

## EEE 4434/ Nanobiotechnology

Credits:3 credits

Textbook, title, author, and year Not textbook is required

### Reference materials:

Mauro Ferrari Ph.D., Abraham P. Lee, L. James Lee: BioMEMS and Biomedical Nanotechnology, ISBN: 978-0-387-25842-3 (Online), 2006

Iqbal, Samir M., Bashir, Rashid (Eds.): Nanopores Sensing and Fundamental Biological Interactions, ISBN: 978-1-4939-9252-0, 2011

### Research Articles:

M. Sher, R. Zhuang, V. U. Demirci, W. Asghar, "Rapid analytical devices for clinical diagnosis: recent advances in the fabrication techniques and sensing mechanisms," Expert Review of Molecular Diagnostics, Accepted, DOI: 10.1080/14737159.2017.1285228 (2017)

W. Asghar, H. Shafiee, V. Velasco, V. R. Sah, S. Guo, M. El Ansari, A. Rajagopalan, M. Jahangir, R. M. Anchan, G. L. Mutter, M. Ozkan, C. S. Ozkan, and U. Demirci "Toxicology Study of Single Carbon Nanotubes and Reduced Graphene Oxide in Human Sperm," Scientific Reports, vol 6, article 30270 (2016)

K. Rappa, HF Rodriguez, GC Hakkarainen, RM. Anchan, GL. Mutter, W. Asghar, "Sperm processing for advanced reproductive technologies: Where are we today?", Biotechnology Advances, doi:10.1016/j.biotechadv.2016.01.007 (2016)

M. Safavieh, C. Coarsey, N. Esiobu, A. Memic, J. Mahesh, H. Shafiee, W. Asghar, "Advances in Candida Detection Platforms for Clinical and Point-of-Care Applications", Critical Reviews in Biotechnology, DOI:10.3109/07388551.2016.1167667 (2016)

W. Asghar, M. Yuksekkaya, H. Shafiee, M. Zhan, M. Anzen, F. Inci, M. Kocaculak, U. Demirci, "Engineering long shelf life multi

Brief list of topics to be covered:

1