John D. Sullivan

Montreal, Canada // Paris, France
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OVERVIEW

Researcher, designer, and musician with a focus on human-computer interaction, music and dance technology, interactive media, and research-creation. Areas of expertise include participatory and human-centered design, digital lutherie, motion capture analysis, haptic and multimodal interaction design, assistive technology design, music performance, and interactive media production.

CURRENT & RECENT WORK

Johnny Venom Media   *present*
Researcher, interaction designer, musician, and multidisciplinary artist at large.

"For Patricia" touring dance production.   *2024*
Dance, music and AI performance, with Sarah Fdili Alaoui. [link]
Co-creation, music composition and performance, AI and interactive programming.

Postdoctoral researcher, Université Paris-Saclay, France   *2022 - 2024*
Ex)situ INRIA, Laboratoire Interdisciplinaire des Sciences du Numérique.
Research-creation in dance and human-computer interaction for the "Living Archive: Interactive Documentation of Dance" EU-funded project.

EDUCATION

Ph.D., McGill University, Montreal, QC   2015 - 2021
Department of Music Research, Music Technology area
"Built for Performance: Designing Digital Musical Instruments for Professional Use"
Marcelo M. Wanderley & Catherine Guastavino, co-supervisors

M.F.A. University of Maine, Orono, ME   2012 - 2015
Department of Intermedia
"Interaction and the Art of User-Centered Digital Musical Instrument Design"
N. B. Aldrich, supervisor

B.F.A. College of Santa Fe, Santa Fe, NM   2000 - 2003
Department of Contemporary Music Performance

PREVIOUS RESEARCH POSITIONS

MODINA - Movement, Digital Intelligence and Interactive Audience   *2024*
Artist and researcher in residence, National Center for Dance Bucharest
Research-creation of interactive dance/music/AI performance. [link]

Shared Reality Laboratory   2021 - 2022
Postdoctoral researcher, McGill University
Audio-haptic design lead, IMAGE (Internet Multimodal Access to Graphical Exploration) project [link]

Input Devices and Music Interaction Laboratory   2014 - 2022
Research Assistant, McGill University
Research and support for general lab activities, website design

Center for Interdisciplinary Research in Music Media and Technology   2017
Research Assistant, Montréal, Canada
Advanced motion capture research for industrial-academic collaboration

Augmented Instruments Laboratory, C4DM, Queen Mary University   2018
CIRMMT Inter-Centre Research Exchange, London, UK
Collaborative research with Drs. A. McPherson and F. Morreale

ASAP Media Services, New Media Lab   2012 - 2014
Research assistant, University of Maine
Research, web design and software development for academic and industry clients

TEACHING

Co-instructor   2023 & 2024
Atelier Interaction Humain Machine // *Human-Machine Interaction Workshop*
Diplôme ARRC (Année de Recherche en Recherche-Creation)
Université Paris-Saclay, Paris, France

Co-instructor   2023
Studio Art Science (MSc)
Université Paris-Saclay, Paris, France.

Course Lecturer   2016, 2017, 2018, 2019, 2020
New Media Production I
McGill University, Montreal, Canada.

Invited Lecturer   2019
Interfaces Digitales para Actos en Vivo: Principios y Personalizacíon (Digital Interfaces for Live Events: Principles and Personalization)
Pontifica Universidad Javeriana, Bogotá, Colombia.

Teaching Assistant   2013
An International Perspective on New Media, Media Art and Digital Culture
University of Maine, Orono, ME.

PUBLICATIONS

Journal Articles

John Sullivan, Marcelo Wanderley, Catherine Guastavino. "From Fiction to Function: Imagining New Instruments Through Design Workshops." *Computer Music Journal.* 2023. Vol. 46, No. 3. [link]

John Sullivan, Catherine Guastavino, Marcelo Wanderley. "Surveying Digital Musical Instrument Use in Active Practice." *Journal of New Music Research.* 2021. Vol. 50, No. 5. [link]

Book Chapters

John Sullivan, Ivan Franco, Ian Hattwick, Thomas Ciufo, Eric Lewis. "An Historical Account of the AUMI Desktop Application." In S. Tucker, J. Sullivan, et al., eds. *Improvising Across Abilities: Pauline Oliveros and the Adaptive Use Musical Instrument.* University of Michigan Press. 2024. [link]

Marcello Giordano, John Sullivan, Marcelo M. Wanderley. "Design of Vibrotactile Feedback and Stimulation for Music Performance." In S. Papetti and C. Saitis, eds. *Musical Haptics*, Springer International Publishing AG. 2018. [link]

