



## Sirimuvva Tadepalli

Postdoctoral Research Fellow, Microbiology and Immunology

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#### HONORS AND AWARDS

- Graduate Student Gold Award, Materials Research Society (2017)
- O.P. Jindal Engineering and Management Scholarship, O.P. Jindal Group (2010)

#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Washington University (2017)
- Master of Science, Washington University (2014)
- Bachelor of Technology, National Institute of Technology (2012)

#### STANFORD ADVISORS

- Juliana Idoyaga, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **Shape-Dependent Biodistribution of Biocompatible Silk Microcapsules.** *ACS applied materials & interfaces*  
Cao, S., Tang, R., Sudlow, G., Wang, Z., Liu, K., Luan, J., Tadepalli, S., Seth, A., Achilefu, S., Singamaneni, S.  
2019
- **Photothermally Active Reduced Graphene Oxide/Bacterial Nanocellulose Composites as Biofouling-Resistant Ultrafiltration Membranes** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*  
Jiang, Q., Ghim, D., Cao, S., Tadepalli, S., Liu, K., Kwon, H., Luan, J., Min, Y., Jun, Y., Singamaneni, S.  
2019; 53 (1): 412–21
- **Aqueous toughening in crosslinked marine animal proteins**  
Grant, A., Kreckler, M., Tadepalli, S., Gupta, M., Crosby, M., Dennis, P., Singamaneni, S., Naik, R., Tsukruk, V.  
AMER CHEMICAL SOC.2018
- **Metal-Organic Framework Encapsulation for Biospecimen Preservation** *CHEMISTRY OF MATERIALS*  
Wang, C., Sun, H., Luan, J., Jiang, Q., Tadepalli, S., Morrissey, J. J., Kharasch, E. D., Singamaneni, S.  
2018; 30 (4): 1291–1300
- **Metal-Organic Framework Encapsulation for the Preservation and Photothermal Enhancement of Enzyme Activity** *SMALL*  
Tadepalli, S., Yim, J., Cao, S., Wang, Z., Naik, R. R., Singamaneni, S.  
2018; 14 (7)
- **Metal-Organic Framework Encapsulation for the Preservation and Photothermal Enhancement of Enzyme Activity.** *Small (Weinheim an der Bergstrasse, Germany)*  
Tadepalli, S., Yim, J., Cao, S., Wang, Z., Naik, R. R., Singamaneni, S.

