Javier Gonzalez-Castillo, Ph.D.

Senior Associate Scientist, National Institute of Mental Health, NIH

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EDUCATION

2009	Ph.D., Biomedical Engineering, **Purdue University**, West Lafayette, IN, USA.
2001	BS. & MS., Electrical and Computer Engineering, **Universidad Politécnica de Madrid**, Madrid, Spain.

RESEARCH EXPERIENCE

2021-Present — *Senior Associate Scientist*
Section on Functional Imaging Methods, National Institute of Mental Health, **National Institutes of Health**, Bethesda, MD.

2014-2021 — *Staff Scientist*
Section on Functional Imaging Methods, National Institute of Mental Health, **National Institutes of Health**, Bethesda, MD.

2011-2014 — *Research Fellow*
Section on Functional Imaging Methods, National Institute of Mental Health, **National Institutes of Health**, Bethesda, MD.

2009-2011 — *Post-doctoral Visiting Fellow*
Section on Functional Imaging Methods, National Institute of Mental Health, **National Institutes of Health**, Bethesda, MD.

TEACHING EXPERIENCE

2014-2024 — *Guest Lecturer at the NIH fMRI Summer Course*
National Institute of Mental Health, **National Institutes of Health**, Bethesda, MD

2008 — *Graduate Course Instructor*
Weldon School of Biomedical Engineering, **Purdue University**, West Lafayette
- (BME501) Medical Device Accidents and Engineering Analysis

2005-2007 — *Teaching Assistant*
Weldon School of Biomedical Engineering, **Purdue University**, West Lafayette
- (BME501) Medical Device Accidents and Engineering Analysis
- (ECE528) Measurement and Stimulation of the Nervous System

INDUSTRY EXPERIENCE

2001-2004 — *Associate Consultant*
Hewlett Packard Consulting & Integration, Hewlett-Packard, Madrid, Spain
- Project manager for medium size projects ($50,000-$100,000).
- Prepare commercial proposals on IT management solutions.
- Manage communication with HP R&D business unit.

2000-2001 — *Research Engineer*
Hewlett Packard Labs, Hewlett-Packard, Bristol, UK
- Research Semantic Web Technologies and applications to e-commerce.

MENTORSHIP EXPERIENCE

Post-Doctoral Fellows	Somayeh Shahsavarani – NIH & Columbia University (2020 – 2024) Sharif Kronemer – NIH (2022 – Present) Fernando Ramirez – NIH (2022 – Present) Joshua Faskowitz – NIH (2022 – Present) Tyler Morgan – NIH (2022 – 2024)
Ph.D. Students	Xia Hue – Texas Tech University, Lubbock, TX (2017 – 2018) Sara Kimmich – NIH/University College of London, London, UK (2017) Samika Kuman – NIH/University of Cambridge, Cambridge, UK (2020-2024)
NIH Post-bac Fellows	Marly Rubin (2024-Present), Isabel Gephart (2023-2024), Megan Spurney (2021-2023), Isabel Fernandez (2020 – 2022), Ramya Varadarajan (2019 – 2020), Michel Elishama (2018 – 2019), Natasha Topolski (2016 - 2018), Puja Panwar (2016), Laura Buchanan (2014 – 2015), Colin Hoy (2013 - 2014), Kristen Duthie (2011).
NIH Summer Students	James Brown (2016), Devon Shook (2013), Meghan Robinson (2011)

HONORS AND DISTINCTIONS

2021	NIMH Outstanding Mentor Award
2019	NIMH Director's Award in Administrative Excellence
2009	Bilsland Dissertation Fellowship, Purdue University
2009	Magoon Award for Excellence in Teaching, Purdue University
2008	Magoon Award for Excellence in Teaching, Purdue University
2004-2005	**Fulbright Fellowship**

PROFESSIONAL/LEADERSHIP ACTIVITIES

2023-Present	Member of the NIMH Office of Fellowship Training Steering Committee
2022-Present	Member of the NIMH 75th Anniversary Events Working Group
2022	Ad-hoc Reviewer for the National Science Foundation
2016 - 2022	NeuroImage Editorial Board Member
2020 - Present	Editorial Board Member for Frontiers in Brain Imaging Methods
2015 - 2020	Machine Learning-Brain Imaging NIMH's Special Interest Group Organizer Selected Speakers: Dr. Tulay Adali (University of Maryland), Dr. Joshua Vogelstein (John Hopkins University), Dr. Mikail Rubinov (Janelia Farm), Dr. Yoshua Bengio (Montreal University), Dr. Niko Kriegeskorte (Columbia University).
2019, 2023	Ad-hoc Reviewer for the Israel Science Foundation
2020	Topic Editor for Research Topic in Frontiers in Brain Imaging Methods Title: "Paradigm-free functional brain imaging: methods, challenges and opportunities"

2019	Topic Editor for Research Topic in Frontiers in Human Neuroscience Title: "Towards expanded utility of real time fMRI neurofeedback in clinical applications"
2018-2019	Heliyon Editorial Board Member
2018	Symposium Chair: 48th Meeting for the Society for Neuroscience San Diego, CA Title: "The Dynamic Brain: signatures of fast functional reconfiguration, their interpretability and clinical value"
2017	Local Chair/Organizer for Brainhack Global @ NIMH, Bethesda, MD Two-day Brainhack event held on NIH campus. Projects included: fMRI data denoising, fMRI-based neurofeedback, ME-ICA reporting, AFNI-AROMA integration, and creation of course materials.
2015	Grant Review Panelist National Science Foundation (**NSF**) & National Institutes of Health (**NIH**) Panel: Collaborative Research in Computational Neuroscience
2014	Grant Review Panelist Army Research Lab (**ARL**) Panel: Cognition and Neuroergonomics Collaborative Technology Alliance.
2012-2020	Abstract Reviewer Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM)
2009-2020	Abstract Reviewer Annual Meeting of the Organization for Human Brain Mapping (OHBM)
2009-Present	Scientific Journal Reviewer PNAS, Journal of Neuroscience, Trends in Cognitive Neuroscience, Nature Neuroscience, Nature Communications, NeuroImage, NeuroImage: Clinical, Human Brain Mapping, Neuroscience and Behavioral Reviews, Network Neuroscience, Magnetic Resonance in Medicine, IEEE Transactions in Biomedical Engineering, Frontiers in Neuroscience, Frontiers in Brain Imaging Methods, Artificial Intelligence in Medicine, Neuroscience Letters, Cognitive Neuroscience, Neuroscience Research, SPIE Journal of Medical Imaging, Brain Structure and Function, Neuroinformatics.

OUTREACH ACTIVITIES

2022-2024	Organizer of tour of NIMH Functional Neuroimage Facilities for recipients of the OSNAP Award
2019-Present	Mentor at the National Research Mentoring Network Mentees: Dr. Serenella Tolomeo (2019)

PROFESSIONAL MEMBERSHIPS

2012-Present	*Society for Neuroscience (sfn)*
2011-2019	*International Society for Resonance Magnetic Imaging in Medicine (ISMRM)*
2011-2022	*Organization for Human Brain Mapping (OHBM)*

HONORARY SOCIETY MEMBERSHIPS

2008-Present *Tau Beta Pi, Engineering Honor Society*

2008-Present *Golden Key, International Honor Society*

GRANTS

2017 - 2020 NIMH Scientific Director's call for Scientific Workshops and Talk Series
"Talk Series on Machine Learning in Brain Imaging and Neuroscience"
Support: $20,000 / year

BOOK CHAPTERS

[1] **Gonzalez-Castillo J**, Bandettini PA. "*Task-based Dynamics: a systems-level functional connectivity perspective*" in Calhoun V. eds. The Chronnectome. Elsevier (Under review)

[2] **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA. "*How to design and implement Resting-state functional Magnetic Resonance Imaging studies*" in Chrysikou E. eds. Cognitive Neuroscience Methods. Springer Nature (Accepted pending minor revisions)

[3] Malaia E, **Gonzalez-Castillo J**, Webber-Fox C, Talavage TM, Wilbur B. "*Neuronal processing of verbal event structure: temporal and functional dissociation between telic and atelic verbs*". In: de Almeida RG, Manouilidou C, eds. Cognitive science perspectives on verb representation and processing. Cham: Springer International Publishing; **2015**:131–140.

