Judith Amores

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Research Interests and Vision

How can we create **subtle**, sometimes unnoticeable technology that **augments our memory** and **improve our well-being**? How can these technologies be worn during the day and used at night to interact with the users' unconscious mind for targeted memory reactivation and emotional regulation? My research focuses on designing, implementing and studying user interfaces that can be both used during the **day and night** to reduce stress and anxiety while improving sleep quality and cognitive performance.

Education

Massachusetts Institute of Technology | PhD — *Cambridge, U.S.A*

PhD., Human Computer Interaction/Media Arts and Sciences — *Summer 2020 (Expected)*

Thesis: Wearable Olfactory Interfaces for Targeted Memory Reactivation and Implicit Emotion Regulation in-the-wild.

Advisor: Pattie Maes

Massachusetts Institute of Technology | Master of Science — *Cambridge, U.S.A*

M.S in Media Arts and Sciences (Computer Science/Electrical Engineering, Interaction Design) - MIT Media Lab. — *Sept. 2014 - May 2016*

Thesis: Olfactory Interfaces for Unconscious Influence of Mood and Cognitive Performance.

Advisor: Pattie Maes

University Ramon Llull — *Barcelona, Spain*

B.S in Multimedia Engineering; Computer Science/Engineering & Audio Visuals/Design. — *Sept. 2009 - July 2014*

Work Experience

MIT | Media Lab — *Cambridge, U.S.A*

HCI Researcher. Fluid Interfaces Group. Advised by Pattie Maes. — *September 2013 - Present*

- I ideated, designed, deployed and conducted user studies with technologies that I developed. From Brain Computer Interfaces to VR and AR experiences for emotion regulation and wellbeing. See a full list *here* and research publications *here* .

Google | Creative Lab — *New York, USA*

Creative Technologist; Google Creative Lab — *June - Sept. 2017*

- Developed the first AR experiments using ARCore and launched: See experiments *here*

Microsoft Research | Jaron Lanier — *Seattle, U.S.A*

HCI Research Intern: AR Developer, Software Engineer, UX Designer. — *June - Sept. 2016*

- Lead engineer and designer of HoloARt, a mixed reality system developed for the Hololens that allows the user to turn their physical environment into a canvas where digital holograms and physical objects co-exist in the real and virtual world.

Microsoft Research | MSR Next — *Seattle, U.S.A*

HCI Research Intern: VR Developer, Software Engineer, UX Designer, User Research — *June - Sept. 2015*

- Developed and conducted children studies using TactileVR, a system that integrates tracking information from the head, hands, feet of the kid and surrounding toys to infer complex gestures and interactions and represent this information as virtual proxies in the 3D environment.

URL | Media Technologies Department — *Barcelona, Spain*

HCI Research Intern: AR Developer, Software Engineer, UX Designer; La Salle, Seamless Interaction Group. — *Sept. 2011 - Feb. 2013*

Fellowships & Awards

2018	**Winner,** Best Student Paper Award at the 2018 IEEE International Conference on Body Sensor Networks	*BSN*
2018	**Nominated,** Google PhD Fellowship	*Google*
2016-18	**Winner,** Facebook Graduate Fellowship: 2 year PhD tuition and $111K	*Facebook*
2017	**Winner,** INK 2017 Fellow	*INK Talks*
2017	**Nominated,** Microsoft PhD Fellowship	*Microsoft*
2017	**Winner,** CHI Golden Mouse Award for the video showcase of Essence	*CHI*
2017	**Winner,** Cosmetic Executive Women Scent Innovator Award: $10K	*CEW*
2016	**Finalist,** Innovation By Design: Over 1700 designs submitted to Co.Design's	*Fast Company*
2014-16	**Winner,** Lego Fellowship: 2 year Masters tuition and research assistantship	*Lego Foundation*
2014	**Winner,** Best Idea Award and Winners of the Volkswagen/IDEO Data Driven Hackathon: $5K	*Volkswagen*
2011-13	**Winner,** Research assistantship	*Funitec Foundation*

