David Li

Curriculum Vitae

200 N Wynnewood Ave.
Apartment A218
Wynnewood, PA 19096

(240)-888-3524
davidli@outlook.com
David.Li@pennmedicine.upenn.edu

RESEARCH EXPERIENCE

2021-present	University of Pennsylvania Postdoctoral fellow, Division of Gastroenterology Advisor: Dr. Rebecca G. Wells	Philadelphia, PA

EDUCATION

2014-2020	Carnegie Mellon University Doctor of Philosophy in Biomedical Engineering Advisor: Dr. Yu-li Wang	Pittsburgh, PA
2012-2014	Boston University Master of Science in Biomedical Engineering Advisor: Dr. Joyce Y. Wong	Boston, MA
2008-2012	Johns Hopkins University Bachelor of Science in Biomedical Engineering	Baltimore, MD

PUBLICATIONS

1. **Li D**, Janmey PA, Wells RG (2023) Local fat content determines global and local stiffness in fatty livers. *FASEB Bioadv* 5:251-261.
2. de Jong IEM, Hunt ML, Chen D, Du Y, Llewellyn J, Gupta K, **Li D**, Erxleben D, Rivas F, Hall AR, Furth EE, Naji A, Liu C, Dhand A, Burdick JA, Davey MG, Flake AW, Porte RJ, Russo PA, Gaynor JW, Wells RG (2023) A fetal wound healing program after intrauterine bile duct injury may contribute to biliary atresia. *J Hepatol* S0168-8278(23)05060-2.
3. Loneker AE, Alisafaei F, Kant A, **Li D**, Janmey PA, Shenoy VB, Wells RG (2023) Lipid droplets are intracellular mechanical stressors that impair hepatocyte function. *Proc Natl Acad Sci USA* 120:e2216811120.
4. Wang YL, **Li D** (2020) Creating Complex Polyacrylamide Hydrogel Structures Using 3D Printing with Applications to Mechanobiology. *Macromol Biosci* 20:2000082.
5. **Li D**, Wang YL (2020) Mechanobiology, Tissue Development and Tissue Engineering. *Principles of Tissue Engineering*, eds Lanza R, Langer R, Vacanti JP, Atala A (Academic Press, MA), pp 237-256.
6. **Li D**, Wang YL (2018) Coordination of cell migration mediated by site-dependent cell-cell contact. *Proc Natl Acad Sci USA* 115:10678–10683.
7. **Li D**, Jacobsen MM, Rim NG, Backman D, Kaplan DL, Wong JY (2017) Introducing biomimetic shear and ion gradients to microfluidic spinning improves silk fiber strength. *Biofabrication* 9:025025.

8. Jacobsen MM, **Li D**, Rim NG, Backman D, Smith ML, Wong JY (2017) Silk-fibronectin protein alloy fibres support cell adhesion and viability as a high strength, matrix fibre analogue. *Scientific Reports* 7:45653.
9. Lin S, Ryu S, Tokareva O, Gronau G, Jacobsen MM, Huang W, Rizzo DJ, **Li D**, Staii C, Pugno NM, Wong JY, Kaplan DL, Buehler MJ (2015) Predictive modelling-based design and experiments for synthesis and spinning of bioinspired silk fibres. *Nature Communications* 6:6892.
10. Tokareva O, Lin S, Jacobsen MM, Huang W, Rizzo DJ, **Li D**, Simon M, Staii C, Cebe P, Wong JY, Buehler MJ, Kaplan DL (2014) Effect of sequence features on assembly of spider silk block copolymers. *Journal of Structural Biology* 186:412-419.
11. Sunshine JC, Akanda MI, **Li D**, Kozielski KL, Green JJ (2011) Effects of base polymer hydrophobicity and end group modification on polymeric gene delivery. *Biomacromolecules* 12:3592-3600.

Manuscripts in Preparation

1. **Li D**, Loneker AE, Mihelc EM, Ford J, Janmey PA, Wells RG. Dietary cholesterol forms intrahepatic crystals and stiffens the steatotic liver. In prep.