[4] Talavage TM, Johnsrude IS, **Gonzalez-Castillo J**. "*Hemodynamic Imaging: Functional Magnetic Resonance Imaging*". In: Poeppel D, Overath T, Popper AN, Fay RR, eds. The Human Auditory Cortex. Vol 43. Springer Handbook of Auditory Research. New York, NY: Springer New York; **2012**:129–162.

RESEARCH PUBLICATIONS

[1] Kronemer SI, Bandettini PA, **Gonzalez-Castillo J.** "*Sleuthing subjectivity: emerging covert measures of consciousness*" (In Preparation)

[2] **Gonzalez-Castillo J**, Spurney M, Lam KC, Pereira F, Handwerker DA, Bandettini PA. "*In-scanner thoughts shape resting-state functional connectivity: how participants rest matters*" bioRxiv, **2024** / Under Review in Nature Neuroscience

[3] Kronemer SI, Gobo VE, Teves JB et al. "*Cross-species real time detection of trends in pupil size fluctuations*" Behavior Research Methods, **2024**:(publication in progress).

[4] Kronemer SI, Holness M, Morgan AT et al. "*Visual imagery vividness correlates with afterimage brightness and sharpness*" Neuroscience of Consciousness, **2024**:1,niae032

[5] Gaggi NL, Collins KA, **Gonzalez-Castillo J**, Hurtado AM et al. "*Transcranial photobiomodulation increases brain activity within irradiated areas in early Alzheimer's disease: Potential link to cerebral metabolism*" Brain Stimulation, **2024**:17,208-210.

[6] Revsine C, **Gonzalez-Castillo J**, Merriam EP, Bandettini PA, Ramirez FM. "*A unifying model for discordant and concordant results in human neuroimaging studies of facial viewpoint selectivity*" J Neuroscience, **2024**:e029623202

[7] Uruñuela E, **Gonzalez-Castillo J**, Zheng C, Bandettini PA, Caballero-Gaudes C. "*Whole-brain multivariate hemodynamic deconvolution for functional MRI with stability selection*" IEEE Transactions in Medical Imaging, **2024**:91, 103010

[8] **Gonzalez-Castillo J**, Fernandez IS, Lam KC, Handwerker DA, Pereira F, Bandettini PA "*Manifold learning for fMRI time-varying FC*" Front. Human Neuros., **2023**:17,1-22

[9] Shahsavarani S, Thibodeaux DN, Xu W, et al. "*Cortex-wise neural dynamics predict behavioral states and provide a neural basis for resting-state dynamic functional connectivity*" Cell Reports, **2023**:42(6), 112527

[10] Taylor PA, Reynolds RC, Calhoun V, **Gonzalez-Castillo J**, Handwerker DA, Bandettni PA, Mejia AF, Chen G. "*Highlight results, Don't hide them: Enhance interpretation, reduce biases and improve reproducibility*" NeuroImage, **2023**:274, 120138

[11] Teves JB, **Gonzalez-Castillo J**, Holness M, Spurney M, Bandettini PA, Handwerker DA. "*The art and science of using quality control to understand and improve fMRI data*". Front. Neurosci., **2023**:17, 1100544

[12] Faskowittz J, Moyer D, Handwerker DA, **Gonzalez-Castillo J** et al. "*Commentary on Pang et al. (2023) Nature*" BioRxiv, **2023.**07.20.549785

[13] Bandettini PA, **Gonzalez-Castillo J**, Handwerker DA, Taylor P, Chen G, Thomas A. "*The challenge of BWAS: Unknown unknowns in feature space and variance*" Med, **2022**: 3 (8), 526-531.

[14] **Gonzalez-Castillo J.** "*Traveling and Standing waves in the brain*" Nature Neuroscience, **2022**:25(8), 980-981.

[15] **Gonzalez-Castillo J**, Fernandez I, Handwerker DA, Bandettini PA. "*Ultra-slow fMRI fluctuations in the fourth ventricle as a marker of drowsiness*" NeuroImage, **2022**: 259, 119424

[16] DuPre E, Salo T, Ahmed Z, Bandettini PA et al. "*TE-dependent analysis of multi-echo fMRI with tedana*" Journal of Open Source Software, **2021**: 6 (66), 3669.

[17] Gau R, Noble S, Heuer K, et al. "*Brainhack: developing a culture of open, inclusive, community-driven neuroscience*" Neuron, **2021**:109(11),1769-1775

[18] **Gonzalez-Castillo J,** Kam JWY, Hoy CW, Bandettini PA. "*How to interpret resting-state fMRI: ask your participants*" Journal of Neuroscience, **2020**:41(6), 1130-1141

[19] **Gonzalez-Castillo J**, Ramot M, Momenan R. "*Towards Expanded Utility of Real Time fMRI Neurofeedback in Clinical Applications*" Frontiers in Human Neuroscience, **2020**; 14, 471

[20] Rolinski R, You X, **Gonzalez-Castillo J**, Norato G, Reynolds RC, Inati SK, Theodore WH. "*Language lateralization from task-based and resting-state functional MRI in patients with epilepsy*". Human Brain Mapping, **2020**; 41(11), 3133-3146

[21] Handwerker DA, Ianni G, Gutierrez B, Roopchansingh V, **Gonzalez-Castillo J**, Chen G, Bandettini PA, Ungerleider LG, Pitcher D. "*Theta-burst TMS to the posterior superior temporal sulcus decreases resting-state fMRI connectivity across the face processing network*". Network Neuroscience, **2020**; 4(3), 746-760

[22] **Gonzalez-Castillo J**, Caballero-Gaudes C, Topolski N, Handwerker DA, Pereira F, Bandettini PA. "*Imaging the spontaneous flow of thought: distinct periods of cognition contribute to dynamic functional connectivity during rest*". NeuroImage, **2019**; 202, 116129

[23] Chai Y, Handwerker DA, Marrett S, **Gonzalez-Castillo J,** Merriam EP, Hall A, Molfese PJ, Bandettini PA. "*Visual temporal frequency shows a distinct cortical architecture using fMRI*" NeuroImage**, 2019**; 197, 13-23

[24] Caballero-Gaudes C, Moia S, Panwar PA, Bandettini PA, **Gonzalez-Castillo J**. "*A deconvolution algorithm for multi-echo functional MRI: multi-echo sparse paradigm free mapping*" NeuroImage**, 2019**; 202, 116081

[25] Xie H, Zheng CY, Handwerker DA, Bandettini PA, Calhoun VD, Mitra S, **Gonzalez-Castillo J.** "*Efficacy of different dynamic functional connectivity methods to capture cognitively relevant information*". *NeuroImage,* **2019**; 188, 502-514

[26] Ramot M, **Gonzalez-Castillo J**. "*A framework for offline evaluation and optimization of real-time algorithms for use in neurofeedback, demonstrated on an instantaneous proxy for correlations*" NeuroImage**, 2019**; 188, 322-334

[27] Xie H, **Gonzalez-Castillo J**, Damaraju E, Bandettni PA, Calhoun V, Mitra S. "*Time-varying whole-brain functional network connectivity coupled to task engagement*" Network Neuroscience **2018;** 3(1):49-66

