

Jesus G Cruz-Garza

Graduate Student & Research Assistant

Laboratory for Non-Invasive Brain-Machine Interface Systems
 Electrical and Computer Engineering Department
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 Eng Blg II, E 413

Research Interests

Brain-Computer Interfaces, Computational Neuroscience, Behavioral Neuroscience, Neuroaesthetics, Machine Learning, Neuro-rehabilitation.

Education

2014-present PhD- University of Houston, Houston, TX. Advisor: Jose L Contreras-Vidal

2009-2014 BS- Tecnologico de Monterrey, Monterrey, Mexico.
 Bachelor of Science degree with honors in Engineering Physics

Professional Experience

Research Experience

2017-2018 Fellow Center for Advanced Computing and Data Science in High Performance Computing.
 Develop classical and deep learning techniques for neural feature extractions and visualization in natural settings.

1. Center for Advanced Computing and Data Science, Seed Funding for Advanced Computing: A multimodal Big Deep NeuroData study of individual differences in freely behaving people based on quantitative EEG
 - i. Automatic feature extraction in freely-behaving artistic perception and production.
2. Longitudinal assay of individual neural patterns in the creative art.
 - i. Local artist dons headset for the duration of his/her creation of an art installation (~18mo). First longitudinal EEG dataset in a real-world setting.
3. Escribir el Cuerpo: Your Brain on Writing.
 - i. Technical Teaching Assistant, University of Houston, Houston, TX. Technical TA for SPAN3308, working on implementing MoBI technology to study writing creation and development. Co-PI: Cristina Rivera-Garza.

2014-2017 Houston Methodist Research Institute-University of Houston Graduate Fellow
 Ongoing PhD research.

PI/Co-PI: Jose L Contreras-Vidal

4. National Science Foundation, BCS 1533691 : NCS-FO: Assaying neural individuality and variation in freely behaving people based on qEEG . 2015-2016.
 - i. Minecraft Mayhem at the Children's Museum Houston
 432 children's electroencephalography (EEG) data was collected whilst playing Minecraft at the Children's Museum's annual Minecraft Mayhem Event.
 - ii. Exquisite Corpse with Professional Artists: Mobile Brain/Body Imaging in Natural Settings.
 Artists took part in a collaborative artwork while donning EEG, video, and Inertial Measurement Units. Data used to study the human creative process across subjects and disciplines in an unconstrained setting.
 - University of Houston, Houston, Texas, USA

- Blaffer Art Museum, Houston, Texas, USA
 - Museo de Arte Contemporaneo (MARCO), Monterrey, Nuevo Leon, Mexico
- iii. Exquisite Corpse with Children: Mobile Brain/Body Imaging in Natural Settings.
- Blaffer Art Museum, Houston, Texas, USA
 - Children's Museum of Houston, Houston, Texas, USA
- iv. Permanent Exhibition
- Users experienced permanent exhibitions while donning EEG headsets, cameras, and tablets were set up at museums to collect data from museum patrons whilst they visit the museum.
- Blaffer Art Museum, Houston, Texas, USA
 - MARCO, Monterrey, Mexico
 - Indianapolis Museum of Art
 - The Menil Collection, Houston, Texas, USA
- v. Brain on Dance
- EEG and motion data was collected from dancers, cleaned and projected in real time through stage lights, and sonified.
- Smithsonian Innovation Week, Washington DC, USA
 - Hines College of Architecture and Design, University of Houston, Houston, TX
5. Eunice Kennedy Shriver National Institutes of Child Health & Human Development, Program Grant P01 HD064653-01; 2014-2015.
- i. Functions and Development of the Mirror Neuron System.
6. Mission Connect - A TIRR Foundation. 2015-2016.
- i. Funds to study longitudinal stability of a brain-machine interface to a powered exoskeleton for individuals with paralysis.

2013-2014 Lead Research Assistant. –Tecnologico de Monterrey. Advisor: Rogelio Soto.
Responsible for starting and developing the BCI research area at Tecnologico de Monterrey.

2012-2013 Research Assistant. –Tecnologico de Monterrey. Advisor: Raul I. Hernandez-Aranda.
Experimental research on intra-cavity generation of a superposition of Bessel-Gauss beams.

