial**, *Imersiva onde o publico experimenta a realidade virtual*, authored by Camila Pereira, **Brazil**
- 24/07/2016 **A Critica**, *Companhia de Regina Miranda mistura dança e realidade virtual em obra que esta em cartaz no rj*, authored by Rosiel Mendonça, **Brazil**
- 2016-06-22 **Glamurama**, *Regina Miranda prepara dança instalação para inglês ver na Olimpíada*, **Brazil**

## Talks, Workshops, Posters, and Demo Presentations

- 2022-09-13 **Talk**. *Notes on Machine Learning and Artificial Intelligence for Artistic Practices* as a part of Un-Disciplinary at Aalborg University in **Denmark**.
- 2022-09-14 **Workshop**. *Robots, AI, and Opera workshop* at Aalborg University in **Denmark**.
- 2022-09-17
- 2022-09-13 **Talk**. *A Different Take on AI: Design Processes and Interaction in Machine Learning and Artificial Intelligence for Music and Arts* at Aalborg University in **Denmark**.
- 2022-06 **Lecture**. *An Introduction to Arts and Technology*. HCI Summer School 2022, organized by SIGCHI, Chalmers University of Technology, and Politechnika Łódźka, hosted in **Łódź, Poland**
- 2022-06 **Workshop**. *Sound Design using Deep Learning*. HCI Summer School 2022, organized by SIGCHI, Chalmers University of Technology, and Politechnika Łódźka, hosted in **Łódź, Poland**
- 2022-03-31 **Seminar and Panel**. *Musical Artificial Intelligence Architectures with Unsupervised Learning in Improvisation, Audio-Visual Performance, Interactive Arts, Dance, and Live Coding* at the event *Interaction with generative music frameworks*. As a part of seminar series *dialogues: probing the future of creative technology* hosted virtually by Creative-Ai research group of KTH Royal Institute of Technology, **Stockholm, Sweden**.
- 2022-03-26 **Panel**. Exploring links between body/image. Kıvanç Tatar and Maria Pisiou. As a part of b.base expo with Maria Pisiou at 4bid Gallery at OT301 in **Amsterdam, Netherlands**, invited through curatorial selection by 4bid gallery.
- 2021-12 **Workshop**. *Incorporating Artificial Intelligence Architectures into Artistic Production and Live Performances*, as a part of Bowed Electrons 2021 hosted from **Cape Town, South Africa**.
- 2021-10-15 **Workshop**. *Incorporating Artificial Intelligence Architectures into Artistic Production and Live Performances*, at Pre-Conference - AI, Music and Improvisation as a part of the conference *Improvisation, Ecology and Digital Technology*, hybrid format, in **Dusseldorf, Germany**
- 2021-07-04 **Artist Talk** on AI and Music Technology, with Remy Siu, Yang Yi-Hsuan, and Su Li as a part of collective exhibition *Aethereal*, at the Taiwan National Museum of Fine Arts **Taichung, Taiwan**

- 2021-06-26 **Workshop** on Creative Artificial Intelligence and Reinforcement Learning for Co-Creation, with Remy Siu, as a part of collective exhibition *Aethereal*, at the Taiwan National Museum of Fine Arts **Taichung, Taiwan**
- 2020 **Panel:** UNATC Distant Art CINETic Residencies. Tatar, K.; Tragtenberg, T.; Singer, M. O.; Hein, L. N.; and Schmitz C. **Ars Electronica 2020**, in **Linz, Austria**.
- 2020 **Review Paper:** Review of Concert 12. *Array: Special Issue - ICMC/NYCEMF 2019/ Reports+Reviews*. International Computer Music Association.
- 11/2019 **Workshop** on Creative Artificial Intelligence for Music and Multimedia, International Center for Research and Education in Innovative and Creative Technologies (CINETic), University of Theatre and Film "I.L. Caragiale" (UNATC), **Bucharest, Romania**
- 08/02/2019 **Talk** at the Interactive Art, Science, and Technology in Western Canada (IAST Kelowna 2019) in conjunction with the Living Things 2019, **Kelowna, BC, Canada**
- 01/06/2018 **Seminar**, *Creative Artificial Intelligence for Music*, Center for Advance Studies in Music (MIAM), Istanbul Technical University **İstanbul, Turkey**
- 16/05/2018 **Seminar**, *An Introduction to Metacreation and Musical Metacreation*, Music and Fine Arts Department, Middle East Technical University, **Ankara, Turkey**
- 02/2018 **Artist Talk** Modular approaches for Interactive Music Systems, at *Blue prints\_new prints* at the Gold Saucer Studio in Vancouver, BC, Canada
- 09/2017 **Artist Talks** Three talks at the Ars Electronica festival 2017 Artificial Intelligence, **Linz, Austria**
- 06/2017 **Poster**, Tatar, K. & Pasquier, P. (2017). MASOM: A Musical Agent Architecture based on Self-Organizing Maps, Affective Computing, and Variable Markov Models. Presented at the Eighth International Conference on Computational Creativity, ICC3 2017, **Atlanta, Georgia, USA**
- 2017 **Demo**, *Style Machine*, BC Tech Summit, Vancouver, BC, Canada
- 2017 **Demo**, *Automatic Synthesizer Preset Generation with PresetGen*, BC Tech Summit, Vancouver, BC, Canada
- 2016 **Seminar**, *An Introduction to Metacreation and Musical Metacreation*, Faculty of Computer and Informatics Engineering, Istanbul Technical University, **Istanbul, Turkey**
- 2016 **Workshop + Artist Talk**, *Sound as a mediator in Interactive Arts: Challenges of Interdisciplinarity*, with Mirjana Prpa; at Vancouver ProMusica 2016, Vancouver, BC, Canada
- 2016 **Workshop + Artist Talk**, *An interdisciplinary artwork: Pulse.Breath.Water*, with Mirjana Prpa; at *movement.futures - May Residency 2016*, School of Interactive Arts and Technology, Simon Fraser University, Vancouver, BC, Canada
- 2016 **Workshop + Artist Talk**, *The Potentials and Challenges of VR, and Pulse.Breath.Water*, with Mirjana Prpa; at Chapel Sound Festival 2016, Vancouver, BC, Canada
- 2016 **Talk & Demo** Prpa, M., Tatar, K., Pasquier, P., & Riecke, B. E. (2016). *Living In A Box: Potentials and Challenges of Existence in VR*, at the Consumer Virtual Reality (CVR) Conference, 2016, Vancouver, BC, Canada