[28] **Gonzalez-Castillo J,** Bandettini PA. "*Task-based dynamic connectivity: recent findings and open questions*" NeuroImage**, 2018;** 180, 526-533

[29] Xie H, Calhoun V, **Gonzalez-Castillo J**, Damaraju E, Miller R, Bandettini PA, Mitra S. "*Whole-brain connectivity dynamics reflect both task-specific and individual-specific modulation: a multitask study*". NeuroImage, **2018**; 180 (Part B), 495-504

[30] Saggar M, Sporns O, **Gonzalez-Castillo J**, Bandettini PA, Carlsson G, Glover G, Reiss AL. "*Towards a new approach to reveal dynamical organization of the brain using topological data analysis*". Nature Communications**, 2018;** 9(1):1399

[31] Jangraw DC, **Gonzalez-Castillo J**, Handwerker DA, Ghane M, Rosenberg M, Panwar P, Bandettini PA. "*A Functional Connectivity-based neuromarker of Sustained Attention Generalizes to Predict Recall in Naturalistic Reading Task*" NeuroImage **2018**; 166:99-109

[32] Torrisi S, Gorka AX, **Gonzalez-Castillo J**, O'Connell K, Balderston N, Grillon C, Ernst M. "*Extended amygdala connectivity changes during sustained shock anticipation*" Translational Psychiatry **2018**; 8(1):33

[33] Huber L, Handwerker D, Jangraw D, Hall H, Stuber C, **Gonzalez-Castillo J**, Ivanov D, Marrett S, Guidi M, Goense J, Poser BA, Bandettini PA. "*High-Resolution CBV-fMRI allows mapping of laminar activity and connectivity of cortical input and output in human M1"* Neuron **2017**; 96(6):1253-1263.e7

[34] Ramot M, Kimmich S, **Gonzalez-Castillo J**, Roopchansingh V, Popal H, White E, Gotts S, Martin A. "*Direct modulation of aberrant brain network connectivity through real-time neurofeedback*" eLife **2017**; 6:e28974

[35] **Gonzalez-Castillo J,** Gang C, Nichols T, Cox B, Bandettini PA. "*Variance Decomposition for multi-session fMRI*". NeuroImage, Special Issue on "Cleaning up the fMRI timeseries" NeuroImage **2017**; 154: 206-218

[36] Degryse J, Seurinck R, Durnez J, **Gonzalez-Castillo J**, Bandettini PA, Moerkerke B. "*Introducing alternative-based thresholding for defining functional regions of interest in fMRI*" Front. Neurosci. **2017;** 11:222

[37] Craddock RC, Bellec P, Margules DS, Nichols BN, Pfannmöller JP, Badhwar AP, Kennedy D, Poline JB, Toro R, Cipollini B, Rokem A et al. "*2015 Brainhack Proceedings*" GigaScience **2016**; 5(1): 1 – 26

[38] **Gonzalez-Castillo J,** Caballero Guades C, Panwar P, Buchanan LC, Handwerker DA, Jangraw DC, Zachariou V, Bandettini PA. "*Evaluation of Multi-Echo ICA denoising for task based fMRI studies: block designs, rapid event-related designs, and cardiac-gated fMRI*" NeuroImage **2016**; 141: 452-468.

[39] **Gonzalez-Castillo J**, Hoy CW, Handwerker D, Robinson ME, Buchanan LC, Saad ZS, Bandettini PA. "*Tracking ongoing in individuals using brief, whole-brain functional connectivity patterns*" Proc Natl Acad Sci U S A. **2015;** 112(28): 8762-8767

[40] **Gonzalez-Castillo J,** Bandettini PA. "*What cascade spreading models can tell us about the brain*" Neuron. **2015**; 86(6): 1327-1329

[41] **Gonzalez-Castillo J**, Hoy CW, Handwerker DA, et al. "*Task Dependence, Tissue Specificity, and Spatial Distribution of Widespread Activations in Large Single-Subject Functional MRI Datasets at 7T*" Cereb Cortex. **2015;** 25(12): 4667-4677

[42] Yang Z, Huang Z, **Gonzalez-Castillo J**, Dai R, Northoff G, Bandettini PA. "*Using fMRI to decode true thoughts independent of intention to conceal*" NeuroImage. **2014**; 99: 80–92.

[43] **Gonzalez-Castillo J**, Handwerker DA, Robinson ME, et al. "*The spatial structure of resting state connectivity stability on the scale of minutes*" Front Neurosci. **2014**; 8(June): 138

[44] Talavage TM, **Gonzalez-Castillo J**, Scott SK. "*Auditory neuroimaging with fMRI and PET*" Hear Res. **2014**; 307: 4–15.

[45] Smalt CJ, **Gonzalez-Castillo J**, Talavage TM, Pisoni DB, Svirsky MA. "*Neural correlates of adaptation in normal hearing subjects to free learning with cochlear implant acoustic simulations*" NeuroImage **2013**; 82: 500-509

[46] Hutchison RM, Womelsdorf T, Allen EA, Bandettini PA, Calhoun VD, Corbetta M, Della Penna, S, Dyun, JH, Glover GH, **Gonzalez-Castillo J**, et al. "*Dynamic functional connectivity: Promise, issues, and interpretations*" NeuroImage **2013**; 80: 360–378.

[47] Bandettini PA, Kundu P, **Gonzalez-Castillo J**, Misaki M, Guillod P. "*Characterizing and utilizing fMRI fluctuations, patterns, and dynamics*" In: Weaver JB, Molthen RC, eds. SPIE Medical Imaging. International Society for Optics and Photonics; **2013**: 86720T

[48] **Gonzalez-Castillo J**, Duthie KN, Saad ZS, Chu C, Bandettini PA, Luh W-M. *"Effects of image contrast on functional MRI image registration"* NeuroImage **2012**; 67: 163–174.

[49] Handwerker DA, Roopchansingh V, **Gonzalez-Castillo J**, Bandettini PA. "*Periodic changes in fMRI connectivity*". NeuroImage **2012**; 63(3): 1712–9.

[50] Handwerker DA, **Gonzalez-Castillo J**, D'Esposito M, Bandettini PA. "*The continuing challenge of understanding and modeling hemodynamic variation in fMRI*" NeuroImage. **2012**; 62(2): 1017–1023.

[51] **Gonzalez-Castillo J**, Saad ZS, Handwerker DA, Inati SJ, Brenowitz N, Bandettini PA. "*Whole-brain, time-locked activation with simple tasks revealed using massive averaging and model-free analysis*" Proc. Natl. Acad. Sci. USA **2012**; 109(14): 5487–92

[52] **Gonzalez-Castillo J**, Olulade OA, Talavage TM. "*Using functional MRI to study auditory comprehension*" Imaging Med. **2012**; 4(1): 137–143

[53] Olulade O, Hu S, **Gonzalez-Castillo J**, et al. "*Assessment of temporal state-dependent interactions between auditory fMRI responses to desired and undesired acoustic sources*" Hear. Res. **2011**; 277(1-2): 67–77.

[54] Soltysik DA, Thomasson D, Rajan S, **Gonzalez-Castillo J**, DiCamillo P, Biassou N. "*Head-repositioning does not reduce the reproducibility of fMRI activation in a block-design motor task*" *NeuroImage* **2011**; 56(3): 1329–37.

[55] **Gonzalez-Castillo J**, Roopchansingh V, Bandettini PA, Bodurka J. "*Physiological noise effects on the flip angle selection in BOLD fMRI*" NeuroImage **2011**; 54(4): 2764–2778.

[56] **Gonzalez-Castillo J**, Talavage TM. "*Reproducibility of fMRI activations associated with auditory sentence comprehension*" NeuroImage **2011**; 54(3): 2138–2155.