Conference Papers

Nicolo Merendino, Mela Bettega, Adam Pultz Melbye, John D. Sullivan, Antonio Rodà, and Raul Masu. "Sustainable digital fabrication in NIME: Nine sustainability strategies for DMI production." *International Conference on New Interfaces for Musical Expression*, 2024. [link]

John Sullivan, Sarah Fdili Alaoui, Pierre Godard, Liz Santoro. "Embracing the messy and situated practice of dance technology design." *ACM Designing Interactive Systems (DIS)*, 2023. [link]

Brady Boettcher, John Sullivan, and Marcelo M. Wanderley. "Slapbox: Redesign of a Digital Musical Instrument towards Reliable Long-Term Practice." *International Conference on New Interfaces for Musical Expression*, 2021. [link]

Raul Masu, Adam Pultz Melbye, John Sullivan, Alexander Refsum Jensenius. "NIME and the Environment: Toward a More Sustainable NIME Practice." *International Conference on New Interfaces for Musical Expression*, 2021. [link]

John Sullivan, Julian Vanasse, Catherine Guastavino, Marcelo M. Wanderley. "Reinventing the Noisebox: Designing Embedded Instruments for Active Musicians" *International Conference on New Interfaces for Musical Expression*, 2020. [link]

Filipe Calegario, Marcelo M. Wanderley, João Tragtenberg, Johnty Wang, John Sullivan, Eduardo Meneses, and 4 others. "Probatio 1.0: collaborative development for a toolkit for functional DMI prototypes" *International Conference on New Interfaces for Musical Expression*, 2020. [link]

John Sullivan, Marcelo M. Wanderley. "Surveying Digital Musical Instrument Use Across Diverse Communities of Practice" *International Symposium on Computer Music Multidisciplinary Research*, 2019. [link]

John Sullivan, Marcelo M. Wanderley. "Stability, Reliability, Compatibility: Reviewing 40 Years of DMI Design" *International Sound & Music Computing Conference*, 2018. [link]

John Sullivan, Alexandra Tibbitts, Brice Gatinet, Marcelo M. Wanderley. "Gestural Control for Augmented Instrumental Performance: A Case Study of the Concert Harp." *International Conference on Movement and Computing.* 2018. [link]

Sandeep Bhagwati, Isabelle Cossette, Joanna Berzowska, Marcelo M. Wanderley, John Sullivan, and 9 others. "Musicking the Body Electric: The 'Body:Suit:Score' as a polyvalent score interface for situational scores." *TENOR Conference.* 2016. [link]

John Sullivan. "Noisebox: Design and Prototype of a New Digital Musical Instrument." *International Computer Music Conference.* 2015. [link]

WORKSHOPS & OTHER ACTIVITIES

John Sullivan, Sarah Fdili Alaoui. "Towards Mutual Benefit: Entangled roles and processes in dance-research residencies". Workshop at the *ACM Designing Interactive Systems* conference. 2023. [link]

John Sullivan, Adam Pultz Melbye, Raul Masu. "NIME Eco Wiki Workshop." Workshop at the *International Conference on New Interfaces for Musical Expression.* 2021, Shanghai, China and 2023, Mexico City, Mexico. (Online).

John Sullivan. "Designing movement-based digital musical instruments." Presentation at the *RITMO International Motion Capture Workshop.* 2018. Oslo. Norway.

John Sullivan, Sherrie Tucker. "Improvising Across Abilities: Pauline Oliveros and the Adaptive Use Musical Instrument." Presentation at *The OHMI Conference and Awards.* 2018. Birmingham, U.K.

Alexandra Tibbitts, John Sullivan, Ólafur Bogason, Brice Gatinet. "A Method for Gestural Control of Harp Performance." Performance at the *International Conference on Live Interfaces.* 2018. Porto, Portugal.

John Sullivan, Aditya Tirumala Bukkapatnam, Marcelo M. Wanderley. "Mid-Air Haptics for Digital Musical Instruments." Workshop at the *Conference on Human Factors in Computing Systems (CHI).* 2018. Montréal, QC, Canada.

John Sullivan. "Hands on with AUMI v.4." Workshop at the *International Symposium on Adaptive Technology in Music and Art.* 2017. Troy, NY, USA.

John Sullivan, Marcello Giordano, Deborah Egloff, Marcelo M. Wanderley. "Tactile Augmented Wearables for Delivery of Complex Musical Score Information." Musical Haptics workshop at *EuroHaptics.* 2016. London, UK.

John Sullivan, Marcello Giordano, Marcelo M. Wanderley, et al. "Tactile Recognition for Musical Score Delivery" Demonstration at *EuroHaptics.* 2016. London, UK.