Teaching Experience

2015-2016 Teaching Fellow for first year Exploratory Studies students at University of Houston, Houston TX.

2012-2013 Physics Laboratory Instructor. –Tecnologico de Monterrey, Mexico.
Prepared and carried out laboratory practice to second-year engineering students.

2009-2013 Teaching Assistant. –Tecnologico de Monterrey, Mexico.
Assisted physics professors during in-class assignments.

Industry Experience

2013 Product Innovation Intern. -PepsiCo, NY.
Research and development of mechanical product prototypes. Advisor: Richard Velazquez.

2012 Research Intern. –Corning Cable Systems, Mexico.
Characterization of optical fiber mass fusion splicing, and an innovative geometrical approach to improve insertion loss measurement. Advisors: Yah Hua, Guillermo Cardenas, Constantine Saravanos.

Awards

2018 NSF ACACEME Fellowship. Future Faculty training and mentoring program.

2018 Nomination. Outstanding Student Organization (for GPSA). University of Houston.

- 2018 Nomination. Outstanding New Student Organization (for GPSA). University of Houston.
- 2017 Seed Funding for Advanced Computing (SeFAC). Fellow Center for Advanced Computing and Data Systems (CACDS) in High Performance Computing (HPC). June 2017.
- 2017 Outstanding Graduate and Professional Student Leader. University of Houston. Houston, TX.
- 2017 IEEE Region 5 Outstanding Student Branch. Denver, Colorado.
- 2016 Travel Grant IEEE Future Leaders Forum. New Orleans.
- 2016 Nomination. Outstanding Graduate and Professional Student Leader. University of Houston.
- 2016 Travel Grant A2RU. Emerging Creatives Summit, University of Michigan. Ann Arbor, MI.
- 2015 University of Houston – Methodist Hospital Research Institute Graduate Fellowship in Translational Research.
- 2015 Future Faculty Fellowship at University of Houston.
- 2014 Tuition Fellowship for the PhD program at University of Houston.
- 2014 Nominated for the Graduate Research and Scholarship Projects 'Best Scholarly Publication by a Graduate Student Award' at University of Houston. –Awarded for outstanding high-quality papers by graduate students.
- 2014 Distinguished Student Award for Research and Development, Tecnologico de Monterrey. Awarded for outstanding undergraduate research activity at Tecnologico de Monterrey.
- 2013 Student Development Diploma, Tecnologico de Monterrey. Awarded for outstanding performance extracurricular activities; for participation in dance exhibitions.
- 2013 Distinguished Student Award, Tecnologico de Monterrey. Awarded to outstanding academic and extracurricular undergraduate performance at Tecnologico de Monterrey.
- 2011 Impulso Mexico Joven 2011, by Mexican Institute of Youth (IMJUVE). As a founding member of Jaquemat. This national award was bestowed on our project for its outstanding social impact.
- 2009 Academic Excellence Scholarship, Tecnologico de Monterrey.
- 2009 CENEVAL honoree as top 0.06% top scorer in the national standardized test for high school students.

Professional Society Membership

Student member: UH Graduate and Professional Student Association (GPSA), IEEE, IEEE-EMBS, SFN, SHPE, ASME, UH Phi Beta Delta honor society.
 Past memberships: SPIE.

Professional Service

- 2018 Treasurer, Graduate and Professional Student Association (GPSA), University of Houston.
- 2018 Search Committee for Vice Provost and Dean of the Graduate School, University of Houston.
- 2017-2018 Co-President, Graduate and Professional Student Association (GPSA), University of Houston.

- 2017-Present Logistics Coordinator, IEEE Engineering in Medicine and Biology Society, Houston Chapter.
- 2016-2017 Graduate and Professional Student Association (GPSA), University of Houston.
- 2016-Present Reviewer, Frontiers in Human Neuroscience, Specialty section Neuroprosthetics.
- 2016-2017 IEEE:
Graduate Representative Chair- University of Houston. Award: Most active branch in Region 5.
Engineering in Medicine & Biology Society (EMBS) chapter representative
IEEEExtreme Logistics Coordinator
- 2011-2012 Jaquemat. Founding member, Instructor, Outreach coordinator. Tecnologico de Monterrey, Mexico.
Jaquemat is a nationally recognized social development project. The main purpose of the project
was to train middle school students for the national Math Olympiads.