[57] Hu S, Olulade O, **Gonzalez-Castillo J**, et al. "*Modeling hemodynamic responses in auditory cortex at 1.5T using variable duration imaging acoustic noise*" NeuroImage **2010**; 49(4): 3027–3038.

[58] Kemmerer D, **Gonzalez-Castillo J**. "*The Two-Level Theory of verb meaning: An approach to integrating the semantics of action with the mirror neuron system*" Brain Lang. **2010**; 112(1): 54–76.

[59] Kemmerer D, **Gonzalez-Castillo J**, Talavage T, Patterson S, Wiley C. "*Neuroanatomical distribution of five semantic components of verbs: Evidence from fMRI*" Brain Lang. **2008**; 107(1): 16–43.

[60] **Gonzalez-Castillo J**, Trastour D, Bartolini C. "*Description Logics for Matchmaking of Services*" In: KI-2001 Workshop on Applications of Description Logics, Vienna, Austria. **2001**

[61] Trastour D, Bartolini C, **Gonzalez-Castillo J**. "*Semantic Web Approach to Service Description for Matchmaking of Services*" In: *Semantic Web Workshop*, Stanford USA. **2001**

CONFERENCE ARTICLES

[1] Caballero-Gaudes C, Moia S, Bandettini, PA, **Gonzalez-Castillo J**. "*Quantitative deconvolution of fMRI data with multi-echo sparse paradigm free mapping*" 21st International Conference on Medical Imaging Computing and Computer Assisted Intervention (MICCAI), Granada, Spain, **2018**, 311-319

[2] Caballero Guades C, Bandettini PA, **Gonzalez-Castillo J**. "*A temporal deconvolution algorithm for multiecho functional MRI*" IEEE International Symposium on Biomedical Engineering (ISBI), Washington DC, **2018**, 608-611.

ORAL PRESENTATIONS

[1] Keynote: "Multi-echo fMRI", *2024 High Performance Neuroimaging Symposium*, Madison, WI, September, **2024**.

[2] "Connectivity and Dynamic Connectivity" *NIMH Summer fMRI Course*, NIH, Bethesda, MD, September, **2024**.

[3] "Resting-state fMRI: brief overview of methods and interpretational challenges" *NIH Pain Special Interest Group Seminar Series*, Bethesda, MD, April, **2024**.

[4] "Contribution of In-Scanner Thoughts to Resting-State Functional Connectivity: how participants rest matters". *Annual Meeting of the Society for Neuroscience,* Washington, DC, November, **2023**.

[5] "Participant introspection to understand resting-state fMRI" ISMRM Workshop on Current Issues in Brain Function", Padua, Italy, September, **2023**.

[6] "How subjects rest in the scanner matters", Basque Center on Cognition, Brain and Language, San Sebastian, Spain, May, **2023**.

[7] "How subjects rest in the scanner matters", CAMRI Neuroimaging Seminar Series, Baylor College of Medicine, Houston, Texas, USA, April, **2023**.

[8] "Ultra-slow fMRI fluctuations in the fourth ventricle as a marker of drowsiness" Laboratory of Neuroimaging, NIAAA, NIH, Bethesda, October, **2022**.

[9] "What to do when stimuli are missing: advanced methods for time-varying resting-state fMRI" Neuroscape Center, University of California, San Francisco, CA. July **2022**.

[10] "Sources of individual differences in resting-state fMRI" *NIMH Workshop on Neuroimaging of Individual Differences and Naturalistic Stimuli*, virtual, August, **2021**

[11] "Cognitive correlates of BOLD Resting-state dynamic functional connectivity" *Scientific Workshop: Brain Functional Organization, Connectivity and Behavior*, Whistler, CA, March, **2020**

[12] "Periods of discernible cognition contribute to dynamic functional connectivity during rest" *27th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Montreal, May, **2019**.

[13] "Quantitative deconvolution of neuronal-related BOLD events with multi-echo sparse free paradigm mapping" *26th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Paris, June, **2018**.

[14] "Efficacy of different functional connectivity methods to capture cognitively relevant information" *26th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Paris, June, **2018**.

[15] "Machine Learning in NeuroImaging" *NIH fMRI Summer Course, National Institutes of Health*, Bethesda, MD. August, **2017**.

[16] "Unconventional fMRI Methodology: multi-echo fMRI, connectivity dynamics, and fMRI-neurofeedback" *Centro Integral de Neurociencias, Hospital de Madrid*, Madrid, Spain. December, **2016**.

[17] "Alternative analyses for task-based fMRI" *24th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine,* Singapore. May, **2016.**

[18] "Wide-spread brain activation and connectivity dynamics with BOLD fMRI" *Indiana University,* Bloomington, IN. April, **2016**.

[19] "Wide-spread brain activation and connectivity dynamics with BOLD fMRI" *Texas Tech University*, Lubbock, TX. March, **2016**.

[20] Keynote: "Multi-echo EPI for resting state and activation-based fMRI" *Texas Tech NeuroImaging Institute*, Lubbock, TX. March, **2016**.

[21] "The richness of the BOLD signal: Challenges and Opportunities" *Cincinnati Children's Hospital*, Cincinnati, OH. March, **2016.**

[22] "Wide-spread brain activation and functional connectivity decoding with BOLD fMRI" *National Library of Medicine*, Bethesda, MD. February, **2016**.

[23] "Multi-echo EPI for resting sate and activation based fMRI" *NIH fMRI Summer Course, National Institutes of Health*, Bethesda, MD. August, **2015**.

[24] "Dynamic Resting State fMRI Assessment" *NIH fMRI Summer Course, National Institutes of Health*, Bethesda, MD. August, **2015**.

[25] "fMRI-based functional connectivity: Issues and Applications" Georgetown University, Washington, DC. August, **2015**

[26] "Wide-spread brain activation with BOLD fMRI" *Max Planck Institute,* Leipzig, Germany. July, **2015.**

[27] "Optimizing fMRI data acquisition and analysis" *Basque Center for Brain and Cognition*, San Sebastian, Spain. July, **2015.**

[28] "Realtime fMRI and Neurofeedback" NIH fMRI Summer Course, National Institutes of Health, Bethesda, MD. August, **2014**.

[29] "BOLD resting state dynamics and its relationship to on-going cognition" *1st International Conference on Brain Development*, Beijing, China. August, **2014**.

[30] "Resting State Connectivity Dynamics: Basic Characterization and Relationship to Cognition" *National Institutes of Health*, Bethesda, MD. August **2013**.

[31] "Understanding Resting State fMRI Connectivity Dynamics" *National Institute of Drug Abuse*, Baltimore, MD. July **2013**.

[32] "When does a task disturb rest? "*19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle, WA. June **2013**.

[33] "Optimization of acquisition and analysis procedures for BOLD temporal series" *Fundación Centro Investigación Enfermedades Neurológicas (CIEN)*, Reina Sofia Alzheimer's Research Center, Madrid, Spain. January **2013**.

[34] "Is the sparseness of fMRI activation maps real or a result of insufficient TSNR?" *Institute of Psychology, Chinese Academy of Sciences*, Beijing, China. June **2012**.

[35] "What is the ultimate sensitivity of fMRI: Does the whole brain activate?" *20th Annual Meeting for the International Society of Magnetic Resonance in Medicine*. Melbourne, Australia. May **2012**.

[36] "fMRI reveals whole-brain time-locked activations to simple tasks using high-order averaging and model-free analysis" *John Hopkins University*, Baltimore, MD. April **2012**.

[37] "Dealing with physiological noise, TSNR, and how to easily improve alignment of fMRI and anatomical data" *West Virginia University*, Morgantown, WV. April **2012**.

[38] "Realtime fMRI and fMRI Neurofeedback" *West Virginia University*, Morgantown, WV. April **2012**.

