

# GEORGIOS TSEROPOULOS

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2728 Juniper Avenue  
Boulder, CO, 80304

## EDUCATION

<b>PhD</b>	SUNY at Buffalo, Chemical and Biological Engineering Dissertation: “ <i>From Skin to Nervous System: Epidermal Neural Crest Stem Cells and their Schwann cell Derivatives</i> ” Advisor: Dr. Stylianos T. Andreadis	August 2021
<b>MS</b>	University of Houston, Chemical and Biomolecular Engineering Advisor: Dr. Patrick Cirino	January 2014
<b>BS</b>	University of Patras, Chemical Engineering Diploma Thesis: “ <i>Viscoelastic polymer film flow over 2D topography</i> ” Advisor: Dr. John Tsamopoulos	February 2012

## HONORS AND AWARDS

Gerontelis Graduate Student Award	2019
Stem Cells in Regenerative Medicine (SCiRM-NYSTEM) poster award	2019
TA award (Thermodynamics CE203)	2016

## RESEARCH EXPERIENCE

**University of Colorado Boulder**, Boulder, CO October 2021 - present  
Postdoctoral Research Associate, Dept. Chemical and Biological Engineering  
Advisor: Dr. Kristi S. Anseth

- Engineering SPAAC hydrogels for elucidation of the signaling events of MSC secretion and therapeutic applications
- Developing platforms for drug testing on the differentiation and calcium deposition of Valvular Interstitial Cells

**SUNY at Buffalo**, Buffalo, NY January 2015 - August 2021  
Research Assistant, Dept. Chemical and Biological Engineering  
Advisor: Dr. Stylianos T. Andreadis

- In vitro: Transdifferentiated human Skin Cells to Nervous System Cells suited for Neurobiological Disorders, Signaling Pathway Analysis
- In vivo: Worked with mouse neurological disorder models (demyelinated brain) for stem cell transplantation

- Materials – Cellular platform: 3D microfibers for Stem cell differentiation and drug testing / 3D HA based hydrogels for in vivo stem cell transplantation delivery
- Computational: Bulk and Single Cell RNA seq analysis of human primary stem cells

**University of Houston**, Houston, TX

2012 to 2014

Research Assistant, Dept. Chemical and Biomolecular Engineering

Advisor: Dr. Patrick Cirino

- Bacterial Metabolic Engineering
- Bacterial Ligand Specificity for Biosensor Applications

**General Chemistry of Greece**, Athens, Greece

May - August 2005

Analytical Chemistry Intern, Dept. of Food and Heavy Metals

- HPLC, Infrared Spectroscopy, UV-VIS Spectroscopy, Gas Chromatography

## TEACHING EXPERIENCE

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**University of Colorado Boulder**, Boulder, CO

Spring 2022

Laboratory Teaching Assistant, Dept. of Chemical and Biological Engineering

- Tissue Engineering Methods Laboratory
  - Histology, Cell-Matrix interactions, Cell migration

**Auburn University**, Auburn, AL

Spring 2022

Guest Lecturer, Dept. of Chemical Engineering

- Cell and Tissue Engineering CHEN 5970
  - Lecture on “*Neuroengineering*”

**SUNY at Buffalo**, Buffalo, NY

Teaching Assistant, Dept. of Chemical and Biological Engineering

- CE Thermodynamics CE 304 Spring 2015
- Fundamental Principles of Chemical Engineering CE 212 Fall 2015
- CE Thermodynamics CE 304 Spring 2016

**University of Houston**, Houston, TX

Spring 2013

Teaching Assistant, Dept. of Chemical and Biomolecular Engineering

- Laboratory of Unit Operations CHEE 3462
  - Designed Experiments, Designed and graded quizzes, Taught the lab for ca. 40 undergraduate students

