

Brain Pixels: image analysis for neuroscience

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After spending the Fall embedded in the Neuroscience Department at UVA, Scott Acton will highlight new image processing and analysis work initiated in collaboration with neuroscientists. The talk will cover recent work in mapping the fly brain using image analysis tools as well as recent progress in the segmentation of individual neurons. Extensions of this work include the mapping the recently discovered meningeal lymphatic system in the brain as well as using image analysis to unravel mysteries of glia. Methods for processing neuron activity from calcium imaging will be demonstrated. Finally, advances in the analysis of super-resolution microscopy will be proposed and supported by some preliminary results.



Scott T. Acton is Professor of Electrical & Computer Engineering and of Biomedical Engineering at the University of Virginia. He received his M.S. and Ph.D. degrees at the University of Texas at Austin. He received his B.S. degree at Virginia Tech. He is a Fellow of the IEEE “for contributions to biomedical image analysis.”. Professor Acton’s laboratory at UVA is called VIVA - Virginia Image and Video Analysis. They specialize in biological image analysis problems. The research emphasis of VIVA is video tracking and segmentation. Professor Acton has over 275 publications in the image analysis area including the books *Biomedical Image Analysis: Tracking* and *Biomedical Image Analysis: Segmentation*. Professor Acton has been at the University of Virginia since 2000. Before that time, he worked in the academic world for Oklahoma State University and in the engineering world for AT&T, Motorola and the Mitre Corporation. He is Editor-in-Chief of the *IEEE Transactions on Image Processing*. Prof. Acton is general co-chair of the 2018 IEEE International Symposium on Biomedical Imaging.