[39] "What is the ultimate sensitivity of fMRI: Does the whole brain activate?" *National Institute of Health,* fMRI/MRI Series, Bethesda, MD, **2011**.

[40] "BOLD responses to a simple visual stimulation + attention control task can be detected in over 90% of the brain when TSNR is sufficiently high" *15th Annual NIMH/DIRP Scientific Retreat*, Lancaster, PA, **2011**.

[41] "Longitudinal fMRI Study of Adaptation to Degraded Speech Stimuli" *1st Indiana Neuroimaging Symposium*, Bloomington, IN, **2007**.

[42] "Event related fMRI of Adaptation to Acoustic Simulation of Cochlear Implant Electrical Stimulation" *29th Midwinter Meeting of the Association for Research in Otolaryngology*, Baltimore, MD, **2006.**

POSTER PRESENTATIONS

[1] **Gonzalez-Castillo J**, Gephart I, Spurney M, Handwerker DA, Bandettini PA "Contribution of slow, brain-wide waves of activity to spontaneous thoughts during resting-state" *53rd Annual Meeting of the Society for Neuroscience*, Chicago, USA, October **2024**.

[2] Handwerker DA, Bandettini PA, Dowdle L, DuPre E, **Gonzalez-Castillo J** et al. "*tedana: Multi-echo fMRI noise removal software and resources" 30th Annual Meeting of the Organization for Human Brain Mapping*, Seoul, South Korea, July **2024**.

[3] Faskowitz J, **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA "On the features of spiking connectivity" *30th Annual Meeting of the Organization for Human Brain Mapping*, Seoul, South Korea, July **2024**.

[4] Gobo V, **Gonzalez-Castillo J**, Teve J, Holness M, Bandettini PA, Kronemer S "Phase of pupillary unrest corresponds with perceptual sensitivity, MEG and whole brain fMRI signals" *30th Annual Meeting of the Organization for Human Brain Mapping*, Seoul, South Korea, July **2024**.

[5] Kronemer S, Holness M, Akin B, **Gonzalez-Castillo J**, et al. "Whole brain and primary visual cortex layer fMRI signatures of afterimage perception" *30th Annual Meeting of the Organization for Human Brain Mapping*, Seoul, South Korea, July **2024**.

[6] Gephart I, **Gonzalez-Castillo J**, Spurney M, Handwerker DA, Bandettini PA "Contributions of slow, brain-wide patterns of activity to ongoing experience in resting-state fMRI" *30th Annual Meeting of the Organization for Human Brain Mapping*, Seoul, South Korea, July **2024**.

[7] Morgan AT, Gephart I, Handwerker DA, **Gonzalez-Castillo J**, Bandettini PA "A functionally time-resolved reconstruction technique for high-resolution fMRI (fTR_MRI)" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[8] **Gonzalez-Castillo J**, Spurney M, Lam KC, Pereira F, Handwerker DA, Bandettini PA. "Contribution of In-scanner Thoughts to Resting-state Functional Connectivity: How participants rest matters" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[9] Spurney M, Faskowitz J, Gonzalez-Castillo J, Handwerker DA, **Bandettini PA**. "Evaluating the predictive power of dynamic fMRI connectivity summary metrics" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[10] Gephart I, Morgan TA, **Gonzalez-Castillo J**, Bandettini PA. "Investigating the neural correlates of the audiovisual bounce effect using fMRI" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[11] Kronemer SI, Holness M, Morgan TA, **Gonzalez-Castillo J**, Teves JB, Akin B, Huber R, Gobo VE, Handwerker DA, Bandettini PA. "Perceptually-matched images and afterimages share whole brain fMRI dynamics" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[12] Gobo VE, **Gonzalez-Castillo J**, Teves JB, Holness M, Bandettini PA, Kronemer SI "Pupil size and phase as a real-time marker of perceptual sensitivity and whole-brain activity" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[13] Ramirez FM, **Gonzalez-Castillo J**, Bandettini PA "Empirical evidence supports low-level account of observations of mirror-symmetry in the representation of facial viewpoint in human-selective areas" *52nd Annual Meeting of the Society for Neuroscience*, Washington, DC, USA, November **2023**.

[14] Fan DJ, **Gonzalez-Castillo J**, Bandettini PA, Polimeni JR, Chen JE. "Mapping stimulus-driven hemodynamic changes in white matter using high-resolution fMRI at 7T". *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[15] Taylor PA, Reynolds RC, Calhoun V, **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA, Mejia AF, Chen G. "Highlight Results, Don't Hide Them: Improve Reproducibility (With Applications to the NARPS Results)". *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[16] Gobo V, **Gonzalez-Castillo J**, Teves JB, Bandettini PA, Kronemer SI. "Real time pupil size detection as a live marker of arousal state and perceptual sensitivity" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[17] Kronemer SI, Holness MN, Morgan TA, Gonzalez-Castillo J, Teves JB, Handwerker DA, Bandettini PA. "The neural mechanisms of introceptive conscious perception: A 7T fMRI study of afterimages" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[18] Teves JB, Bandettini PA, Caballero-Gauges C, Dowdle L, DuPre E, **Gonzalez-Castillo J**, Handwerker DA, Moia S, Reddy N, Salo T, Uruñela E. "A growing multi-echo fMRI ecosystem" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[19] Spurney M, Faskowitz J, **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA. "Edge-time series summary metrics: predictive value for demographics and personality traits" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[20] Holness MN, Handwerker DA, Teves JB, Morgan T, Chen G, **Gonzalez-Castillo J**, Bandettini PA. "Using multi-echo fMRI to remove physiological noise during naturalistic viewing" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[21] Gephart I, Morgan T, **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA. "Multiple factors influence perception in the audiovisual bounce effect" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[22] Klein R, Morgan T, Huber L, Handwerker DA, **Gonzalez-Castillo J**, Bandettini PA. "Cluster-based connectivity tool: capturing laminar and columnar topography during naturalistic tasks" *29th Annual Meeting of the Organization for Human Brain Mapping*, Montreal, Canada, July **2023**.

[23] Fan DJ, **Gonzalez-Castillo J**, Bandettini PA, Polimeni JR, Chen JE. "Mapping stimulus-driven hemodynamic changes in white matter using high-resolution fMRI at 7T". *30th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Toronto, Canada, June, **2023**.

[24] **Gonzalez-Castillo J**, Fernandez I, Handwerker DA, Lam KC, Pereira F, Bandettini PA. "Manifold learning and dimensionality estimation for the Human Functional Connectome". *30th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Toronto, Canada, June, **2023**.

[25] Shahsavarani S, Thibodeaux DN, Lodgher F, Xu W, Handwerker DA, **Gonzalez-Castillo J**, Bandettini PA, Hillman EMC. "Varying patterns of brain-wide neuronal activity underlie correlation structure of low-frequency spontaneous hemodynamic signals". *51st Annual Meeting of the Society for Neuroscience*, San Diego, CA, USA, November **2022**.

[26] Spurney M, **Gonzalez-Castillo J**, Lam KC, Handwerker DA, Teeves JB, Pereira F, Bandettini PA. "How conscious in-scanner thoughts modulate functional connectivity during resting-sate fMRI". *51st Annual Meeting of the Society for Neuroscience*, San Diego, CA, USA, November **2022**.

[27] **Gonzalez-Castillo J**, Spurney M, Lam KC, Handwerker DA, Teeves J, Pereira F, Bandettini PA. "How conscious thoughts during resting-sate affect functional connectivity estimates". *28th Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, Scotland, June **2022**.

[28] Markiewicz C, DuPre E, Esteban O, Goncalves M, Gonzalez-Castillo J, Handwerker DA, et al. "Standarizing support for multi-echo fMRI data across the NiPreps ecosystem". *28th Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, Scotland, June **2022**.