## Awards

- 2019 Travel & Minor Research Award, SFU - CAD \$1000
- 2019 Graduate Fellowship Award, SFU - CAD \$3250
- 2018 FCAT Graduate Fellowship Award, SFU - CAD \$3250
- 2018 Graduate Fellowship Award, SFU - CAD \$6500
- 2018 President's PhD Scholarship, SFU - CAD \$6500

2018 Graduate Fellowship Award, SFU - CAD \$6500  
2017 Lumen Prize - Shortlisted in the category of Artificial Intelligence  
2017 14th Annual "Humies" Awards - 2017 - Finalist  
2017 Travel & Minor Research Award, SFU - CAD \$500  
2017 Graduate Fellowship Award, SFU - CAD \$6500  
2016 Graduate Fellowship Award, SFU - CAD \$6500  
2016 Travel & Minor Research Award (TMRA), SIAT, SFU - CAD \$900  
2014 Graduate Fellowship Entrance Award, SFU - CAD \$6250

## Technical Skills

The related publications are mentioned in parenthesis.

Coding Python (J1, J5, C2, C6, C8, AX1), Javascript (J6, C3), C++ (C3), GLSL (C8, C6), Java (TH1), Matlab (C3), PureData (J1), Cycling74's Max (J6, J5, AX1, J5, J3, J1, C9, C8, C6, C5, C4, C3, C1), Processing, Arduino, Touch Designer (J6, C6, C8)

Digital Signal Processing (all pubs), Digital Signal Processing (all pubs), Audio Programming Technology (all pubs), Deep Learning - Pytorch, Tensorflow (C14, C12, J5, AX1), Machine Learning (all pubs except J4), Pattern Matching and Recognition (all pubs except J4), Evolutionary Computation (J1 - Distributed Evolutionary Algorithms in Python - DEAP), Parallel Computation (J6, J1, AX1), Cloud Computing - Compute Canada, XSEDE, IBM Watson and IBM Bare Metal (C14, J6, J1, AX1), Multi-agent Systems (J2, J3, J4, J5, J6, C1, C3, C4, C5, C6, C8, C9)

Electronics Analog and Digital Circuitry, Logic Design, Signals and Systems (all pubs), Feedback Systems, Discrete Time Control Systems (J6, J5, J3, C6, C8, C9), Microprocessor Programming, Printed Circuit Board Design, Audio Systems (all pubs)

## Software Skills

Electronics LTSPICE, Multisim  
Statistics SPSS (C7)  
Music Pro Tools, Ableton Live, Reaper, Cubase, Audacity, Shotcut, Waves & FabFilter Plugins  
Production

## Languages

English Proficient  
Turkish Native

## Education

07/2019 Ph.D., Interactive Arts and Technology (SIAT), Simon Fraser University (SFU), *Greater Vancouver, BC Canada*  
09/2014  
2012-2014 M.Mus., Sonic Arts, Center for Advanced Studies in Music (MIAM), İstanbul Technical University (ITU), İstanbul, Turkey  
2012-2006 B.Sc., Electrical and Electronics Engineering, Middle East Technical University (METU), *Ankara, Turkey*