AWARDS AND HONORS

2023-	American Liver Foundation Postdoctoral Research Fellowship Award
2022-2024	Ruth L. Kirschstein Institutional Research Service Award (NRSA) T32 Fellowship, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
2019	Research article recommended x3 by F1000 Prime, Faculty Opinions
2014	BMES Annual Meeting Reviewer's Choice Award
2013	Graduate Assistance in Areas of National Need Fellowship

CONFERENCE ACTIVITIES

TALKS

1. "Dietary cholesterol forms intrahepatic crystals and stiffens the steatotic liver." Accepted oral presentation at 2024 Summer Biomechanics, Bioengineering, and Biotransport Conference, Lake Geneva, WI.
2. "Dietary cholesterol stiffens the steatotic liver." Oral presentation at 2023 BMES Annual Meeting, Seattle, WA.
3. "Dietary cholesterol alters lipid deposit organization and stiffens the steatotic liver." Seminar talk at PS-ON/CSBC Cell & Tissue Mechanics Group 2023, online.
4. "Local fat content determines global and local stiffness in fatty livers." Microsymposium talk at Cell Bio 2022- An ASCB|EMBO Annual Meeting, Washington, DC.
5. "Anisotropic cues promote symmetry breaking to initiate migration of adherent cells." Microsymposium talk at 2019 ASCB|EMBO Annual Meeting, Washington, DC.

6. “Cell migration coordination by site-dependent cell-cell contact.” Microsymposium talk at 2018 ASCB|EMBO Annual Meeting, San Diego, CA.

POSTERS

1. “Local fat content determines global and local stiffness in fatty livers,” Cell Bio 2022 – An ASCB|EMBO Annual Meeting, Washington DC.
2. “Local fat content determines global and local stiffness in livers with simple steatosis.” 2022 NIH Center for Molecular Studies in Digestive and Liver Diseases Symposium, Philadelphia, PA.
3. “A microfabricated 3D model of vascular mechanics in tissues to probe cell responses to vascular pathologies.” 2022 Penn-Stanford CVI Symposium, Philadelphia, PA.
4. “Anisotropic cues promote symmetry breaking to initiate migration of adherent cells.” 2019 ASCB|EMBO Annual Meeting, Washington DC.
5. “Cell migration coordination by site-dependent cell-cell contact.” 2018 ASCB|EMBO Annual Meeting, San Diego, CA.
6. “Location-dependent responses to epithelial cell-cell contact – tail following complements contact inhibition to facilitate collective migration.” 2017 ASCB|EMBO Annual Meeting, Philadelphia, PA.
7. “Biomimetic modifications to microfluidic silk spinning.” 2014 BMES Annual Meeting, San Antonio, TX.
8. “Effects of polymer/DNA self-assembly conditions on nanoparticle size and transfection efficacy.” 2010 JHU BME Undergraduate Research Day, Baltimore, MD.
9. “Analysis of a combinatorial polymer library for gene delivery vectors.” 2009 JHU BME Undergraduate Research Day, Baltimore, MD.

TEACHING AND MENTORSHIP

2024-2025	Mentor: High school teacher researchers from the Philadelphia region University of Pennsylvania
2022-2024	Lecturer: CEMB Summer Research Experience for Teachers Program University of Pennsylvania
2021-2022	Mentor: CEMB undergraduate researcher University of Pennsylvania
2021	Mentor Training for Summer Researchers Program University of Pennsylvania
2016-2020	Eberly Center Future Faculty Program Carnegie Mellon University
2015-2016	Teaching assistantship: Introduction to Biomedical Engineering Lab Carnegie Mellon University

2013-2014	Teaching assistantship: Principles and Applications of Tissue Engineering Boston University
2013	Instructor: BU UDesign Summer Camp Boston University
2011-2012	Teaching assistantship: Biomaterials I and II Johns Hopkins University

PROFESSIONAL MEMBERSHIPS

Biomedical Engineering Society, American Society of Mechanical Engineers, American Society for Cell Biology, European Molecular Biology Organization, American Association for the Advancement of Science

REFERENCES

Full list available upon request.