2018

- **Advancing Peptide-Based Biorecognition Elements for Biosensors Using in-Silico Evolution.** *ACS sensors*  
Xiao, X., Kuang, Z., Slocik, J. M., Tadepalli, S., Brothers, M., Kim, S., Mirau, P. A., Butkus, C., Farmer, B. L., Singamaneni, S., Hall, C. K., Naik, R. R.  
2018; 3 (5): 1024–31
- **Catalytically Active Bacterial Nanocellulose-Based Ultrafiltration Membrane.** *Small (Weinheim an der Bergstrasse, Germany)*  
Xu, T., Jiang, Q., Ghim, D., Liu, K. K., Sun, H., Derami, H. G., Wang, Z., Tadepalli, S., Jun, Y. S., Zhang, Q., Singamaneni, S.  
2018
- **Extreme Mechanical Behavior of Nacre-Mimetic Graphene-Oxide and Silk Nanocomposites.** *Nano letters*  
Xie, W., Tadepalli, S., Park, S. H., Kazemi-Moridani, A., Jiang, Q., Singamaneni, S., Lee, J. H.  
2018
- **Ultrarobust Biochips with Metal-Organic Framework Coating for Point-of-Care Diagnosis.** *ACS sensors*  
Wang, C., Wang, L., Tadepalli, S., Morrissey, J. J., Kharasch, E. D., Naik, R. R., Singamaneni, S.  
2018
- **Gold Nanorod-Mediated Photothermal Enhancement of the Biocatalytic Activity of a Polymer-Encapsulated Enzyme** *CHEMISTRY OF MATERIALS*  
Tadepalli, S., Yim, J., Madireddi, K., Luang, J., Naik, R. R., Singamaneni, S.  
2017; 29 (15): 6308–14
- **An in situ grown bacterial nanocellulose/graphene oxide composite for flexible supercapacitors** *JOURNAL OF MATERIALS CHEMISTRY A*  
Jiang, Q., Kacica, C., Soundappan, T., Liu, K., Tadepalli, S., Biswas, P., Singamaneni, S.  
2017; 5 (27): 13976–82
- **Amplification of Refractometric Biosensor Response through Biom mineralization of Metal-Organic Framework Nanocrystals** *ADVANCED MATERIALS TECHNOLOGIES*  
Luan, J., Hu, R., Tadepalli, S., Morrissey, J. J., Kharasch, E. D., Singamaneni, S.  
2017; 2 (7)
- **Wood Graphene Oxide Composite for Highly Efficient Solar Steam Generation and Desalination** *ACS APPLIED MATERIALS & INTERFACES*  
Liu, K., Jiang, Q., Tadepallifit, S., Raliya, R., Biswas, P., Naik, R. R., Singamaneni, S.  
2017; 9 (8): 7675-7681
- **Metal-Organic Framework as a Protective Coating for Biodiagnostic Chips** *ADVANCED MATERIALS*  
Wang, C., Tadepalli, S., Luan, J., Liu, K., Morrissey, J. J., Kharasch, E. D., Naik, R. R., Singamaneni, S.  
2017; 29 (7)
- **Bio-Optics and Bio-Inspired Optical Materials.** *Chemical reviews*  
Tadepalli, S., Slocik, J. M., Gupta, M. K., Naik, R. R., Singamaneni, S.  
2017; 117 (20): 12705–63
- **Structure-dependent SERS activity of plasmonic nanorattles with built-in electromagnetic hotspots.** *The Analyst*  
Liu, K. K., Tadepalli, S., Wang, Z., Jiang, Q., Singamaneni, S.  
2017; 142 (23): 4536–43
- **Influence of Surface Charge of the Nanostructures on the Biocatalytic Activity.** *Langmuir : the ACS journal of surfaces and colloids*  
Tadepalli, S., Wang, Z., Liu, K. K., Jiang, Q., Slocik, J., Naik, R. R., Singamaneni, S.  
2017; 33 (26): 6611–19
- **Effect of size and curvature on the enzyme activity of bionanoconjugates.** *Nanoscale*  
Tadepalli, S., Wang, Z., Slocik, J., Naik, R. R., Singamaneni, S.  
2017; 9 (40): 15666–72
- **Bilayered Biofoam for Highly Efficient Solar Steam Generation** *ADVANCED MATERIALS*  
Jiang, Q., Tian, L., Liu, K., Tadepalli, S., Raliya, R., Biswas, P., Naik, R. R., Singamaneni, S.  
2016; 28 (42): 9400-?
- **Silk-Encapsulated Plasmonic Biochips with Enhanced Thermal Stability** *ACS APPLIED MATERIALS & INTERFACES*  
Wang, C., Luan, J., Tadepalli, S., Liu, K., Morrissey, J. J., Kharasch, E. D., Naik, R. R., Singamaneni, S.

