Stanford



Fotis Christakopoulos

Postdoctoral Scholar, Materials Science and Engineering

Bio

HONORS AND AWARDS

- Postdoc Mobility Fellowship, Swiss National Science Foundation (02.2023-01.2025)

PROFESSIONAL EDUCATION

- PhD, ETH Zurich , Materials Science (2021)
- MS, KTH Royal Institute of Technology , Medical Engineering (2016)
- BS & MS, National Technical University of Athens , Chemical Engineering (2014)

STANFORD ADVISORS

- Sarah Heilshorn, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Tuning Viscoelasticity of Dynamic Covalent Hydrogels for Human Tissue Modeling** *ADVANCED FUNCTIONAL MATERIALS*
  de Paiva Narciso, N., Christakopoulos, F., Huang, M. S., Baugh, N. J., Huerta-Lopez, C., Matos, E. X., Pashin, K. P., Spakowitz, A. J., Heilshorn, S. C.
  2026

- **In situ rheological monitoring of diffusion-controlled hydrogel crosslinking for embedded 3D bioprinting.** *Biofabrication*
  Christakopoulos, F., Shih, A., Chung, S. J., Huerta-López, C., Brunel, L. G., De Paiva Narciso, N., Messin-Roizard, C., Tao, J., Myung, D., Heilshorn, S., Fuller, G. G.
  2026

- **Dual-orientation of collagen fibers to guide cell alignment in 3D-printed constructs.** *Acta biomaterialia*
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  2025

- **Reinforcement of Fibrillar Collagen Hydrogels with Bioorthogonal Covalent Crosslinks.** *Biomacromolecules*
  Brunel, L. G., Long, C. M., Christakopoulos, F., Cai, B., de Paiva Narciso, N., Johansson, P. K., Singhal, D., Baugh, N. J., Zhang, D., Enejder, A., Myung, D., Heilshorn, S. C.
  2025

- **Interpenetrating networks of fibrillar and amorphous collagen promote cell spreading and hydrogel stability.** *Acta biomaterialia*
  Brunel, L. G., Long, C. M., Christakopoulos, F., Cai, B., Johansson, P. K., Singhal, D., Enejder, A., Myung, D., Heilshorn, S. C.
  2025

- **Organoid bioprinting: from cells to functional tissues** *NATURE REVIEWS BIOENGINEERING*
  Huang, M. S., Christakopoulos, F., Roth, J. G., Heilshorn, S. C.

2024

- **Structure Formation and Unexpected Ultrafast Re-entanglement Dynamics of Disentangled Ultrahigh Molecular Weight Polyethylene** *MACROMOLECULES*
  Wang, Z., Li, B., Christakopoulos, F., Xie, K., Zhu, C., Xu, J., Muller, A. J.
  2024
- **Solid-state extrusion of nascent disentangled ultra-high molecular weight polyethylene** *POLYMER ENGINEERING AND SCIENCE*
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  2024
- **Disentangled Melt of Ultrahigh-Molecular-Weight Polyethylene: Fictitious or Real?** *MACROMOLECULES*
  Litvinov, V., Christakopoulos, F., Lemstra, P.
  2024
- **A microrheological examination of insulin-secreting β-cells in healthy and diabetic-like conditions** *SOFT MATTER*
  Woolley, L., Burbidge, A., Vermant, J., Christakopoulos, F.
  2024
- **Embedded 3d Bioprinting of Collagen Inks into Microgel Baths to control hydrogel Microstructure and Cell Spreading.** *Advanced healthcare materials*
  Brunel, L. G., Christakopoulos, F., Kilian, D., Cai, B., Hull, S. M., Myung, D., Heilshorn, S. C.
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- **Gas-phase polymerization of ultra-high molecular weight polyethylene with decreased entanglement density** *JOURNAL OF POLYMER SCIENCE*
  do Rosario, R., Christakopoulos, F., Tervoort, T. A. A., Brunel, F., McKenna, T. F. L.
  2023; 61 (12): 1183-1195
- **Additive Manufacturing of Polyolefins** *POLYMERS*
  Christakopoulos, F., van Heugten, P. M. H., Tervoort, T. A. A.
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- **"Tying the Knot": Enhanced Recycling through Ultrafast Entangling across Ultrahigh Molecular Weight Polyethylene Interfaces** *MACROMOLECULES*
  Christakopoulos, F., Troisi, E., Friederichs, N., Vermant, J., Tervoort, T. A.
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- **Melting-Induced Evolution of Morphology, Entanglement Density, and Ultradrawability of Solution-Crystallized Ultrahigh-Molecular-Weight Polyethylene** *MACROMOLECULES*
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  2021; 54 (12): 5683-5693
- **Melting kinetics, ultra-drawability and microstructure of nascent ultra-high molecular weight polyethylene powder** *POLYMER*
  Christakopoulos, F., Troisi, E. M., Sologubenko, A. S., Friederichs, N., Stricker, L., Tervoort, T. A.
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- **Melting Kinetics of Nascent Poly(tetrafluoroethylene) Powder** *POLYMERS*
  Christakopoulos, F., Troisi, E., Tervoort, T. A.
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