

Hao Ma

EDUCATION

- University of Colorado, Boulder** – Boulder, CO 2014.09 - Present
Ph.D. in Chemical Engineering
Advisor: Kristi Anseth, Ph.D.
- Zhejiang University** – Hangzhou, China 2010.08 - 2014.06
B.S. in Bioengineering
Cumulative GPA: 3.83/4.0

RESEARCH EXPERIENCE

- University of Colorado, Boulder** – Boulder, CO 2014.09 - Present
Graduate Research Assistant, advised by Prof. Kristi Anseth
- Investigation of cellular responses to dynamic extracellular local microenvironments in synthetic hydrogels
- Zhejiang University** – Hangzhou, China 2013.11 - 2014.06
Senior Design, advised by Prof. Shanqing Yao
- The pelletization mechanism of marine *Aspergillus niger* mycelial pellets and its impact on the production of cellulases
- University of Wisconsin, Madison** – Madison, WI 2013.07 - 2013.09
Research Experiences for Undergraduates (REU), advised by Prof. Sean P. Palecek
- Negative regulation of YAP during neuronal differentiation in human pluripotent stem cells
- Zhejiang University** – Hangzhou, China 2013.05 - 2013.07
Undergraduate Research Assistant, advised by Prof. Lin Zhang
- Enabling Graphene Oxide Nanosheets & Carbon Nanotubes as Water Separation Membranes
- Zhejiang University** – Hangzhou, China 2012.06 - 2013.05
Students Research Training Program (SRTP), advised by Prof. Meihua Sui
- Novel SN38 Conjugate-forming Nanoparticles as Anticancer Prodrug: Synthesis & Anticancer Studies

PUBLICATIONS (* Denotes Equal Contributions)

- Rao, V.V., Vu, M.K., **Ma, H.**, Killaars, A.R., & Anseth, K. S. (2018). Rescuing mesenchymal stem cell regenerative properties on hydrogel substrates post serial expansion. *Bioengineering & Translational Medicine*.
- Tang, S., **Ma, H.**, Tu, H.C., Wang, H.R., Lin, P.C., & Anseth, K. S. (2018). Adaptable Fast Relaxing Boronate-Based Hydrogels for Probing Cell-Matrix Interactions. *Advanced Science*, 1800638.
- Ma, H.***, Killaars, A. R.*, DelRio, F. W., Yang, C., & Anseth, K. S. (2017). Myofibroblastic activation of valvular interstitial cells is modulated by spatial variations in matrix elasticity and its organization. *Biomaterials*, 131, 131-144.
- Yang, C., DelRio, F. W., **Ma, H.**, Killaars, A. R., Basta, L. P., Kyburz, K. A., & Anseth, K. S. (2016). Spatially patterned matrix elasticity directs stem cell fate. *Proceedings of the National Academy of Sciences*, 113(31), E4439-E4445.

CONFERENCE PROCEEDINGS (# Denotes Oral Talk)

- Ma, H.**, Caldwell, A.S., Azagarsamy, M.A., & Anseth, K. S. Orthogonal dual protein patterning to probe synergistic protein effects. **BioInterface Workshop & Symposium** – Boulder, CO, 2018
- Ma, H.#**, Tang, S., Lin, P.C., & Anseth, K. S. Viscoelastic hydrogels based on boronate esters for understanding cell-matrix signaling. **American Chemical Society Fall National Meeting & Exposition** – Boston, MA, 2018
- Ma, H.**, Tang, S., Lin, P.C., & Anseth, K. S. Controlling differentiation of human mesenchymal stem cells in viscoelastic synthetic microenvironments. **Cellular and Molecular Bioengineering Conference** – Key Largo, FL, 2018
- Ma, H.**, Killaars, A. R., DelRio, F. W., Yang, C., & Anseth, K. S. Valvular interstitial cells response to subcellular matrix mechanics organization created by photo-tunable hydrogel substrates. **Gordon Research Conference on Biomaterials & Tissue Engineering** – Holderness, NH, 2017

TEACHING EXPERIENCE

- Advanced Teaching Assistant for **Reaction/Bio-reaction** University of Colorado, Boulder 2017.01-2017.05
- Teaching Assistant for **Biomaterials** University of Colorado, Boulder 2015.01-2015.05

HONORS & AWARDS

- Nomination for HHMI International Scholarship, University of Colorado-Boulder 2016
- Sanhe Prize, Zhejiang University 2013
- Merit Student, Zhejiang University 2013 & 2012
- Hengyi International Communication Scholarship, Zhejiang University 2012

EXTRACURRICULAR ACTIVITIES

- Talk-show speaker and host at Voice on CCTV-1 (30+ episodes)

2012.11- 2014.05