



Stanford



Pablo Paredes Castro

- Instructor, Radiology
- Instructor, Psychiatry and Behavioral Sciences
-  NIH Biosketch available Online
-  Curriculum Vitae available Online

Bio

BIO

Pablo Paredes is part of the faculty, as an Instructor, in the Radiology, and the Psychiatry and Behavioral Sciences Departments at Stanford University. His research focuses on subtle interventions to reduce stress, such as guiding people to breathe slowly with subtle haptic cues from car seats or office furniture, and passive sensing of affective and physiological biomarkers derived from existing devices (such as computers, phones, etc.) or embedded systems in daily furniture. Dr. Paredes leads the Pervasive Wellbeing Technology Lab, <http://med.stanford.edu/pervasivewellbeingtech.html> and recently was invited to give a TED Talk on his research, <https://www.youtube.com/watch?v=f60USiZX0kA>. He has advised several PhD, masters and undergrad students. Prior to joining the School of Medicine, he was a Postdoctoral Researcher in Computer Science at Stanford University for two years. Dr. Paredes earned his PhD in Computer Science from the University of California, Berkeley in 2015. During his PhD career, he held internships on behavior change and affective computing in Microsoft Research and Google. Before 2010 he was a senior strategic manager with Intel in Sao Paulo, Brazil, a lead product manager with Telefonica in Quito, Ecuador and an Entrepreneur in his natal Cuenca, Ecuador. In these roles, he has had the opportunity to closely evaluate designers, engineers, business people and researchers in telecommunications, product development, and ubiquitous computing.

ACADEMIC APPOINTMENTS

- Instructor, Radiology
- Instructor, Psychiatry and Behavioral Sciences

PROFESSIONAL EDUCATION

- Engineer, Universidad Politecnica Salesiana , Electronics (1999)
- MS, Georgia Institute of Technology , Electrical and Computer Engineering (2003)
- MBA, Georgia Institute of Technology , Business Administration (2004)
- PhD, University of California, Berkeley , Computer Science (2015)

COMMUNITY AND INTERNATIONAL WORK

- Laboratorio de Tecnología de Salud Mental, Cuenca - Ecuador

PATENTS

- Hernandez, J., Roseway, A., Czerwinski, M., Paredes, P., Choi, D.. "United States Patent 20150297140 A1 User Stress Detection and Mitigation.", Microsoft Research, Apr 1, 2014
- Gilad-Bachrach, R., Paredes, P., Czerwinski, M., Johns, P., Kapoor, A., Pina, L., Roseway, A., Rowan, K.. "United States Patent 201550140527 A1 Providing Interventions by Leveraging Popular Computer Resources", Microsoft Research, Nov 1, 2013

LINKS

- My Lab Site: <http://med.stanford.edu/pervasivewellbeingtech>
- Google Scholar: <https://scholar.google.com/citations?user=DL7MtmMAAAAJ&hl=en>
- Research Gate: https://www.researchgate.net/profile/Pablo_Paredes6
- LinkedIn Profile: <https://www.linkedin.com/in/pabloparedes>
- Old Berkeley Personal Site: <https://bid.berkeley.edu/pabloparedes/>
- Old Berkeley Lab Site: <https://bid.berkeley.edu/stressmanagement/>
- TED talk: <https://www.youtube.com/watch?v=f60USfZX0kA>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

In my lab we have four key areas of study: mindful commute, subtle interventions, sensorless sensing, and precise mental states. Our projects aim to design not only useful and efficient wellbeing interventions, but also passive behavioral and affective sensors.

SENSORLESS SENSING

Every couple of days, humanity generates more data than all the data that was generated until 2013. Sensorless sensing is a provocative term and approach focused on repurposing many existing behavioral data streams to passively measure and study affect, stress, behavior, wellbeing and mental health biomarkers.

Projects:

Auto-nomic: Turning the car into an affective sensor.

PeriStress: Peripherals and furniture as stress sensors.

SUBTLE INTERVENTIONS

We use human-centered design to develop affordable and ecologically valid interventions aimed at dramatically increasing adoption and engagement of wellbeing behaviors. We leverage cyber and physical personal spaces to deliver micro or slow interventions that do not distract or interrupt the user.

Projects:

PopBots: an "army" of tiny chatbots for stress management.

UnDosTress: User-driven micro intervention authoring.

PopTherapy: Repurposing popular media into coping strategies.

Ultra Slow Show: Slow changing peripherals & furniture.

Calm Calm: Imperceptible modification of biorhythms.

Fiat Lux: Urban wellbeing interventions.

MINDFUL COMMUTE

Every day, 50 Million Americans spend close to one hour per day commuting by car. We teamed up with Prof. James Landay's HCI lab to design interventions that help manual and autonomous car commuters feel energized to be productive in the morning, and wind down to socialize and sleep better in the evening.

