Stanford

Pranay Agarwal

Postdoctoral Research Fellow, Orthopedic Surgery

NIH Biosketch available Online

Bio

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Ohio State University (2017)
- Bachelor of Technology, Vellore Institute Technology (2008)
- Master of Science, New Jersey Institute Of Technology (2011)

Research & Scholarship

LAB AFFILIATIONS

- Nidhi Bhutani, Bhutani lab (3/1/2017)

Publications

PUBLICATIONS

- **Targeted production of reactive oxygen species in mitochondria to overcome cancer drug resistance** *NATURE COMMUNICATIONS*
  Wang, H., Gao, Z., Liu, X., Agarwal, P., Zhao, S., Conroy, D. W., Ji, G., Yu, J., Jaroniec, C. P., Liu, Z., Lu, X., Li, X., He, et al
  2018; 9: 562
- **A Nano-In-Micro System for Enhanced Stem Cell Therapy of Ischemic Diseases** *ACS CENTRAL SCIENCE*
  Wang, H., Agarwal, P., Xiao, Y., Peng, H., Zhao, S., Liu, X., Zhou, S., Li, J., Liu, Z., He, X.
  2017; 3 (8): 875–85
- **Microfluidics Enabled Bottom-Up Engineering of 3D Vascularized Tumor for Drug Discovery** *ACS NANO*
  Agarwal, P., Wang, H., Sun, M., Xu, J., Zhao, S., Liu, Z., Gooch, K. J., Zhao, Y., Lu, X., He, X.
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- **Bioengineering of injectable encapsulated aggregates of pluripotent stem cells for therapy of myocardial infarction** *NATURE COMMUNICATIONS*
  Zhao, S., Xu, Z., Wang, H., Reese, B. E., Gushchina, L. V., Jiang, M., Agarwal, P., Xu, J., Zhang, M., Shen, R., Liu, Z., Weisleder, N., He, et al
  2016; 7: 13306
- **Continuous On-Chip Cell Separation Based on Conductivity-Induced Dielectrophoresis with 3D Self-Assembled Ionic Liquid Electrodes** *ANALYTICAL CHEMISTRY*
  Sun, M., Agarwal, P., Zhao, S., Zhao, Y., Lu, X., He, X.
  2016; 88 (16): 8264–71
- **Combined cancer therapy with hyaluronan-decorated fullerene-silica multifunctional nanoparticles to target cancer stem-like cells** *BIOMATERIALS*
  Wang, H., Agarwal, P., Zhao, S., Yu, J., Lu, X., He, X.
  2016; 97: 62–73
- **The Effect of RGD Peptide on 2D and Miniaturized 3D Culture of HEPM Cells, MSCs, and ADSCs with Alginate Hydrogel** *CELLULAR AND MOLECULAR BIOENGINEERING*
  Dumbleton, J., Agarwal, P., Huang, H., Hogrebe, N., Han, R., Gooch, K. J., He, X.
  2016; 9 (2): 277–88

- **A Near-Infrared Laser- Activated "Nanobomb" for Breaking the Barriers to MicroRNA Delivery** *ADVANCED MATERIALS*
  Wang, H., Agarwal, P., Zhao, S., Yu, J., Lu, X., He, X.
  2016; 28 (2): 347–55

- **A biomimetic hybrid nanoplatform for encapsulation and precisely controlled delivery of theranostic agents (vol 6, 10081, 2015)** *NATURE COMMUNICATIONS*
  Wang, H., Agarwal, P., Zhao, S., Yu, J., Lu, X., He, X.
  2016; 7: 10350

- **Hyaluronic acid-decorated dual responsive nanoparticles of Pluronic F127, PLGA, and chitosan for targeted co-delivery of doxorubicin and irinotecan to eliminate cancer stem-like cells** *BIOMATERIALS*
  Wang, H., Agarvval, P., Zhao, S., Xu, R. X., Yu, J., Lu, X., He, X.
  2015; 72: 74–89

- **Alginate Hydrogel Microencapsulation Inhibits Devitrification and Enables Large-Volume Low-CPA Cell Vitrification** *ADVANCED FUNCTIONAL MATERIALS*
  Huang, H., Choi, J., Rao, W., Zhao, S., Agarwal, P., Zhao, G., He, X.
  2015; 25 (44): 6839–50

- **A Biomimetic Core-Shell Platform for Miniaturized 3D Cell and Tissue Engineering** *PARTICLE & PARTICLE SYSTEMS CHARACTERIZATION*
  Agarwal, P., Choi, J., Huang, H., Zhao, S., Dumbleton, J., Li, J., He, X.
  2015; 32 (8): 809–16

- **Chitosan-Decorated Doxorubicin-Encapsulated Nanoparticle Targets and Eliminates Tumor Reinitiating Cancer Stem-like Cells** *ACS NANO*
  Rao, W., Wang, H., Han, J., Zhao, S., Dumbleton, J., Agarwal, P., Zhang, W., Zhao, G., Yu, J., Zynger, D. L., Lu, X., He, X.
  2015; 9 (6): 5725–40

- **Multi-layered polymeric nanoparticles for pH-responsive and sequenced release of theranostic agents** *CHEMICAL COMMUNICATIONS*
  Wang, H., Zhao, S., Agarwal, P., Dumbleton, J., Yu, J., Lu, X., He, X.
  2015; 51 (36): 7733–36

- **Coaxial electrospray of liquid core-hydrogel shell microcapsules for encapsulation and miniaturized 3D culture of pluripotent stem cells** *INTEGRATIVE BIOLOGY*
  Zhao, S., Agarwal, P., Rao, W., Huang, H., Zhang, R., Liu, Z., Yu, J., Weisleder, N., Zhang, W., He, X.
  2014; 6 (9): 874–84

- **The crucial role of mechanical heterogeneity in regulating follicle development and ovulation with engineered ovarian microtissue** *BIOMATERIALS*
  Choi, J., Agarvval, P., Huang, H., Zhao, S., He, X.
  2014; 35 (19): 5122–28

- **Thermally responsive nanoparticle-encapsulated curcumin and its combination with mild hyperthermia for enhanced cancer cell destruction** *ACTA BIOMATERIALIA*
  Rao, W., Zhang, W., Poventud-Fuentes, I., Wang, Y., Lei, Y., Agarwal, P., Weekes, B., Li, C., Lu, X., Yu, J., He, X.
  2014; 10 (2): 831–42

- **In Vitro Culture of Early Secondary Preantral Follicles in Hanging Drop of Ovarian Cell-Conditioned Medium to Obtain MII Oocytes from Outbred Deer Mice** *TISSUE ENGINEERING PART A*
  Choi, J., Agarwal, P., He, X.
  2013; 19 (23-24): 2626–37

- **One-step microfluidic generation of pre-hatching embryo-like core-shell microcapsules for miniaturized 3D culture of pluripotent stem cells** *LAB ON A CHIP*
  Agarwal, P., Zhao, S., Bielecki, P., Rao, W., Choi, J., Zhao, Y., Yu, J., Zhang, W., He, X.
  2013; 13 (23): 4525–33