Publications

Journal Articles

1. **Cruz-Garza, Jesus G.**, Justin A. Brantley, Sho Nakagome, Kimberly Kontson, Murad Megjhani, Dario Robleto, and Jose Luis Contreras-Vidal. "Deployment of Mobile EEG Technology in an Art Museum Setting: Evaluation of Signal Quality and Usability." *Frontiers in human neuroscience* 11 (2017): 527.
2. Contreras-Vidal, Jose L., Nikunj A Bhagat, Justin Brantley, **Jesus G. Cruz-Garza**, Yongtian He, Quinn Manley, Sho Nakagome, et al. 2016. "Powered Exoskeletons for Bipedal Locomotion after Spinal Cord Injury." *Journal of Neural Engineering* 13 (3): 031001.
3. Kontson, Kimberly L., Murad Megjhani, Justin A. Brantley, **Jesus G. Cruz-Garza**, Sho Nakagome, Dario Robleto, Michelle White, Eugene Civillico, and Jose L. Contreras-Vidal. 2015. "Your Brain on Art: Emergent Cortical Dynamics During Aesthetic Experiences." *Frontiers in Human Neuroscience* 9 (November): 626.
4. **Cruz-Garza, Jesus G.**, Zachery R. Hernandez, Teresa Tse, Eunice Caducoy, Berdakh Abibullaev, and Jose L. Contreras-Vidal. 2015. "A Novel Experimental and Analytical Approach to the Multimodal Neural Decoding of Intent During Social Interaction in Freely-Behaving Human Infants." *Journal of Visualized Experiments: JoVE*, no. 104 (October). doi:10.3791/53406.
5. **Cruz-Garza, Jesus G.**, Zachery R. Hernandez, Sargoon Nepaul, Karen K. Bradley, and Jose L. Contreras-Vidal. 2014. "Neural Decoding of Expressive Human Movement from Scalp Electroencephalography (EEG)." *Frontiers in Human Neuroscience* 8 (April): 188.

Journal Articles (in preparation and peer review)

6. **Cruz-Garza, Jesus G.**, Anastasiya E. Kopteva, Aya Hasan, David Gonzalez, Stephanie Andrieu, Jose L. Contreras-Vidal, "How does the brain look at art?: A citizen science approach to establishing normative EEG data.", 2018, *Frontiers in Human Neuroscience*. In preparation.
7. Kopteva Anastasiya E., **Jesus G. Cruz-Garza**, Mélanie Guirette, Jose L. Contreras-Vidal, "Longitudinal assay of the creative process in an individual professional artist with scalp electroencephalography.", 2018, *Frontiers in Human Neuroscience*. In preparation.
8. Hernandez ZR, **Cruz-Garza JG**, Megjhani M, Tse T, Abibullaev B, Contreras-Vidal JL. "Neural correlates of imitation during social interaction in freely-behaving human infants." *In preparation*.

Conference Articles

1. Saleh Kalantari, Jose L. Contreras-Vidal, Joshua Stanton Smith, **Jesus G. Cruz-Garza**, Pamela Banner. Evaluating Educational Settings through Biometric Data and Virtual Response Testing. ACADIA, 2018.
2. Contreras-Vidal, Jose L., **Jesus Cruz-Garza**, and Anastasiya Kopteva. "Towards a whole body brain-machine interface system for decoding expressive movement intent Challenges and Opportunities." In Brain-Computer Interface (BCI), 2017 5th International Winter Conference on, pp. 1-4. IEEE, 2017.
3. Hernandez, Zachery R., **Jesus G. Cruz-Garza**, Teresa Tse, and Jose L. Contreras-Vidal. 2014. "Decoding of Intentional Actions from Scalp Electroencephalography (EEG) in Freely-Behaving Infants." Conference Proceedings: 2014 Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 2014: 2115–18.