Talks & Presentations

Imagination in Action — *Cambridge, U.S.A*

A new community of "applied utopians" are creating a new human-centered reality — *May 2019*

- Talk: Engineering Dreams: Wellbeing & Memory Enhancement using Scent

Beijing Media Art Bienniale — *Beijing, China*

CAFA Art Museum — *Sept. 2018*

- Exhibition: Engineering Dreams Demo Video Showcase

ARS ELECTRONICA — *Linz, Austria*

More than ~100000 attendees — *Sept. 2018*

- Exhibition: Cocoon - Interfacing with the Sleeping Mind.
- Talk: Slipping Into The ArtScience of Sleep

INK Talk — *Hyderabad, India*

~1000 attendees — *Nov. 2017*

- Talk: "Using The Power of The Unconscious Mind for Mindfulness and Wellbeing"

CEW Achiever Awards — *New York, U.S.A*

~1000 attendees — *Sept. 2017*

- Scent Innovator Talk: Motivation behind using scent as a user interface and development of Essence Wearable

CHI Conference Talk — *Denver, U.S.A*

ACM Conference on Human Factors in Computing Systems — *July. 2017*

- Talk about research paper: "Essence: Olfactory Interfaces for Unconscious Influence of Mood and Cognitive Performance"

AR in Action — *Cambridge, U.S.A*

An Augmented Reality Summit — *March 2017*

- Talk and Stage Demo of HoloARt: Painting with Holograms in Mixed Reality

Hacking Arts — *Cambridge, U.S.A*

The Future of Arts. Annual Conference, Tech Expo and Hackathon Reality — *Nov. 2016*

- Talk and Panel about HoloARt

Boston University — *Cambridge, U.S.A*

Image and Video Computing Seminar — *April 2016*

- Talk: From Augmented Reality to Augmented Human

Harvard School of Design — *Cambridge, U.S.A*

Envisioning the Future of Architectural Design with Virtual Reality — *March 2016*

- Talk: Augmenting Human Capabilities and Environments Using Mixed Reality

Harvard Digital Futures Consortium — *Cambridge, U.S.A*

sIGHTLines — *Feb. 2016*

- Talk and Panelist: Prepare – Discover – Interact.

Sonar Music Festival — *Barcelona, Spain*

International Festival of Progressive Music and Multimedia Arts. — *July 2014*

- Exhibition at Sonar 2014 (Qbox, Flexo, Tagme)

Press & Media

Seeker: SCIENCE IN THE EXTREMES (126K views), These Sleep Engineers Could Help You Hack Your Dreams

MIT Sloan, Emotion AI, explained

Google, "Made By Women: AR Experiments"

RoadToVR, "5 Google ARCore Experiments That Inject Magic into Everyday Life"

Adafruit, "Invisible Highway with the Feather Bluetooth LE Mini Robot"

Fast Company, "MIT Gives Us Superpowers (Virtually)"

Prosthetic Knowledge, "Augmented Interfaces"

CNET, "Microsoft lab working on multiperson augmented reality"

MIT Technology Review, "Microsoft Researchers Are Working on Multi-Person Virtual Reality"

UploadVR, "Meet Jaron Lanier's newest HMD research project, the Reality Masher"

Tech Times, "Microsoft Lab Working On 'Comradre' Project For Shared Multi-User Augmented Reality Experience"

CNN, "The social network that you can wear"

Fast Company, "MIT Invents A Social Network You Can Wear"

The Creators Project, "Wear Your Likes on Your Sleeve with These Social Textiles"

Design Boom, "Social textiles show icebreaking interaction through wearable messages"

CNN, "Feeling glum, happy, aroused? New technology can detect your mood."