[29] Kumar S, Arzi A, Bereham C, **Gonzalez-Castillo J**, Fernandez IS, Tagliazucchi E, Mediano P, Bandettini PA, Bekinschtein T. "Sleep-related brain functional reorganization reflects task engagement". *28th Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, Scotland, June **2022**.

[30] Holness MN, Handwerker DA, Teeves JB, Moegan AT, **Gonzalez-Castillo J**, Bandettini PA. "Multi-echo fMRI denoising with physiological and motion information". *28th Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, Scotland, June **2022**.

[31] Ahmed Z, Bandettini PA, Bottenhorn K, Caballero-Gaudes C, Dowdle L, DuPre E, Gonzalez-Castillo J, et al. "tedana: multu-echo fMRI and related open tools". *28th Annual Meeting of the Organization for Human Brain Mapping*, Glasgow, Scotland, June **2022**.

[32] Shahsavarani S, Thibodeaux D, Nwokeabia C, Xu W, Lodgher F, Handwerker D, **Gonzalez-Castillo J**, Bandettini P, Hillman. "Do arousal fluctuations alter functional connectivity?" *50th Annual Meeting of the Society for Neuroscience*, Chicago, USA, November, **2021**

[33] Thibodeaux D, Shahsavarani S, Nwokeabia C, Xu W, Lodgher F, Handwerker D, **Gonzalez-Castillo J**, Bandettini P, Hillman E. "Investigating the neural and behavioral basis of Dynamic Functional Connectivity." *50th Annual Meeting of the Society for Neuroscience*, Chicago, USA, November, **2021**

[34] Fernandez IS, **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA, "Monitoring vigilance during resting-state using ultra-slow fluctuations in the 4th ventricle" *50th Annual Meeting of the Society for Neuroscience*, Chicago, USA, November, **2021**

[35] Shahsavarani S, Nwokeabia C, Xu W, Zhu H, Lodgher F, Cambareri M, Handwerker D, **Gonzalez-Castillo J**, Bandettini P, Schevon C, Hillman E. "Decoding the Neural Basis of Resting-State Functional Connectivity Mapping." *The virtual 7th Annual BRAIN Initiative Investigators Meeting*. June, **2021**

[36] Handwerker D., Ahmed Z, Bandettini B, Bottenhorn K, Caballero-Gaudes C, Dowdle L, DuPre E, **Gonzalez-Castillo J** et al. "Tedana: multi-echo fMRI tools and resources" *27th Annual Meeting of the Organization for Human Brain Mapping*, Virtual, June **2021**

[37] Koiso K, Handwerker DA, **Gonzalez-Castillo J**, Huber L, Glen D, Khojandi A, Chai Y, Bandettini PA, Miyawaki Y. "Neural information sources identified by sparse analysis of ultra-highspeed fMRI signals and susceptibility-weighted imaging at an ultra-high magnetic field" *44th Annual Meeting of The Japan Neuroscience Society,* Kobe, Japan, **2021**.

[38] **Gonzalez-Castillo J**, Handwerker DA, Bandettini PA. "Amplitude of slow fluctuations in CSF as a time-resolved marker of sleep for resting-state fMRI: a validation study". *28th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Virtual, August, **2020**.

[39] Miyawaki Y, Handwerker DA, **Gonzalez-Castillo J**, Huber L, Khojandi A, Chai Y, Bandettini PA. "Event-related decoding of visual stimulus information using short-TR BOLD fMRI at 7T" *28th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Virtual, August, **2020**.

[40] Miyawaki Y, Handwerker DA, **Gonzalez-Castillo J**, Huber L, Khojandi A, Chai Y, Bandettini PA. "Decoding of neural information representation independent of hemodynamic delays using the ultra-fast acquisition of ultra-high field fMRI signals" *43rd Annual Meeting of the Japan Neuroscience Society*, July, **2020.**

[41] Miyawaki Y, Handwerker DA, **Gonzalez-Castillo J**, Huber L, Khojandi A, Chai Y, Bandettini PA. "Time-resolved fast neural decoding independent variation in hemodynamic response latency" *26th Annual Meeting of the Organization for Human Brain Mapping*, Virtual, July, **2020**

[42] Bandettini PA , Bottenhorn K, Caballero-Gaudes C, Dowdle L, Dupre E, **Gonzalez-Castillo J**, Handwerker D, Laird A, Lee J, Markello R, Moia S, Salo T, Teves J, Uruñuela E, Vaziri-Pashkam M, Whitaker K. "Tedana: multi-echo software and communal resources". *26th Annual Meeting of the Organization for Human Brain Mapping*, Virtual, July, **2020**.

[43] DuPre E, **Gonzalez-Castillo J**, Handwerker DA, Markello R, Taylor S, Whitaker K "Tedana: robust and extensible software for multi-echo denoising" *25th Annual Meeting of the Organization for Human Brain Mapping,* Rome, **2019**.

[44] **Gonzalez-Castillo J**, Caballero-Gaudes C, Topolski N, Pereira F, Handwerker DA, Bandettini PA "Contributions of covert self-driven cognition to resting state dynamic functional connectivity" *25th Annual Meeting of the Organization for Human Brain Mapping,* Rome, **2019**.

[45] Handwerker DA, Sharon K, Shaik M, Thibodeaux, Montgomery MK, Zhao H, **Gonzalez-Castillo J**, Molfese PJ, Nielson D, Hillman E, Bandettini PA. "Stability of functional connectivity in mice using wide field optical imaging" *25th Annual Meeting of the Organization for Human Brain Mapping,* Rome, **2019**.

[46] Uruñuela-Tremiño E, Moia S, **Gonzalez-Castillo J**, Caballero-Gaudes C "Deconvolution of multi-echo fMRI data with multivariate multi-echo sparse paradigm free mapping" *27th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Montreal, May, **2019**.

[47] Gonzalez-Castillo J, Caballero-Gaudes C, Bandettini PA. "Pseudo-quantitative deconvolution of neuronal-related BOLD events with unknown timing" *48th Annual Meeting of the Society for Neuroscience*, San Diego, November, **2018.**

[48] Xie H, **Gonzalez-Castillo J**, Handwerker D, Molfese P, Bandettini PA, Calhoun V, Mitra S. "Efficacy of different dynamic functional connectivity methods to capture cognitively relevant information". *26th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Paris, June, **2018**.

[49] Caballero-Gaudes C, Bandettini PA, **Gonzalez-Castillo J**. "Improved detection of neuronal-related BOLD events of unknown timing with Multi-Echo Sparse Paradigm Free Mapping" *26th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Paris, June, **2018**.

[50] Handwerker DA, **Gonzalez-Castillo J,** Nielson D, Zheng C, Molfese P, Bandettini PA. "Moving away from ICA in multi-echo fMRI denoising". *24th Annual Meeting of the Organization for Human Brain Mapping*, Singapore, June, **2018.**

[51] Zheng C, Xie H, **Gonzalez-Castillo J**, Bandettini PA. "Robust testing of temporal dynamics in resting-state fMRI". *24th Annual Meeting of the Organization for Human Brain Mapping*, Singapore, June, **2018.**

[52] Jangraw D, Finn ES, **Gonzalez-Castillo J**, Handwerker DA, Ghane M, Rosenberg MD, Panwar P, Bandettini PA. "Functional Connectivity-based predictor of reading recall generalized to multi-task data". *24th Annual Meeting of the Organization for Human Brain Mapping*, Singapore, June, **2018.**

[53] **Gonzalez-Castillo J,** Topolski N, Brown J, Handwerker DA, Bandettini PA. "Spatial extent of task induced connectivity changes and its influence on whole-brain cognitive state decoding". *23rd Annual Meeting of the Organization for Human Brain Mapping*, Vancouver, Canada, June, **2017**.

