

PETER M. GOODWIN

Staff Scientist

Center for Integrated Nanotechnologies
Los Alamos National Laboratory
Los Alamos, NM 87545

Phone 505-665-2506
Fax 505-667-0851
Email: pmg@lanl.gov

Education

Undergraduate: B.S. in Physics from the California Institute of Technology.
Graduate: Ph.D. in Applied Physics from Cornell University.

Publications

1. *Base-directed formation of fluorescent silver clusters*, Sengupta, B.; Ritchie, C.M.; Buckman, J.G.; Johnsen, K.R.; Goodwin, P.M.; Petty, J.T. *J. Phys. Chem. C.*, 2008, 112(48), 18776-18782.
2. *Three-dimensional tracking of individual quantum dots*, Lessard, G.A.; Goodwin, P.M.; Werner, J.H. *Appl. Phys. Lett.*, 2007, 91(22), 2240106-1-3.
3. *Single particle high resolution spectral analysis flow cytometry*, Goddard, G.; Martin, J.C.; Naivar, M.; Goodwin, P.M.; Graves, S.W.; Habbersett, R.; Nolan J.P.; Jett, J.H. *Cytometry*, 2006, 69A(8), 842-851.
4. *A two-dimensional view of the folding energy landscape of cytochrome c*, Werner, J.H.; Joggerst, R.; Dyer, R.B.; Goodwin, P.M. *Proc. Natl. Acad. Sci. USA*, 2006, 103, 11130–11135.
5. *A comparison of the fluorescence dynamics of single molecules of the green fluorescent protein: one- versus two-photon excitation*. Cotlet, M.; Waldo, G.S.; Goodwin, P.M.; Werner, J.H. *ChemPhysChem*, 2006, 7, 250–260.
6. *Site-specific deviations from random coil dimensions in a highly denatured protein; a single molecule study*. McCarney, E.R.; Werner, J.H.; Bernstein, S.L.; Ruczinski, I.; Makarov, D.E.; Goodwin, P.M.; Plaxco, K.W. *J. Mol. Biol.*, 2005, 352, 672–682.
7. *Exonuclease I hydrolyses DNA with a distribution of rates*. Werner, J.H.; Cai, H.; Keller, R.A.; Goodwin, P.M. *Biophys. J.*, 2005, 88, 1403–1412.
8. *Single-molecule spectroscopy for nucleic acid analysis: a new approach for disease detection and genomic analysis*. Goodwin, P.M.; Nolan, R.L.; Cai, H. *Curr. Pharm. Biotechnol.*, 2004, 5, 271–278.
9. *A simple quenching method for fluorescence background reduction and its application to the direct, quantitative detection of specific mRNA*. Nolan, R.L.; Cai, H.; Nolan, J.P.; Goodwin, P.M. *Anal. Chem.*, 2003, 75, 6326–6243.
10. *Single-molecule detection in liquids by laser-induced fluorescence*. Goodwin, P.M.; Ambrose, W.P.; Keller, R.A. *Accounts Chem. Res.*, 1996, 29, 607-613.

Graduate and Postdoctoral Advisors: Professor T.A. Cool, Applied and Engineering Physics, Cornell University, Ithaca, NY; Charles E. Otis, Current affiliation: unknown; Richard A. Keller, Los Alamos National Laboratory, Los Alamos New Mexico.

Thesis Advisor and Postgraduate – Scholar Sponsor: Mircea Cotlet, LANL Director's Funded Postdoctoral Fellow, 2004-2006; Current position: Staff Member, Center for Functional Nanomaterials, Brookhaven National Laboratory.

Synergistic Activities

Current Projects

Center for Integrated Nanotechnologies, DOE user facility

“A molecular view of cellulase activity: A single-molecule imaging and multi-scale theoretical approach,” 20100129ER,
PI: P.M. Goodwin

“Using small molecules to control RNA conformations,” 20090163ER, PI: K.Y. Sanbonmatsu

Collaborators:

Internal: A.M. Bradbury, B-9; S. Gnanakaran, T-6; R.A. Keller, MPA-CINT; R.S. Iyer, B-7; P. A. Langan, B-8; K.Y. Sanbonmatsu, T-6; A.P. Shreve, MPA-CINT; G.S. Waldo, B-9; J.H. Werner, MPA-CINT. External: J. Brozik Washington State University, D. Fygenson, UCSB; E. Goodwin, KromaTid, Inc.; S. Koch, UNM; J.T. Petty, Furman University.