Datasets

1. **Cruz-Garza, Jesus G.**, Justin A Brantley, Sho Nakagome, Kim Kontson, Dario Robleto, Jose L. Contreras-Vidal. "Mobile EEG Recordings in an Art Museum Setting." December 2017. doi: 10.21227/H2TM00
2. Akshay Sujatha Ravindran, **Jesus G. Cruz-Garza**, Anastasiya Kopteva, Andrew Paek, Aryan Mobiny, Zachary Hernandez, Jose Luis Contreras-Vidal . "Multi-modal mobile brain-body imaging (MoBI) dataset for assaying neural and head movement responses associated with creative video game play in children ." December 2017. doi: 10.21227/H23W88

Book Chapters

1. **Cruz-Garza, Jesus G.**, Anastasiya E. Kopteva, Jose L. Contreras-Vidal, "BCI and Art Creation", in Brain-Computer Interfaces Handbook, 2018. *In preparation.*

Meeting Abstracts and Poster Presentations

1. Pamela Banner, **Jesus G. Cruz-Garza**, Saleh Kalantari, Joshua Smith, Jose L. Contreras-Vidal. "Evaluating Biomarkers for Stress and Learning in Architectural Virtual Reality Environments." NSF Research Experience for Undergraduates, University of Houston. July 2018. Houston, TX.
2. Austin Moreau, **Jesus G. Cruz-Garza**, Jose L. Contreras-Vidal. "Capsule Network for Automatic Feature Extraction and Classification of EEG data". NSF Research Experience for Undergraduates, University of Houston. July 2018. Houston, TX.
3. Austin Moreau, **Jesus G. Cruz-Garza**, Jose L. Contreras-Vidal. "Using Machine Vision to Autonomously Segment Video for Mobile Brain-Body Imaging in Real World Settings." NSF Research Experience for Undergraduates, University of Houston. July 2018. Houston, TX.
4. **Cruz-Garza, Jesus G.**, Girija Chatufale, Jose Luis Contreras-Vidal. "Automatic MoBI feature extraction and visualization in visual art production". International Mobile Brain/Body Imaging Conference. July 2018. Berlin, Germany.
5. **Cruz-Garza Jesus G.**, Guillen-Rondon P, Contreras-Vidal JL. "EEG Features Associated with the Human Creative Process in the Visual Arts: A Deep Learning Approach". Theoretical and Computational Neuroscience 2018. January 26, 2018. Houston, TX.
6. **Cruz-Garza, Jesus G.**, and J. L. Contreras-Vidal. Context-Aware Mobile Brain Imaging Applications. Tempe, AZ June 28, 2017. I/UCRC BRAIN Meeting.