[54] Jangraw DC, **Gonzalez-Castillo J**, Handwerker DA, Panwar P, Gutierrez B, Bandettini PA "Functional connectivity-based predictors of naturalistic reading comprehension". *23rd Annual Meeting of the Organization for Human Brain Mapping*, Vancouver, Canada, June, **2017**.

[55] Huber L, Handwerker DA, **Gonzalez-Castillo J**, Hall A, Jangraw DC, Guidi M, Ivanov D, Benedikt AP, Bandettini PA. "Cortical depth-dependent fMRI signal can classify sensory motor tasks". *23rd Annual Meeting of the Organization for Human Brain Mapping*, Vancouver, Canada, June, **2017**.

[56] Huber L, Handwerker DA, Hall A, Jangraw DC, **Gonzalez-Castillo J**, Guidi M, Ivanov D, Poser BA, Bandettini PA. "Cortical depth-dependent fMRI: heterogeneity across tasks, across participants, across days and along cortical ribbon". *24th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Honolulu, USA. April, **2017.**

[57] Xie H, **Gonzalez-Castillo J,** Damaraju E, Bandettini PA, Calhoun V, Mitra S. "Resting-state Functional Network Connectivity Pattern as a Cognitive Marker for Task Performance". *24th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine*, Honolulu, USA. April, **2017.**

[58] **Gonzalez-Castillo J**, Panwar P, Caballero-Gaudes C, Handwerker DA, Jangraw DC, Zachariou V, Bandettini PA. "Multi-echo fMRI for rapid event related fMRI experiments". *22st Annual Meeting of the Organization for Human Brain Mapping*, Geneva, Switzerland, June, **2016.**

[59] Jangraw DC, Handwerker DA, **Gonzalez-Castillo J**, Panwar P, Zachariou V, Bandettini PA. "FMRI Connectivity Outperforms Magnitude in Classifying Attention to Distracting Speech While Reading". *22st Annual Meeting of the Organization for Human Brain Mapping*, Geneva, Switzerland, June, **2016.**

[60] Handwerker DA, Huber L, Panwar P, Gutierrez B, **Gonzalez-Castillo J**, Bandettini PA. "Cerebrovascular changes during the Valsalva Maneuver measured with VASO". *22st Annual Meeting of the Organization for Human Brain Mapping*, Geneva, Switzerland, June, **2016.**

[61] Huber L, Handwerker DA, **Gonzalez-Castillo J**, Jangraw DC, Ivanov D, Poser B, Goense J, Bandettini PA. "Effective connectivity measured with layer-dependent resting-state blood volume fMRI in humans". *22st Annual Meeting of the Organization for Human Brain Mapping*, Geneva, Switzerland, June, **2016.**

[62] Michal R, Kimmich S**, Gonzalez-Castillo J,** Popal H, White E, Martin A. "Direct modulation of aberrant social brain network connectivity in Autistic Spectrum Disorder through NeuroFeedback". Workshop on Concepts, Actions and Objects: functional and neuronal perspectives. Roverto, Italy, May, **2016**.

[63] Lu K, **Gonzalez-Castillo J**, Middione M, Fernandez B, Olafsson V, Kundu P, Shankaranayanan A, Liu T. "Differences in slow drift among echoes in multiband multiecho EPI data compromise TE-dependent analysis". 24th Annual Meeting of the Society for Magnetic Resonance Imaging in Medicine, Singapore. May, **2016**.

[64] Huber HL, Handwerker DA, **Gonzalez-Castillo J**, Jangraw D, Marret S, Guidi N, Ivanov D, Poser BA, Goense J, Bandettini PA. Directional Connectivity measured with layer-dependent fMRI in human sensory-motor cortex. *3rd Whistler Scientific Workshop on Brain Functional Organization, Connectivity and Behavior*, Whistler-Backcomb, British Columbia, Canada, March, **2016**.

[65] Jangraw D, Handwerker DA, **Gonzalez-Castillo J**, Panwar P, Zachariou V, Bandettini PA. BOLD functional connectivity features outperform magnitude features in classifying attention to, but presence of, distracting speech during reading. *3rd Whistler Scientific Workshop on Brain Functional Organization, Connectivity and Behavior*, Whistler-Backcomb, British Columbia, Canada, March, **2016**.

[66] Handwerker DA, Iani G, Gutierrez B, Roopchansingh V, **Gonzalez-Castillo J**, Ungerleider LG, Bandettini PA, Pitcher D. Thetaburst TMS to the right posterior superior temporal sulcus disrupts resting state connectivity across the face-processing network as measured with multi-echo fMRI. *45th Annual Meeting of the Society for Neuroscience*, Chicago, October, **2015**.

[67] Gutierrez B, Handwerker DA, **Gonzalez-Castillo J**, Roopchansingh V, Buchanan LC, Bandettini PA. Using Multi-echo fMRI to increase contrasd-to-noise and response stability. *45th Annual Meeting of the Society for Neuroscience*, Chicago, October, **2015**.

[68] **Gonzalez-Castillo J**, Buchanan LC, Handwerker DA, Roopchansingh V, Derbyshire JA, Gutierrez BE, Bandettini PA. Multi-echo Independent Component Analysis (ME-ICA) Denoising for cardiac gated fMRI. *45th Annual Meeting of the Society for Neuroscience*, Chicago, October, **2015**.

[69] Jangraw DC, Handwerker DA, **Gonzalez-Castillo J**, Gutierrez B, Roopchansingh V, Bandettini PA. Multi-echo fMRI enhances reliability of brain-wide BOLD responses to a naturalistic movie. *45th Annual Meeting of the Society for Neuroscience*, Chicago, October, **2015**.

[70] Gutierrez B, Handwerker DA, **Gonzalez-Castillo J**, Roopchansingh V, Buchanan LC, Bandettini PA.Effects of multi-echo based Denoising on reliability of a massively repeated block design task. *21st Annual Meeting of the Organization for Human Brain Mapping*, Hawaii, June, **2015**

[71] **Gonzalez-Castillo J**, Buchanan LC, Handwerker DA, Roopchansingh V, Derbyshire J, Bandettini PA.ME-ICA Denoising of cardiac gated data (Block design). *21st Annual Meeting of the Organization for Human Brain Mapping*, Hawaii, June, **2015**.

[72] Jo HJ, **Gonzalez-Castillo J**, Bandettini PA. Relationship between BOLD fluctuation changes and hemispheric synchrony levels in resting state fMRI. *21st Annual Meeting of the Organization for Human Brain Mapping*, Hawaii, June, **2015**.

[73] Buchanan LC, **Gonzalez-Castillo J**, Hoy CW, et al. Most informative graph theory metrics for unsupervised classification of cognitive states. *44th Annual Meeting of the Society for Neuroscience*, Washington DC, November **2014**.

[74] Buchanan LC, **Gonzalez-Castillo J**, Hoy CW, Handwerker DA, Bandettini PA. Which graph theory metrics best convey information about on-going cognition. *4th Bi-annual Conference in Resting State/Brain Connectivity*, Boston, MA, September **2014**.

[75] **Gonzalez-Castillo J**, Handwerker DA, Robinson ME, et al. Mapping the most and least stable connections in the brain. *20th Annual Meeting of the Association for Human Brain Mapping, Hamburg*, Germany, June **2014**.

[76] Dickinson P, **Gonzalez-Castillo J**, Chang C et al. Age-related dynamic functional connectivity states during sleep. *20th Annual Meeting of the Association for Human Brain Mapping*, Hamburg, Germany, June **2014**.

[77] Buchanan LC, **Gonzalez-Castillo J**, Hoy CW et al. Detecting cognitive states with graph theory network metrics. *20th Annual Meeting of the Association for Human Brain Mapping*, Hamburg, Germany, June **2014**.