Technical Writing and Publications

Full Papers

Amores, J., & Maes, P. (2017, May). Essence: Olfactory interfaces for unconscious influence of mood and cognitive performance. In Proceedings of the 2017 CHI conference on human factors in computing systems (pp. 28-34). ACM. ***Best Videoshowcase**

Amores, J., Richer, R., Zhao, N., Maes, P., & Eskofier, B. M. (2018, March). Promoting relaxation using virtual reality, olfactory interfaces and wearable EEG. In 2018 IEEE 15th international conference on wearable and implantable body sensor networks (BSN) (pp. 98-101). IEEE. ***Best Paper Award**

Amores, J., Hernandez, J., Dementyev, A., Wang, X., & Maes, P. (2018, July). BioEssence: A Wearable Olfactory Display that Monitors Cardio-respiratory Information to Support Mental Wellbeing. In 2018 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 5131-5134). IEEE.

Richer, R., Zhao, N., **Amores, J.**, Eskofier, B. M., & Paradiso, J. A. (2018, July). Real-time Mental State Recognition using a Wearable EEG. In 2018 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 5495-5498). IEEE.

Shapira, L., **Amores, J.**, & Benavides, X. (2016, September). TactileVR: integrating physical toys into learn and play virtual reality experiences. In 2016 IEEE International Symposium on Mixed and Augmented Reality (ISMAR) (pp. 100-106). IEEE.

Lanier, J., Mateevitsi, V., Rathinavel, K., Shapira, L., Menke, J., Therien, P., ... & **Amores, J.** (2016, September). The RealityMashers: Augmented Reality Wide Field-of-View Optical See-Through Head Mounted Displays. In 2016 IEEE International Symposium on Mixed and Augmented Reality (ISMAR-Adjunct) (pp. 141-146). IEEE.

Fernández-Baena, A., Antonijoan, M., Montaño, R., Fusté, A., & **Amores, J.**. (2013). Bodyspeech: A configurable facial and gesture animation system for speaking avatars. In Proceedings of the International Conference on Computer Graphics and Virtual Reality (CGVR) (p. 3). The Steering Committee of The World Congress in Computer Science, Computer Engineering and Applied Computing (WorldComp).

Peer-Reviewed Workshop and Short Publications

Amores, J., Benavides, X., & Maes, P. (2016, May). Psychicvr: Increasing mindfulness by using virtual reality and brain computer interfaces. In Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems (pp. 2-2). ACM.

Hernandez, J., McDuff, D., Benavides, X., **Amores, J.**, Maes, P., & Picard, R. (2014, June). AutoEmotive: bringing empathy to the driving experience to manage stress. In Proceedings of the 2014 companion publication on Designing interactive systems (pp. 53-56). ACM.

Amores, J., Fusté, A., Richer, R., Maes, P., 2019. Deep reality: an underwater VR experience to promote relaxation by unconscious HR, EDA, and brain activity biofeedback. In ACM SIGGRAPH 2019 Virtual, Augmented, and Mixed Reality (SIGGRAPH '19). ACM, New York, NY, USA.

Amores, J., Fusté, A., Pitaru, A, 2018. Draw Dance: Voice-controlled AR Assistant. In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18). ACM, New York, NY, USA.

Amores, J., Lanier, J. 2017. HoloARt Video Showcase: Painting with Holograms in Mixed Reality. In Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '17). ACM, New York, NY, USA, 466-466.

Amores, J., Benavides, X., Maes, P., 2015. TagMe: An Easy-to-Use Toolkit for Turning the Personal Environment into an Extended Communications Interface. In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '15). ACM, New York, NY, USA, 157-157.

Kan, V., Fujii, K., **Amores, J.**, Zhu Jin, C. L., Maes, P., & Ishii, H. (2015, January). Social textiles: Social affordances and icebreaking interactions through wearable social messaging. In Proceedings of the Ninth International Conference on Tangible, Embedded, and Embodied Interaction (pp. 619-624). ACM.

Amores, J., Benavides, X., & Maes, P. (2015, April). Showme: A remote collaboration system that supports immersive gestural communication. In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (pp. 1343-1348). ACM.