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2016; 8 (40): 26493-26500

- **PEGylated Artificial Antibodies: Plasmonic Biosensors with Improved Selectivity** *ACS APPLIED MATERIALS & INTERFACES*  
Luan, J., Liu, K., Tadepalli, S., Jiang, Q., Morrissey, J. J., Kharasch, E. D., Singamaneni, S.  
2016; 8 (36): 23509-23516
- **Polarization-Dependent Surface-Enhanced Raman Scattering Activity of Anisotropic Plasmonic Nanorattles** *JOURNAL OF PHYSICAL CHEMISTRY C*  
Liu, K., Tadepalli, S., Kumari, G., Banerjee, P., Tian, L., Jain, P. K., Singamaneni, S.  
2016; 120 (30): 16899-16906
- **Adsorption Behavior of Silk Fibroin on Amphiphilic Graphene Oxide** *ACS BIOMATERIALS SCIENCE & ENGINEERING*  
Tadepalli, S., Hamper, H., Park, S. H., Cao, S., Naik, R. R., Singamaneni, S.  
2016; 2 (7): 1084-1092
- **Plasmonic Nanogels for Unclonable Optical Tagging** *ACS APPLIED MATERIALS & INTERFACES*  
Tian, L., Liu, K., Fei, M., Tadepalli, S., Cao, S., Geldmeier, J. A., Tsukruk, V. V., Singamaneni, S.  
2016; 8 (6): 4031-4041
- **Plasmonic paper: a porous and flexible substrate enabling nanoparticle-based combinatorial chemistry** *RSC ADVANCES*  
Schmucker, A. L., Tadepalli, S., Liu, K., Sullivan, C. J., Singamaneni, S., Naik, R. R.  
2016; 6 (5): 4136-4144
- **Plasmonic Biofoam: A Versatile Optically Active Material** *NANO LETTERS*  
Tian, L., Luan, J., Liu, K., Jiang, Q., Tadepalli, S., Gupta, M. K., Naik, R. R., Singamaneni, S.  
2016; 16 (1): 609-616
- **Peptide Functionalized Gold Nanorods for the Sensitive Detection of a Cardiac Biomarker Using Plasmonic Paper Devices** *SCIENTIFIC REPORTS*  
Tadepalli, S., Kuang, Z., Jiang, Q., Liu, K., Fisher, M. A., Morrissey, J. J., Kharasch, E. D., Slocik, J. M., Naik, R. R., Singamaneni, S.  
2015; 5
- **Off-Resonant Gold Superstructures as Ultrabright Minimally Invasive Surface-Enhanced Raman Scattering (SERS) Probes** *CHEMISTRY OF MATERIALS*  
Tian, L., Tadepalli, S., Fei, M., Morrissey, J. J., Kharasch, E. D., Singamaneni, S.  
2015; 27 (16): 5678-5684
- **Size-Dependent Surface Enhanced Raman Scattering Activity of Plasmonic Nanorattles** *CHEMISTRY OF MATERIALS*  
Liu, K., Tadepalli, S., Tian, L., Singamaneni, S.  
2015; 27 (15): 5261-5270
- **Bio-Enabled Gold Superstructures with Built-In and Accessible Electromagnetic Hotspots** *ADVANCED HEALTHCARE MATERIALS*  
Tian, L., Fei, M., Tadepalli, S., Morrissey, J. J., Kharasch, E. D., Singamaneni, S.  
2015; 4 (10): 1502-1509
- **Hydrophilic, Bactericidal Nanoheater-Enabled Reverse Osmosis Membranes to Improve Fouling Resistance** *ACS APPLIED MATERIALS & INTERFACES*  
Ray, J. R., Tadepalli, S., Nergiz, S. Z., Liu, K., You, L., Tang, Y., Singamaneni, S., Jun, Y.  
2015; 7 (21): 11117-11126
- **Plasmonic Nanorattles with Intrinsic Electromagnetic Hot-Spots for Surface Enhanced Raman Scattering** *SMALL*  
Jaiswal, A., Tian, L., Tadepalli, S., Liu, K., Fei, M., Farrell, M. E., Pellegrino, P. M., Singamaneni, S.  
2014; 10 (21): 4287-4292
- **Multifunctional Hybrid Nanopatches of Graphene Oxide and Gold Nanostars for Ultraefficient Photothermal Cancer Therapy** *ACS APPLIED MATERIALS & INTERFACES*  
Nergiz, S. Z., Gandra, N., Tadepalli, S., Singamaneni, S.  
2014; 6 (18): 16395-16402
- **Bioplasmonic calligraphy for multiplexed label-free biodetection** *BIOSENSORS & BIOELECTRONICS*  
Tian, L., Tadepalli, S., Park, S. H., Liu, K., Morrissey, J. J., Kharasch, E. D., Naik, R. R., Singamaneni, S.  
2014; 59: 208-215
- **Multiplexed charge-selective surface enhanced Raman scattering based on plasmonic calligraphy** *JOURNAL OF MATERIALS CHEMISTRY C*  
Tian, L., Tadepalli, S., Farrell, M. E., Liu, K., Gandra, N., Pellegrino, P. M., Singamaneni, S.

2014; 2 (27): 5438-5446

- **Effect of Carbon Nanotube Dispersion on Mechanical Properties of Aluminum-Silicon Alloy Matrix Composites** *JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE*

Chandran, P., Sirimuvva, T., Nayan, N., Shukla, A. K., Murty, S. V., Pramod, S. L., Sharma, S. C., Bakshi, S. R.

2014; 23 (3): 1028-1037