IEEE VR 2022

VGTC Virtual Reality Significant New Researcher Award

Mar Gonzalez-Franco

The 2022 IEEE VGTC Significant New Researcher Award goes to Mar Gonzalez-Franco of Microsoft, in recognition of her research and incipient leadership in the field of Virtual Reality and spatial computing. Her work has provided new insights on how people behave and perceive avatars, haptics, sound and multisensory signals inside Virtual Reality. She has produced numerous new prototypes advancing the state of the art on haptic controllers and haptic displays. She has been prolific in proposing new theories and standardized methods of evaluation for different phenomena such as embodiment, locomotion, the uncanny valley of haptics, avatar self-recognition and the self-avatar follower effect. Meanwhile, Dr. Gonzalez-Franco has helped democratize access to VR technology by open sourcing of avatars and avatar animation libraries (Microsoft Rocketbox).

Mar Gonzales-Franco
Award recipient 2022

Mar Gonzalez-Franco has been conducting research in Virtual Reality since 2009, when she started as a part-time research assistant with Professor Mel Slater at the University of Barcelona. In 2010, after completing her master thesis on signal processing at Tsinghua University, she joined Mel Slater's lab full time, where she built real-time systems to evaluate the brain response of embodied participants when their avatars were attacked or hijacked. This was part of the European Project VERE (Virtual Embodiment Robotic re-Embodiment) that aimed at exploring the boundaries of avatar embodiment. Throughout this research, her focus was understanding how our brain perceives our body and searching the underlying mechanisms that determine what is real and what is not. In the process Dr. Gonzalez-Franco became a neuroscientist as well as a computer scientist. In that period, she also visited the Massachusetts Institute of Technology and did a summer internship at Microsoft Research. She graduated in 2014 with honors, and completed her Postdoctoral studies at University College London, working on behavioral responses to moral dilemmas inside VR. Her broad exposure to the field and deep engagement with research communities spanning Europe, China, and the USA brought a new understanding to her work on the links between perception and behavior, and how both would be critical to the advancement of VR. Her early work at the dawn of commercial VR, when myriad different headset displays, tracking technologies, and software platforms blossomed and then became obsolete, taught her the value of being device agnostic—a philosophy she has ever since embraced in her research and open platforms. Dr. Gonzalez-Franco also embraced the role of industry in the future of VR, and went on to lead a team at Airbus, join a startup, and in 2016 joined Microsoft Research where she is a Principal Researcher.

Dr. Gonzalez-Franco often draws on her academic and industrial sensibilities to advance research in the form of prototypes and demos that serve—to academics and industry alike—as a window to a possible future. Some of these prototypes have ended informing features in products such as Together Mode in Microsoft Teams, Microsoft Soundscape, and most recently the Avatars in Microsoft Mesh. Her prototypes over the years have often been featured in the media and have been awarded multiple "best demo" awards.

Dr. Gonzalez-Franco is deeply involved in the scientific community. She often acts as expert advisor to governments, serves on program committees, chairs conferences and workshops, gives keynote talks, and otherwise gives back to the community. Since 2020 she has also served as the Ethics and Diversity Chair of the IEEE Technical Committee on Visualization and Graphics.

Ultimately the work of Mar Gonzalez-Franco has been driven by a quest to generalize findings and phenomena into fundamental discoveries, and the resulting research has been recognized by publication in some of the most prestigious venues. For example, her work in haptics led Dr. Gonzalez-Franco to propose a theory on the Uncanny Valley of Haptics (published in Science Robotics) while also advancing the state of the art on fabrication, such as her work using Auxetic materials to achieve stiff deformations (Nature Communications). To unify work on avatars she has proposed and validated metrics like questionnaires on embodiment (Frontiers), explored phenomena like the self-avatar follower effect (IEEE VR), and explored what drives self-avatar recognition both through facial realism and animation (IEEE TVCG).

Award Information

The IEEE VGTC Virtual Reality Significant New Research Award was just established, in 2022. It recognizes significant contributions by an individual whose last degree was within the past seven years. Nominations can be submitted either via the VGTC website at https://tc.computer.org/vgtc/awards/vr-award-nominations/ or via direct email to vgtc-vr-awards@vgtc.org.