[78] Hoy CW, **Gonzalez-Castillo J**, Handwerker DA et al. Classifying cognitive states using fMRI network relationships across the entire brain. *20th Annual Meeting of the Association for Human Brain Mapping*, Hamburg, Germany, June **2014**.

[79] **Gonzalez-Castillo J**, Hoy CW, Handwerker DA, et al. Detection of consistent cognitive processing at the single subject level using whole-brain fmri connectivity. *43rd Annual Meeting of the Society for Neuroscience*, San Diego CA, November **2013**.

[80] Hoy CW, **Gonzalez-Castillo J**, Handwerker DA et al. Massively-averaged ultra-high TSNR 7T fmri: Response type, activation extent, tissue specificity, and cognitive load effects. *43rd Annual Meeting of the Society for Neuroscience*, San Diego CA, November **2013.**

[81] Handwerker DA, Wu P, **Gonzalez-Castillo J** et al. Time and frequency characteristics that distinguish fMRI resting networks. *43rd Annual Meeting of the Society for Neuroscience*, San Diego CA, November **2013**.

[82] Liew SL, **Gonzalez-Castillo J**, Horovitz S et al. Using neurofeedback from real-time fMRI connectivity patterns to enhance skilled motor performance. *43rd Annual Meeting of the Society for Neuroscience*, San Diego CA, November **2013**.

[83] **Gonzalez-Castillo J**, Hoy CW, Handwerker DA et al. How do task demands affect BOLD activation extent at high TSNR? *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle WA, June **2013**.

[84] Handwerker DA, Yang Z, **Gonzalez-Castillo J**, Bandettini PA. Identifying features critical to fMRI classification accuracy. *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle WA, June **2013**.

[85] Soltysik DA, Rajan S, Thomason D et al. Comparing quality control indices for functional MRI. *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle WA, June **2013**.

[86] Yang Z, **Gonzalez-Castillo J**, Huang Z et al. Decoding subjective Yes/No thoughts using fMRI. *19th Annual Meeting of the Organization for Human Brain Mapping*, Seattle WA, June **2013**.

[87] **Gonzalez-Castillo J**, Handwerker DA, Hoy CW, Bandettini PA. Activation extent and tissue specificity of high-TSNR BOLD at 7T. *21st Annual Meeting for the International Society of Magnetic Resonance Imaging in Medicine*, Salt Lake City UT, April **2013**.

[88] Yang Z, **Gonzalez-Castillo J**, Huang Z, et al. Decoding subjectively correct "Yes/No" thoughts in the human brain. *21st Annual Meeting for the International Society of Magnetic Resonance Imaging in Medicine*, Salt Lake City, UT, April **2013**.

[89] **Gonzalez-Castillo J**, Handwerker DA, Robinson ME, et al. Identification of most and least stable connections in resting state fMRI during an hour long continuous resting scans. *3rd Biennial Conference on Resting State Connectivity*, Magdeburg, Germany. September **2012**.

[90] Wu P, Handwerker DA, **Gonzalez-Castillo J**, et al. The effect of repetition time on connectivity estimates. *3rd Biennial Conference on Resting State Connectivity*, Magdeburg, Germany. September **2012**.

[91] Handwerker DA, Roopchansingh V, **Gonzalez-Castillo J**, Bandettini PA. A non-neural explanation for some fMRI resting connectivity dynamics. *3rd Biennial Conference on Resting State Connectivity* Magdeburg, Germany. September **2012**.

[92] Wu P, Handwerker DA, **Gonzalez-Castillo J**, et al. Effect of fMRI sampling rate on estimates of resting-state connectivity. *Society for Neuroscience Annual Meeting,* New Orleans, LA. October **2012**.

[93] **Gonzalez-Castillo J**, Wu P, Robinson ME, et al. Detection of task transitions on 45min long continuous multi-task runs using whole brain connectivity. *Proceedings of the 18th Annual Meeting of the Organization of Human Brain Mapping*, Beijing, China, June **2012**

[94] Soltysik DA, Thomasson D, **Gonzalez-Castillo J**, et al. Examining the effect of data processing steps on fMRI reproducibility. *Proceedings of the 18th Annual Meeting of the Organization of Human Brain Mapping*, Beijing, China, June **2012**

[95] Robinson ME, **Gonzalez-Castillo J**, Inati SH, et al. Identification of state changes from spontaneous fluctuations in fMRI data. *20th Annual Meeting for the International Society of Magnetic Resonance Imaging in Medicine*, Melbourne, Australia, May **2012**.

[96] **Gonzalez-Castillo J**, Roopchansingh V, Bandettini PA, Budorka J. Ignore Ernst when choosing the flip angle for fMRI" *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[97] **Gonzalez-Castillo J**, Saad ZS, Bandettini PA. There's more in time series than the canonical response: K-means clustering of fMRI with high TSNR. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[98] **Gonzalez-Castillo J**, Bandettini PA. Prediction the extent of activation derived from 100 scans from only 10 scans. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[99] Handwerker DA, **Gonzalez-Castillo J**, Starkel C, et al. The effects of flip angle on estimated fMRI functional connectivity. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[100] Luh WM, Duthie KN, **Gonzalez-Castillo J**, et al. Strategies for Robust Image Registration in fMRI. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[101] Smalt CJ, **Gonzalez-Castillo J**, Svirsky MA, et al. "Neural Adaptation of Normal Hearing Listeners to a Portable Cochlear Implant Acoustic Simulation. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[102] Soltysik DA, Thomasson D, Rajan S, **Gonzalez-Castillo J**, et al. Head-repositioning does not reduce the reproducibility of block-design motor fMRI activation. *17th Annual Meeting for the Organization for Human Brain Mapping*, Quebec City, Canada. June **2011**.

[103] **Gonzalez-Castillo J**, Roopchangingh V, Bandettini PA, Bodurka J. The effect of flip angle on BOLD fMRI sensitivity. *19th Annual Meeting for the International Society of Magnetic Resonance in Medicine*, Montreal, Canada, May **2011**.

[104] Bodurka J, **Gonzalez-Castillo J**, Bandettini PA. The use of Neurofeedback with Real-Time Functional MRI to Suppress Physiological Noise. *15th Annual Meeting of the Organization for Human Brain Mapping*, San Francisco, CA. June **2009**.

[105] Bodurka J, **Gonzalez-Castillo J**, Bandettini PA, The use of Neurofeedback with Real-Time Functional MRI to Suppress Physiological Noise. *17th International Society for Magnetic Resonance in Medicine Meeting*, Honolulu, HI, April **2009**.

[106] Santos J, **Gonzalez-Castillo J**, Jackson J, et al. fMRI of violent video gaming and fiber-optic joystick evaluation. *14th Annual Meeting of the Organization for Human Brain Mapping*, Melbourne, Australia, June **2008**.

[107] Malaia E, **Gonzalez-Castillo J**, Talavage TM, Wilbur R. Experimental evidence of event structure effects on American Sign Language predicate production and processing. *44th Annual Meeting of the Chicago Linguistic Society*, May **2008**.

[108] Santos J, **Gonzalez-Castillo J**, Jackson JH, et al. fMRI of violent video gaming and fiber-optic joystick evaluation. *2nd Indiana Neuroimaging Sympoisum*, Indianapolis, Indiana, April 25, **2008**.

[109] Shao C, Proctor RW, **Gonzalez-Castillo J**, Talavage TM. Comparison of two SRC tasks: Shared neural basis for different spatial stimulus modes. *2nd Indiana Neuroimaging Symposium*, Indianapolis, Indiana, April, **2008**.

[110] **Gonzalez-Castillo J**, Haneda E, et al. Longitudinal fMRI Study of Adaptation to Degraded Speech Stimuli. *12th Annual Meeting of the Organization for Human Brain Mapping*, Florence, Italy, **2006**.