7. **Cruz-Garza, Jesus G.**, Girija Chatufale, and J. L. Contreras-Vidal. "Examining the Improvisational Creative Process in the Visual Arts: A Mobile Brain Body Imaging Approach." Graduate Research and Scholar Presentation, University of Houston. 2017. Houston, TX.
8. Sohan Gadkari, Dakota Grusak, **Jesus G. Cruz-Garza**, Justin Brantley, Sho Nakagome, Kimberly Kontson, Jose L. Contreras-Vidal. Evaluation of EEG Systems for Continuous Monitoring of Brain Dynamics in an Unconstrained Museum Setting. Undergraduate Research Day, University of Houston. Houston, TX. October 2016.
9. **Jesus G. Cruz-Garza**, Anastasiya E. Kopteva, Andrew Y. Paek, Jose L. Contreras-Vidal. Your Brain on Art: Examining the neural substrate of creativity in the arts using mobile brain-body imaging. Neuroscience 2016, San Diego, CA. November 2016.
10. Anastasiya E. Kopteva, **Jesus G. Cruz-Garza**, Andrew Y. Paek, Jose L. Contreras-Vidal. Understand brain aesthetic responses in natural complex settings: a citizen science approach. Neuroscience 2016, San Diego, CA. November 2016.
11. Mélanie Guirette, Anastasiya E. Kopteva, **Jesus G. Cruz-Garza**, Jo Ann Fleischhauer, Jose L. Contreras-Vidal. Longitudinal Assay of Artist's Creative Process using MoBI Technology. Houston Methodist Research Institute. Houston, Texas, USA. August 2016.
12. Aya Hasan, Stephanie Andrieu, David G. Gonzalez-Sanchez, Anastasiya E. Kopteva, **Jesus G. Cruz-Garza**, Jose L. Contreras-Vidal. How does the brain experience art? Part A: Behavioral Findings. Houston Methodist Research Institute. Houston, Texas, USA. August 2016.
13. Anastasiya E. Kopteva, **Jesus G. Cruz-Garza**, Jo Ann Fleischhauer, Mélanie Guirette, Jose L. Contreras-Vidal. The Creative Brain in Action and in Context: A Longitudinal Assay of the Creative Process using MoBI Technology. 2016 International Conference on Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity. Cancun, Mexico. July 2016.
14. **Cruz-Garza, JG.** Anastasiya E. Kopteva, Andrew Y. Paek, Jose L. Contreras-Vidal. The Exquisite Corpse: EEG Features Associated with Art Improvisation. 2016 International Conference on Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity. Cancun, Mexico. July 2016.
15. **Cruz-Garza JG**, Hernandez ZR, Megjhani M, Abibullaev B, Tse TW, Caducoy E, Contreras-Vidal JL. Neural development of social cognition in the first two years of life: Early findings from a cross-sectional study. Society for Neuroscience: Neuroscience 2015. October 21, 2015: Chicago, IL.
16. **Cruz-Garza JG**, Kontson K, Megjhani M, Brantley J, Robleto D, White M, Civillico E, Contreras-Vidal JL. Your Brain On Art : Bringing Research to Public Settings to Increase Brain Awareness and Acquire Big Data. Society for Neuroscience: Neuroscience 2015. October 17, 2015: Chicago, IL.
17. Kontson K, Megjhani M, Brantley J, **Cruz-Garza JG**, Nakagome S, Robleto D, White M, Civillico E, Contreras-Vidal JL. Emergent cortical dynamics during aesthetic experiences. Society for Neuroscience: Neuroscience 2015. October 17, 2015: Chicago, IL.
18. Arenas-Castellanos AJ, Hernandez Z, **Cruz-Garza JG**, Megjhani M, Abibullaev B, Prasad SRP, Tse T, Armstrong C, Long W, Contreras-Vidal JL. "A developmental analysis of behaviors related to the mirror neurom system in 6-24 months infants". Cognitive Development Society 2015. Columbus, OH.
19. Hernandez ZR, **Cruz-Garza JG**, Tse T, Caducoy E, Abibullaev B, et al. Supervised Classification of Intended Behaviors Using Electroencephalography (EEG) from Freely-Behaving Infants: Early findings. 12th Annual Theoretical and Computational Neuroscience Conference; 2015 February 06; Houston, TX, USA. Houston: Gulf Coast Consortia; c2015.

20. Brantley JA, Kung JW, Canela M, **Cruz-Garza JG**, Sigora AV, et al. Powered Lower-Extremity Gait System for Children with Paralysis. Mission Connect Annual Scientific Symposium; 2014 December 05; Houston, TX, USA. Houston: TIRR Foundation; c2014.
21. **Cruz-Garza JG**, Brantley JA, Nakagome S, Robleto D, Contreras-Vidal JL. "The Brain on Art": Assaying the Neuroaesthetics Landscape for Emotional Human Experience. 4th Annual NeuroEngineering Symposium; 2014 October 27; Houston, TX, USA. Houston: Gulf Coast Consortia. p. 3; c2014.
22. Hernandez ZR, Tse T, **Cruz-Garza JG**, Contreras-Vidal JL. Decoding of Intentional Actions from Scalp Electroencephalography (EEG) in Freely Behaving Infants. 4th Annual NeuroEngineering Symposium; 2014 October 27; Houston, TX, USA. Houston: Gulf Coast Consortia. p. 7; c2014.
23. **Cruz-Garza JG**, Hernandez ZR, Nepal S, Bradley KK, Contreras-Vidal JL. Decoding of Expressive Human Movement from Scalp Electroencephalography. In: Cantu Ortiz FJ, Duron Villasenor SY, editors. 44 Congreso de Investigación y Desarrollo; 2014; Monterrey, NL, Mexico. Monterrey: Tecnológico de Monterrey. p. 391. ISBN: 978-607-501-293-3; c2014.
24. **Cruz-Garza JG**, Tamez-Duque J, Soto R. Real time decoding of intentions using low-cost EEG for assistive lower limb exoskeleton. Congreso de Mecatronica, Tecnológico de Monterrey; 2014; Monterrey, NL, Mexico.

