



Vanessa Doulames

Physcial Scientist Research

T. H. Geballe Laboratory for Advanced Materials

Bio

ACADEMIC APPOINTMENTS

- Physical Science Research Scientist, T. H. Geballe Laboratory for Advanced Materials
- Member, Cardiovascular Institute

Publications

PUBLICATIONS

- **Preventing peritendinous adhesions using lubricious supramolecular hydrogels.** *Nature communications*
Meany, E. L., Williams, C. M., Song, Y. E., Doulames, V. M., Alakesh, A., Bailey, S. J., Williams, S. C., Jons, C. K., Fox, P. M., Appel, E. A.
2026
- **Dual-orientation of collagen fibers to guide cell alignment in 3D-printed constructs.** *Acta biomaterialia*
Singhal, D., Christakopoulos, F., Brunel, L. G., Borkar, S., Doulames, V. M., Mozipo, E. A., Myung, D., Fuller, G. G., Heilshorn, S. C.
2025
- **Hydrogel formulations for sustained-release of broadly neutralizing antibodies.** *Journal of controlled release : official journal of the Controlled Release Society*
Jons, C. K., Kasse, C. M., Mayer, B. T., Hyrien, O., Sen, S., Meany, E. L., d'Aquino, A. I., Ganesh, P., Eckman, N., Dong, C., Yan, J., Nguyen, L. T., Doulames, et al
2025: 114349
- **Intranasal Sertraline for the Investigation of Nose-to-Brain Delivery to Mitigate Systemic Exposure.** *ACS pharmacology & translational science*
Williams, S. C., Lantz, T., Doulames, V., Alakesh, A., Ramos Mejia, D., Jons, C. K., Huang, Z. Y., Eckman, N., Appel, E. A.
2025; 8 (10): 3669-3676
- **Intranasal Sertraline for the Investigation of Nose-to-Brain Delivery to Mitigate Systemic Exposure** *ACS PHARMACOLOGY & TRANSLATIONAL SCIENCE*
Williams, S. C., Lantz, T., Doulames, V., Alakesh, A., Ramos Mejia, D., Jons, C. K., Huang, Z., Eckman, N., Appel, E. A.
2025
- **Engineering Sustained-Release Broadly Neutralizing Antibody Formulations.** *bioRxiv : the preprint server for biology*
Jons, C. K., Kasse, C. M., Mayer, B. T., Hyrien, O., Sen, S., Meany, E. L., d'Aquino, A. I., Ganesh, P., Eckman, N., Dong, C., Yan, J., Nguyen, L. T., Doulames, et al
2025
- **Multidirectional alignment of collagen fibers to guide cell orientation in 3D-printed tissue.** *bioRxiv : the preprint server for biology*
Singhal, D., Christakopoulos, F., Brunel, L. G., Borkar, S., Doulames, V. M., Myung, D., Fuller, G. G., Heilshorn, S. C.
2025
- **Preventing peritendinous adhesions using lubricious supramolecular hydrogels.** *bioRxiv : the preprint server for biology*

Meany, E. L., Williams, C. M., Song, Y. E., Doulames, V. M., Bailey, S. J., Williams, S. C., Jons, C. K., Fox, P. M., Appel, E. A.
2025

- **Custom-engineered hydrogels for delivery of human iPSC-derived neurons into the injured cervical spinal cord.** *Biomaterials*
Doulames, V. M., Marquardt, L. M., Hefferon, M. E., Baugh, N. J., Suhar, R. A., Wang, A. T., Dubbin, K. R., Weimann, J. M., Palmer, T. D., Plant, G. W., Heilshorn, S. C.
2023; 305: 122400
- **Hyaluronan and elastin-like protein (HELP) gels significantly improve microsphere retention in the myocardium.** *Biomaterials science*
Suhar, R. A., Doulames, V. M., Liu, Y., Hefferon, M. E., Figueroa, O. 3., Buabbas, H., Heilshorn, S. C.
2022
- **Elastin-like Proteins to Support Peripheral Nerve Regeneration in Guidance Conduits.** *ACS biomaterials science & engineering*
Suhar, R. A., Marquardt, L. M., Song, S., Buabbas, H., Doulames, V. M., Johansson, P. K., Klett, K. C., Dewi, R. E., Enejder, A. M., Plant, G. W., George, P. M., Heilshorn, S. C.
2021; 7 (9): 4209-4220
- **Designer, injectable gels to prevent transplanted Schwann cell loss during spinal cord injury therapy.** *Science advances*
Marquardt, L. M., Doulames, V. M., Wang, A. T., Dubbin, K., Suhar, R. A., Kratochvil, M. J., Medress, Z. A., Plant, G. W., Heilshorn, S. C.
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Doulames, V., Weimann, J., Plant, G. W.
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- **Stem cell therapies for acute spinal cord injury in humans: a review** *NEUROSURGICAL FOCUS*
Jin, M. C., Medress, Z. A., Azad, T. D., Doulames, V. M., Veeravagu, A.
2019; 46 (3): E10
- **Induced Pluripotent Stem Cell Therapies for Cervical Spinal Cord Injury.** *International journal of molecular sciences*
Doulames, V. M., Plant, G. W.
2016; 17 (4)
- **Social interaction attenuates the extent of secondary neuronal damage following closed head injury in mice** *FRONTIERS IN BEHAVIORAL NEUROSCIENCE*
Doulames, V. M., Vilcans, M., Lee, S., Shea, T. B.
2015; 9: 369
- **Environmental enrichment and social interaction improve cognitive function and decrease reactive oxidative species in normal adult mice** *INTERNATIONAL JOURNAL OF NEUROSCIENCE*
Doulames, V., Lee, S., Shea, T. B.
2014; 124 (5): 369-376
- **Synergistic effects of dopamine D2-like receptor antagonist sulpiride and beta-blocker propranolol on learning in the Carousel maze, a dry-land spatial navigation task** *PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR*
Prokopova, I., Bahnik, S., Doulames, V., Vales, K., Petrasek, T., Svoboda, J., Stuchlik, A.
2012; 102 (1): 151-156
- **Environmental Enrichment can Prevent Cognitive Decline Induced by Dietary Oxidative Challenge** *JOURNAL OF ALZHEIMERS DISEASE*
Lee, S., Doulames, V., Donnelly, M., Levasseur, J., Shea, T. B.
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- **Combined administration of alpha1-adrenoceptor antagonist prazosin and beta-blocker propranolol impairs spatial avoidance learning on a dry arena** *BEHAVIOURAL BRAIN RESEARCH*
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2010; 208 (2): 402-407