Projects:

Hapty Seat: Breathing & movement interventions for commuters.

Cool ReMix: Calming & mindful mixed reality in the car.

Fast & Furious: Detecting stress with a steering wheel.

PRECISE MENTAL STATES

Psychiatry is undergoing a major revolution with the advent of personal technology. We are part of a multi-disciplinary team led by Prof. Zhenan Bao, creating the MentaId, a skin-like patch aimed at sensing cortisol from sweat and other biomarkers to measure and study longitudinally precise mental states.

Projects:

Skin Wearability: Exploring use cases for skin-like wearables.

MentaId Correlation Study: Lab & field sampling of biomarkers.

PROJECTS

- PopTherapy - Coping with Stress through Popular Media - Microsoft Research
- Under Pressure - Sensing Stress of Computer Users - Microsoft Research
- MouStress - Detecting Stress with Mouse Movement - Microsoft Research
- Fiat Lux - UC Berkeley - Berkeley Center for New Media & Berkeley Institute of Design

Teaching

STANFORD ADVISEES

Postdoctoral Research Mentor

Rahul Goel, Matthew Mauriello

Publications

PUBLICATIONS

- **Fast & Furious: Detecting Stress with a Car Steering Wheel** *ACM Conference on Human Factors in Computing Systems (CHI 2018)*
Paredes, P. E., Ordoñez, F., Ju, W., Landay, J. A.
2018: 10
- **Just Breath - Guided Breathing Interventions for Automobile Commuters (in press)** *Journal of Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*
Paredes, P. E., Zhou, Y., Hamdan, N. A., Balters, S., Murnane, E., Ju, W., Landay, J. A.
2018: 10
- **Inquire: Large-Scale Early Insight Discovery for Qualitative Research** *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*
Paredes, P. E., Rufino Ferreira, A., Schillaci, C., Yoo, G., Pierre, K., Dennis, X., Coye, C., John, C.
2017: 10
- **Evaluating In-Car Movements in the Design of Mindful Commute Interventions** *Journal of Medical Internet Research (JMIR)*
Paredes, P. E., Hamdan, N. A., Cai, C., Clark, D., Ju, W., Landay, J.
2017: e372
- **Fiat Lux: Efficient Wellbeing Interactive Urban Lights** *ACM Conference on Design of Interactive Systems (DIS 2016)*
Paredes, P. E., Ko, R., Calle, E., Canny, J., Hartmann, B., Niemeier, G.
2016: 10
- **Under Pressure: Sensing Stress of Computer Users** *ACM Conference on Human Factors in Computing Systems (CHI2014)*

Hernandez, J., Paredes, P. E., Roseway, A., Czerwinski, M.
2014: 10

- **PopTherapy: Coping with Stress through Pop Culture** *8th EAI International Conference on Pervasive Computing for Healthcare (PervasiveHealth 2014)*
Paredes, P. E., Gilad-Bachrach, R., Roseway, A., Rowan, K., Czerwinski, M.
2014: 10
- **MouStress – Detecting Stress with Mouse Motions** *ACM Conference on Human Factors in Computing Systems (CHI 2014)*
Sun, D., Paredes, P. E., Canny, J.
2012: 10
- **INQUIRE Tool: Early Insight Discovery for Qualitative Research**
Paredes, P. E., Oikonomou, V. R., Guerreo, R. F., Yang, T., Karashchuk, P., Jiang, B., Landay, J. A., Cheshire, C., Canny, J.
ACM. Proceeding CSCW '17 Companion Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing.
2017 5
- **Synestouch: Haptic + Audio Affective Design for Wearable Devices** *6th International Conference on Affective Computing and Intelligent Interfaces (ACII2015)*
Paredes, P. E., Ko, R., Babler, L., Aghaseyedjavadi, A., Chuang, J., Canny, J.
2015: 10
- **Sensor-less Sensing for Affective Computing and Stress Management Technology.**
Paredes, P. E., Sun, D., Canny, J.
IEEE.
2013 6
- **Design Principles for the Conceptualization of Games for Health Behavior Change.**
Paredes, P. E., Tewari, A., Canny, J.
Gamification Workshop. Gamification Workshop @ CHI 2013.
2013 6
- **CalmMeNow: exploratory research and design of stress mitigating mobile interventions**
Paredes, P. E., Chan, M.
ACM. Proceeding CHI EA '11 CHI '11 Extended Abstracts on Human Factors in Computing Systems.
2011 6

PRESENTATIONS

- Calming Tech – Explorations on Interactive Technology Design for Stress and Emotional Management - Microsoft Research