Technical Reports

1. **Cruz-Garza, Jesus G**. Technical Report: Artistic Brain-Computer Interfaces. 2016 International Conference on Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity. July 2016.
2. **Cruz Garza JG**. Technical Report: Improving the Performance of Insertion Loss Measurements in Single Mode Optical Fiber Reference Connectors: A geometrical approach. Reynosa, Mexico: Corning Cable Systems, Corning Inc; December 2012.
3. **Cruz Garza JG**. Technical Report: Characterization of mass fusion optical fiber splicing. Reynosa, Mexico: Corning Cable Systems, Corning Inc; August 2012.

Invited Talks and Presentations

SHPE. Brain-Machine Interface Systems: Opportunities that lie ahead for new graduate students. Feb 23, 2018.

Graduate School: Representation of latin american students in graduate programs
Society for Hispanic and Professional Engineers (SHPE)
November 11, 2016

Your Brain on Art: The Neuroscience of Aesthetics and Creativity.
Technical Presenter.
Houston Arts Partners Conference. Alley Theater, Houston, TX.
September 10, 2016.

Neural activity associated with expressive movement in dance.
Technical Presenter.
2016 International Conference on Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity. Live Aqua, Cancun, Mexico.
July 2016.

Artistic Brain-Computer Interfaces Review Panel.
Panelist.

2016 International Conference on Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity. Live Aqua, Cancun, Mexico.
July 2016.

I wish I knew this from the start: Graduate Student-led Panel.
Panelist.
Graduate School, University of Houston.
August 2016.

Resume Workshop and Interview Recommendations.
Presenter.
PROMES & IEEE, University of Houston.
September 2016.

The Brain on Art: Understanding Neural, Cultural and Demographic Factors in Art Appreciation.
Presenter.
Museum of Fine Arts, Houston, TX.
May 12, 2016

Your Brain on Art: Actividad cerebral en la improvisacion artistica.
Technical Presenter.
Museo de Arte Contemporaneo (MARCO). Monterrey, Nuevo Leon, Mexico.
May 2016.

The integration of arts and science in a university setting.
Presenter.
A2RU Emerging Creatives Summit, University of Michigan. Ann Arbor, MI.
March 11, 2016.

Your Brain On Art: Investigating the neural basis of aesthetics and creativity using mobile brain-body imaging,
Keynote Speaker.
Art, Mind, and Science conference, by FIRST-MD. San Antonio, TX.
January 21, 2016.

Rehabilitation Robotics: Innovations in Brain-Machine Interfaces.
Technical Presenter.
Course: The Future of Neuroscience, at Rice University. Houston TX.
October 15, 2015.

Exoskeleton Powered by Brainwaves, and Brain on Dance.
Presenter.
Innovation Festival - USPTO, at Smithsonian Museum of American History. Washington, DC.
September 25-27, 2015.

Innovation is STEAM-Powered.
Panelist.
Houston Arts Partners Conference, at Museum of Fine Arts Houston. Houston, TX.
September 11-12, 2015.

Introduction to Brain-Computer Interfaces. Grandes Pasos del Patronato de Nutrición.
Keynote Speaker.
Panama City, Panama.
July 2014.

Brain-Computer Interfaces and applications in assistive rehabilitation technology.
Keynote Speaker.
Laboratorio de Robotica del Noreste y Centro de Mexico, Tecnologico de Monterrey. Monterrey, NL, Mexico.

March 2014.