INVITED TALKS

UKRI Centre for Doctoral Training in Artificial Intelligence and Music.   2022
Queen Mary University of London, UK.
Title: "Co-design for performance: participatory and practice-based design research."

Engineered Expression: Digital Instruments in Performance. (workshop)   2021
Massachusetts Institute of Technology, Cambridge, MA.
Title: "Design for Performance: Researching User-Driven Approaches to DMI Design for Professionals."

RPI Arts Graduate Colloquium, Rensselaer Polytechnic Institute, Troy, NY.   2020
Title: "Designing Purpose Built Musical Instruments."

Colloquium d'études supérieures en composition et création sonore.   2020
University of Montreal, Canada.
Title: "Augmenting Harp Performance." with Alexandra Tibbitts.

Visiting Artist Lecture Series. University of Maine, Orono, ME   2017
Title: "Music Interaction Research and Digital Musical Instrument Design."

AWARDS AND HONORS

CIRMMT Student Award - independent research funding support   2016, 2018, 2019

CIRMMT Travel Award - conference travel funding support   2018, 2019

Foreign Language and Area Studies (FLAS) Summer Fellowship   2015

Chase Distinguished Research Assistantship, University of Maine   2015

MFA Research Grant, University of Maine   2013, 2014, 2015

Graduate Student Government Research Grant, University of Maine   2013, 2014

SERVICE

Associate Chair, Artifacts and Systems sub-committee   2024
ACM Conference on Designing Interactive Systems (DIS)

Environmental Officer   2020 - present
International Conference on New Interfaces for Musical Expression (NIME)

Poster and Demo Co-Chair   2022
International Conference on New Interfaces for Musical Expression (NIME)

Digital Tools Committee and Design Consultation Team   2018 - 2021
International Institute for Critical Studies in Improvisation (IICSI)

Executive Board, Student Representative   2018 - 2019
Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT)

Board of Directors and founding member   2016 - 2019
New Music World, New York (Joel Chadabe, chair)

Peer review

ACM Conference on Human Factors in Computing Systems (CHI)   2023, 2024

Frontiers in Computer Science (journal)   2023

ACM Transactions on Human-Computer Interaction (journal)   2023

ACM Conference on Creativity and Cognition   2023, 2024

ACM Conference on Interactive Surfaces and Spaces   2023

Intl. Conf. on New Interfaces for Musical Expression (NIME)	2021, 2023, 2024
* *meta-reviewer*	*2022*
AudioMostly Conference	2022
EAI Endorsed Transactions on Creative Technologies (journal)	2021
Human Technology (journal)	2020
International Computer Music Conference (ICMC)	2016, 2017, 2018

SELECTED CREATIVE WORKS

Dance and Interactive Media

For Patricia, touring interactive dance/music performance. With S. Fdili Alaoui. CNDB, Bucharest and selected EU cities. [link]	2024
The Game of Life, dance performance. With *Le principe d'incertitude*. Selected cities, France. [link]	2022 - 2023
Inside Out, interactive installation. With M. Schumacher and G. Boyes. Nuit Blanche Festival, Montréal, QC, Canada. [link]	2015
High Striker!, site-specific multimedia installation. With J. Carney. IMRC Center, Orono, ME, USA. [link]	2014
fourSQUARE: Death by Pop Song, interactive installation. With S. Levi. IMRC Center, Orono, ME, USA [link]	2013

Music Releases

Tin, Megan Jo Wilson [link]	2016
Ancient Open Allegory Oratorio, Post Provost [link]	2012
Be Prepared!, Town Founder [link]	2012
Experiments, demos & b-sides, Johnny Venom [link]	2012
Anjuli EP, Sea Level [link]	2011
Soulful Noise EP, EastWave Radio [link]	2010
A Moving Train, Jaye Drew [link]	2009

CODING, SOFTWARE & PROTOTYPING

General Computing: JavaScript, Python, MATLAB, Processing (Java), Arduino/Bela (C++), LaTeX, Git, bash/zsh shell

Audio Languages and Software: SuperCollider, Max, Pure Data, Ableton Live, Max for Live, Pro Tools, Audacity

Electronics and Digital Manufacturing: Arduino, Bela, embedded systems, MCAD/ECAD, 3D printing, laser cutting

Sensing and Movement: Qualisys Infrared Motion Capture Systems, MoCap Toolbox for Matlab, Google MediaPipe (markerless pose estimation), PLUX Bitalino

Design: Blender, Adobe Creative Cloud, AutoDesk Fusion 360 & Inventor

Web: Hugo, Jekyll, WordPress, Svelte, NodeJS, HTML/CSS, Ubuntu server, Nginx

LANGUAGE PROFICIENCY

English: Fluent (native)

French: Level B1