Kao, C. H. L., Dreshaj, E., **Amores, J.**, Leigh, S. W., Benavides, X., Maes, P., ... & Ishii, H. (2015, January). clayodor: Retrieving scents through the manipulation of malleable material. In 9th International Conference on Tangible, Embedded, and Embodied Interaction, TEI 2015 (pp. 697-702). Association for Computing Machinery, Inc.

Amores, J., Benavides, X., Boldu, R., & Maes, P. (2015, April). Exploring the design of a wearable device to turn everyday objects into playful experiences. In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (pp. 2145-2150). ACM.

Benavides, X., **Amores, J.**, & Maes, P. (2015, November). Remot-IO: a System for Reaching into the Environment of a Remote Collaborator. In Adjunct Proceedings of the 28th Annual ACM Symposium on User Interface Software Technology (pp. 99-100). ACM.

Benavides, X., **Amores, J.**, & Maes, P. (2015, September). Invisibilia: revealing invisible data using augmented reality and internet connected devices. In Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers (pp. 341-344). ACM.

Fusté, A., **Amores, J.**, Perdices, S., Ortega, S., Miralles, D. (2013, March). LSInvaders: cross reality environment inspired by the arcade game space invaders. In Proceedings of the 8th ACM/IEEE international conference on Human-robot interaction (pp. 399-400). IEEE Press.

Fusté, A., **Amores, J.**, Ha, D., Jongejan, J., & Pitaru, A. (2017). Paper cubes: evolving 3D characters in augmented reality using recurrent neural networks. In Workshop in Machine Learning for Creativity and Design. NIPS.

Amores, J., & Maes, P. (2016, June). Influencing human behavior by means of subliminal stimuli using scent, light and brain computer interfaces. In Proceedings of the 9th ACM International Conference on PErvasive Technologies Related to Assistive Environments (p. 62). ACM.

Amores, J., & Maes, P. (2017, May). Essence video showcase: Olfactory interfaces for unconscious influence. In Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems (pp. 471-471). ACM.

Amores, J., Maes, P., & Paradiso, J. (2015, September). Bin-ary: detecting the state of organic trash to prevent insalubrity. In Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers (pp. 313-316). ACM.

Patents

Lanier, J., & **Amores, J.**. (2018). "Tactile interaction in virtual environments". U.S. Patent Application No. 15/395,513. Publication Date: 03/15/2018. Filing Date: 12/30/2016

Shapira, L., **Amores, J.** & Palos, X. B. (2018). "Attribute Detection Tools for Mixed Reality". U.S. Patent Application No. 15/867,494. Publication Date: 07/05/2018 Filing Date: 01/10/2018

Extracurricular Activity

Academic Reviewer & Area Chair

Cambridge, U.S.A

Reviewer and area chair in top HCI Conferences

Sept. 2016 - Present

- Area Chair Late Breaking Work, CHI 2018
- Video showcase Jury, CHI 2018
- Reviewer for CHI, UIST, Ubicomp, TEI, AH, ISWC, DIS Conferences and IMWUT Journal.

Co-President VR/AR @MIT

Cambridge, U.S.A

Volunteer

Sept. 2016 - May 2017

- Lead the effort to make MIT a hub of Virtual and Augmented Reality.
- Worked building network on and off campus. Organized events sponsored by Facebook, Google and Samsung.

Teacher Assistant - Human Machine Symbiosis (MIT Media Lab)

Cambridge, U.S.A

TA

Spring 2017

- Organized class, reviewed assignments and gave lectures for a full-semester class at the Media Lab.

Teacher - Mobile VR Development (MIT)

Cambridge, U.S.A

Lead Organizer and Teacher

Winter 2017

- Organized and taught the first VR course at MIT.
- The course was a class about developing mobile VR were students submitted their final projects as part of a challenge sponsored by Google.

Photography/Film Making

Current Location

Freelancer

July. 2008 - Present

Ski Instructor

Current Location

July. 2008 - Present