Outreach Activities

- 2018 Lab tour for MakerSpace summer program, St. Stephen Episcopal school. July 13, 2018.
- 2017 National Geographic videography session: The Exquisite Corpse. December 18, 2017.
- 2017 Speaker. Pumps and Pipes Summer Academy. June 27, 2017
- 2017 Guest speaker. Prepa Tec Campus Santa Catarina. Physical Systems Modeling: Machine Learning to classify and predict brain activity. Match 17, 2017.
- 2017 Houston Community College Spring Branch Performing Arts Center. Your Brain on Art: Exquisite Corpse Music. .Feb 12 2017.
- 2017 Indianapolis Museum of Art. Family Day: over 100 people reached. February 4, 2017.
- 2017 Neuro-engineering workshop. Mars Rover Celebration. University of Houston. Jan 28, 2017
- 2017 Neuro-engineering. Spring Branch ISD STEM Learning Lab Jan. 28, 2017
- 2016 Teaching Fellow Workshop for Graduate and Professional Student Association (GPSA).
- 2016 Introduction to EEG and Neuroaesthetics. SPAN3308. University of Houston. Houston, TX.
- 2016 IEEE representative for Student Organization Fair
- 2016 UTHealth Stomp Out Stroke Festival, Brays Bayou, Houston, TX.
- 2016 Your Brain on Art: The Exquisite Corpse. Children's Museum of Houston, Houston, TX.
- 2016 CoTA Connects, College of the Arts, University of Houston.
Brain on Dance demonstration and explanation of neural mechanisms involved.
- 2016 National Engineers Week, The Children's Museum Houston.
Brain imaging and rehabilitation robotics demonstration..
- 2015-2016 Brain or Art international demonstrations. Houston, USA; Monterrey, Mex.
'Your Brain on Art' events in collaboration with the Blaffer Art Museum featuring renowned artists. Eighteen artists from the fields of music, visual arts, creative writing, and dance were set up with brain-imaging equipment and their brain activity was displayed in real time. I led the organization of the event, equipment setup, and interaction with the audience.
- 2015 Becky Valls Red Square performances.
Implemented a real time neural decoder of conveyed emotional states for a live performance by Dr. Rebecca Valls at the Jose Quintero Theater in University of Houston. The decoder modulated the theater lights to connect the dancer with the audience through perceptible environment changes.
- 2015 UTHealth Stomp Out Stroke Festival, Discovery Green, Houston, TX.
- 2014 – 2016 Lab tours for international high school students.
Conducted lab tours for visiting international high school students.
- 2014-2015 The Menil Collection
While collecting data from volunteers, we explained EEG and details about our research to museum visitors.

- 2014 Introduction to neuroscience, AIESEC, Cocle, Panama.
Talk about recent developments in neuroscience and brain-machine interfaces to motivate professional engineers interested in pursuing a graduate degree or more technical training in diverse fields.
- 2014 Personal finance, Panama. AIESEC.
Personal finance seminars for remote rural communities in Panama. The talks introduced them to basic financial management, and creating assets.
- 2014 The Setup, Tecnologico de Monterrey, Mexico.
Networking event for young entrepreneurs and researchers. Connected people to the topic of neuroscience and potential applications using non-invasive technologies such as EEG.
- 2013 Workshop on Diagnostic, Assistive and Therapeutical Uses of Brain-controlled Lower Extremity Gait Systems.- Zambrano-Hellion, Methodist Hospital System, Monterrey, Mexico.
Demonstrated and discussed the use of EEG to decode user intentions to control a robotic exoskeleton.
- 2012 Head Logistics Coordinator. XV International Physics Symposium. Tecnologico de Monterrey, Mexico.
Organized the symposium events, contacted and scheduled guest speakers, and led the poster session and site visits.
- 2010-2011 Instructor. Educiencia.
Independently prepared lectures about physics, math and chemistry for high school teachers in low income communities.

Performances and Artistic Experience

Extracurricular Activities

- 2016-2017 The Musicians of Bremen, Performer, Opera Leggera, The Nathaniel Center, Kingwood, TX
- 2013-2015 State-wide Dancesport competitions, representing University of Houston's Cougar Dancesport team. Standard- Bronze. Latin- Silver. Social- Advanced. Recipient of multiple podium awards for each category.
- 2009-present Volunteering and social development has been a core activity in my professional formation. Extensively involvement in national and international social development educational projects.
- 2009-2014 Salsa workshops and six performances at Auditorio Luis Elizondo, Tecnologico de Monterrey.
- 2009 Volunteer museum guide at Museo de Arte Contemporaneo (MARCO) in Monterrey, Mexico.
- 2009-2014 Three intramural Basketball Championships at Tecnologico de Monterrey.
- 1997 Youth championships in regional and national tournaments. U-17 Men's Basketball Team for the state of Nuevo Leon, Mexico.