## Employment

ongoing **Assistant Professor** in Interactive AI - Ethics and aesthetics of human-machine interaction in art, music, and games; Interaction Design Unit, Computer Science and Engineering, Chalmers University of Technology; Gothenburg, Sweden  
2021-10

04/2020 **Post-Doctoral Researcher**, Institute for Computer Music and Sound Technologies, Zurich  
 10/2019 University of Arts, Switzerland

2020-08 **Post-Doctoral Fellow**, (part-time) Metacreation Lab, Simon Fraser University, Greater  
 2019-09 Vancouver, BC Canada

2019-03 **Research Assistant**, Metacreation Lab, Simon Fraser University, Greater Vancouver, BC,  
 2014-09 Canada

Summer 2011 **Intern Engineer** Turkish Radio and Television Foundation, Ankara

2011-01 **Student Assistant**, Fine Arts and Music Department, METU, Ankara, Turkey  
 2009-09

Summer 2010 **Intern Engineer**, Esenboğa Airport, Ankara, Turkey

## Music Releases

2017 **OP-1**, Beta test: Opposition is overrated, by ÇEKİÇ, Independent

2016 **Electronics**, Self Distruption, by Kıvanç Tatar, Independent

2016 **Trumpet&Electronics**, Live at Red Gate, by Organic Strategies, Independent

2014 **Composer**, Early Works (2012-2014), by Kıvanç Tatar, Independent

2012 **Composer**, Dialectic, by Kıvanç Tatar, Independent

2011 **Composer**, Huzur, by Kıvanç Tatar, Independent

## Community Engagement

2023 **Program Committee Member**. ICCC 2023, The International Conference on Computational Creativity 2022, 3 long papers, 3 short paper.

2022 **Program Committee Member**. AIMC 2022, AI Music Creativity 2022, 3 papers.

2022 **Program Committee Member**. ICCC 2022, The International Conference on Computational Creativity 2022, 3 papers.

2022 **Program Committee Member**. NIME 2022, The International Conference on New Interfaces for Musical Expression 2022, 3 papers.

2022 **Reviewer**. Personal and Ubiquitous Computing, Springer Press, 1 paper.

2022 **Program Committee Member**. EvoMUSART 2022, the “10th International Conference on Artificial Intelligence in Music, Sound, Art and Design”, 3 papers.

2021 **Reviewer**. MDPI Mathematics - Special Issue “Mathematics and Computation in Music”, 1 paper.

2021 **Program Committee Member**. EvoMUSART 2021, the “10th International Conference on Artificial Intelligence in Music, Sound, Art and Design”, 3 papers.

2021 **Program Committee Member**. the 12th International Conference on Computational Creativity. 3 long and 3 short papers.

2020 **Reviewer**. Neural Computing and Applications, 1 paper.

2020 **Reviewer**. International Journal of Human-Computer Interaction, 1 paper.

2020 **Program Committee Member**. the Tenth International Conference on Computational Creativity, ICCC 2020, reviewed 3 long papers and 3 short papers.

2020 **Reviewer**. Network Music Festival 2020, 3 artworks.

2019 **Reviewer**. Leonardo Music Journal, MIT Press, 1 paper.

2020-2019 **Reviewer**. Journal of New Music Research, Taylor and Francis, 2 papers.

2019 **Program Committee Member**. the Ninth International Conference on Computational Creativity, ICCC 2019 , 3 papers.



- 2019 **Co-Organizer, Program Committee Member.** Musical Metacreation Workshop 2019, MUME 2019, in conjunction with the Tenth International Conference on Computational Creativity, ICCV 2019.
- 2018 **Co-Organizer, Chair.** Musical Metacreation Workshop 2018, MUME 2018, in conjunction with the Ninth International Conference on Computational Creativity, ICCV 2018, reviewed 1 paper.
- 2017 **Reviewer.** The Genetic and Evolutionary Computation Conference 2017 GECCO 2017, reviewed 1 paper.
- 2017 **Subreviewer** International Joint Conference on Artificial Intelligence 2017 IJCAI 2017.
- 2017 **Co-Organizer, Chair.** Musical Metacreation Workshop 2017, MUME 2017, in conjunction with the Eighth International Conference on Computational Creativity, ICCV 2017, reviewed 5 papers.
- 2017 **Subreviewer.** Computers in Entertainment (CIE) - Special Issue on Musical Metacreation Volume 14 Issue 2-3, Summer 2016, reviewed 1 paper.
- 2016 **Co-Organizer, Chair.** Musical Metacreation Workshop 2016, MUME 2016, in conjunction with the Seventh International Conference on Computational Creativity, ICCV 2016, reviewed 9 papers
- 2015 **Subreviewer.** The Sixth International Conference on Computational Creativity, ICCV 2015.
- 2006 **Co-founder.** *Middle East Technical University Jazz Society, Ankara, Turkey.*