

# Biomedical Engineering

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## Helen Buettner

Address: 599 Taylor Road (Bldg# 3893)  
Piscataway, NJ 08854

Room: BME-318

Phone: 732-445-4500 x6318

Email: [buettner@rci.rutgers.edu](mailto:buettner@rci.rutgers.edu)

Our lab seeks an understanding of mechanisms by which the neural circuitry is maintained in healthy and diseased organisms. Our main thrust has been to characterize the kinetics of nerve filopodial extension, retraction, and turnover using high resolution video microscopy and a mathematical model of this sensing activity. More recently, we have employed microfabrication to create precise patterns of guidance molecules on a substrate and to monitor nerve growth cone behavior.

### Recent Papers:

1. Thompson DM and Buettner HM, Schwann Cell Response to Micropatterned Laminin Surfaces *Tissue Engineering* 7; 247-265 (2001) .
2. Buettner, HM, Odde, DJ, and Burt AM, Cell Structure and Motion: Cytoskeleton and Cell Movement *Encyclopedia of Cell Technology* Ed. R. Spier, Wiley, New York, NY (2000).
3. Odde, DJ, and Buettner, HM, Autocorrelation Function and Power Spectrum of Two-State Random Processes Used in Neurite Guidance *Biophysical Journal* 75; 1189-1196 (1998).

For more information, see <http://sol.rutgers.edu/staff/buettner.html>



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BME graduate student and IGERT

fellow, **Jeffrey Barminko**, has been awarded a predoctoral fellowship from the New Jersey Commission on Spinal Cord Research for his project entitled 擱ncapsulated MSCs...

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