Other

Programming Languages: MATLAB, Java, LaTeX
Languages: Spanish- Native, English- Advanced, French- Advanced

Certifications

IEEE MOVE Community Disaster Relief Training
CITI Human Subjects Certification

Mentoring

2017	Pamela Banner, Austin Moreau, Samuel Henderson, Nupur Dave, Anika Patel, Arsh Agarwal, Guillermo Herrera-Arcos, Pavan Agrawal, Aman Halawa, Rebeca Guillen, Samuel Akinwande, Lanvy Vu, Michelle Gale, Abidemi Awojuyigbe, Eric Todd, Rhema Ike, Girija Chatufale, Shroothi Ramesh, An Vu Thanh, Mofe Osanyintolu, David Arevalo (MFA).
2016	Sohan Gadkari, Dakota Grusak, Stephanie Andrieu, Aya Hassan, Mélanie Guirette, David G. Gonzalez-Sanchez, Aditya Garg, Aditya Dharap, Adam Wygant, Rangeet Pan (MS), Shruti Ray (MS).
2015	Wanxia Long, Carlos Armstrong, Rosario Diaz.
2014	Eunice Caducoy, Jesus Tamez-Duque, Teresa Tse.

Selected news articles (*Highlights)

Radio

What Do Our Brains Look Like When Art Gets Involved?, Houston Public Media,
<http://www.houstonpublicmedia.org/articles/news/2016/01/21/134834/what-do-our-brains-look-like-when-art-gets-involved/>
 January 21, 2016

University of Houston Brain Study Explores Intersection of Art and Science, Houston Public Media,
<http://www.houstonpublicmedia.org/articles/news/2016/01/20/134348/university-of-houston-brain-study-explores-intersection-of-art-and-science/>
 January 20, 2016

University of Houston Study Examines Relationship Between the Brain and Creativity, Houston Public Media, <http://www.houstonpublicmedia.org/news/university-of-houston-study-examines-relationship-between-the-brain-and-creativity/>
 October 15, 2015

Journal

ECE Connections, Department of Electrical & Computer Engineering Magazine, University of Houston, Spring 2016

Cracking the Brain Code, Parameters: Cullen College of Engineering Magazine
 Fall 2015

Professor teams up with local artist to study aesthetic experiences in the brain, Parameters: Cullen College of Engineering Magazine.
 Spring 2015

Art and Science come together on the dance floor. Parameters: Cullen College of Engineering Magazine.
 Spring 2015

Newspaper

ВЕЧНЫЕ БРЕМЕНСКИЕ, Our Texas, <http://www.ourtx.com/issue-423/14360>
 June 22, 2016

The Musicians of Bremen are coming to Kingwood, The Humble Observer,

http://www.yourhoustonnews.com/humble/news/the-musicians-of-bremen-are-coming-to-kingwood/article_0d0cd425-d3fa-504c-a717-1f99c751ccce.html
June 17, 2016

El cerebro mostrara su arte. By Luis Lopez. El Norte: Vida.
April 5, 2016. Monterrey, Mexico.

Indagan los efectos del arte en el cerebro. El Porvenir, Cultural, Gerardo Duarte, Pág. C01; Milenio Monterrey, Primera, Gustavo Mendoza Lemus, Pág. 018; El Norte, Vida, Teresa Martínez, Pág. V07.
April 5, 2016. Monterrey, Mexico.

Live wire: Mapping babies' brain activity. By Marle D. De Jesus. Houston Chronicle: Health Zone. Wearable Technology. November 23, 2014.

Web Media

Your Brain on Art concert. Houston Community College Media Room.
<http://www.hccs.edu/district/about-us/mediaroom/>
Feb 17, 2017

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