### *Journal Publications*

1. Mehrotra P., Ikhapoh I., Lei P., **Tseropoulos G.**, Zhang Y., Wang J., Liu S., Andreadis S. T., “Wnt/BMP mediated metabolic and epigenetic reprogramming preserves multipotency of skin derived neural crest like stem cells”, (2023) *Stem Cells*, 41 (3), 287-305
2. Choudhury D., Rong N., Ikhapoh I., Rajabian N., **Tseropoulos G.**, Wu Y., Mehrotra P., Thiyagarajan R., Shahini A., Seldeen K., Troen R. B., Lei P., Andreadis S. T., “*Inhibition of glutaminogenesis restores mitochondrial function in senescent stem cells*”, (2022), *Cell reports*, 41 (9)
3. **Tseropoulos G.\***, Podder A. K.\*, Mohamed A. M.\*, Nasiri B., Andreadis S. T. “*Engineering nanofiber scaffolds with biomimetic cues for differentiation of skin derived neural crest-like stem cells to Schwann cells*”, (2022), *Molecular Mechanisms of Neural Stem Cells (NSC) Development - Systems Approach* 23 (18), 10834
4. Mehrotra P., Koontz A., **Tseropoulos G.**, Kerosuo L., Mehrotra P., Bronner M. E., Andreadis S.T. “*Adult tissue–derived neural crest-like stem cells: Sources, regulatory networks, and translational potential*”, (2020), *Stem cells translational medicine* 9 (3), 328-341.
5. Rong N., Mistriotis P., Wang X., **Tseropoulos G.**, Zhang Y., Wang J., Liu S., Andreadis S. T., “*Restoring extracellular matrix synthesis in senescent stem cells*”, (2019), *The FASEB Journal* 33 (10), 10954-10965.
6. Moghadasi Boroujeni S., **Tseropoulos G.**, Bronner M. E., Andreadis S. T., “*Neural crest stem cells from human epidermis of aged donors maintain their multipotency in vitro and in vivo*”, (2019), *Scientific reports* 9 (1), 1-12
7. **Tseropoulos G.**, Moghadasi Boroujeni S., Bajpai V. K., Lei P., Andreadis S. T., “*Derivation of neural crest stem cells from human epidermal keratinocytes requires FGF-2, IGF-1, and inhibition of TGF- $\beta$ I*”, (2018), *Bioengineering & translational medicine* 3 (3), 256-264
8. Bajpai V. K., Kerosuo L., **Tseropoulos G.**, Cummings K. A., Wang X., Lei P., Liu B., Liu S., Popescu G. K., Bronner M. E., Andreadis S. T., “*Reprogramming postnatal human epidermal keratinocytes toward functional neural crest fates*”, (2017), *Stem Cells* 35 (5), 1402-1415
9. **Tseropoulos G.**, Dimakopoulos Y., Tsamopoulos J., Lymperatos G., “*On the flow characteristics of the conical Minoan pipes used in water supply systems, via*

*computational fluid dynamics simulations*”, (2013), Journal of archaeological science 40 (4), 2057-2068

### ***Journal Papers under review / in preparation***

1. **Tseropoulos G.**, Mehrotra P., Podder K. A., Willson E., Koontz A., Feltri L., Bronner M. E., Andreadis S. T., “*Immobilized NRG1 accelerates differentiation towards functional Schwann cells, mediated through YAP/TAZ nuclear translocation*” submitted in Advanced Science (July 2023).
2. Podder A., **Tseropoulos G.**, Mohamed A. M., Seidman R., Sim F., Andreadis S. T., “*Supramolecular Shear-Thinning Hydrogels Promote Oligodendrocyte Progenitor Cell Survival and Remyelination in the Central Nervous System*”, under review in Nature Biomedical Engineering (May 2023)
3. Batan D., **Tseropoulos G.**, Kirpatrick B., Bishop C., Bera K., Khang A., Anseth K. S., “*PTEN regulates Myofibroblast Activation in Valvular Interstitial Cells based on Subnuclear Localization*” under preparation
4. **Tseropoulos G.**, Rao V., Borelli A., Bera K., Khang A., Anseth K. S., “*Engineering Mesenchymal Stromal Cell derived Extracellular Vesicles to regulate Calvarial Defect Bone Regeneration in Osteoporotic rats*”, in preparation
5. **Tseropoulos G.**, Khang A., Bera K., Jaschke M., Anseth K. S., “*Mesenchymal Stromal Cell derived Extracellular Vesicles under Hypoxia drive Macrophage Polarization towards anti-inflammatory phenotype*”, under preparation

### **MENTORING EXPERIENCE**

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#### **Graduate Students**

Dilara Batan, *PhD Graduate student CU Boulder (2023)*  
Pihu Mehrotra, *PhD Graduate student SUNY UB (2023)*  
Ashis Kumar Podder, *PhD Graduate student SUNY UB*  
Samaneh Moghadasi Boroujeni, *M.S. Graduate student SUNY UB (2019)*  
Anna Bystran, *M.S. Graduate student SUNY UB (2018)*  
Surya Selvam, *M.Eng. Graduate student SUNY UB (2017)*

#### **Undergraduate Students**

Carrie Bishop, currently *Graduate Student at UCSD*  
Jack Grossman, currently *Graduate Student University of Tokyo, Japan*

## **COMMUNITY SERVICE, RESPONSIBLE POSITIONS AND SELECT OUTREACH**

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### **University of Colorado Boulder**

Postdoctoral Association of Colorado (PAC)  
President (2022)

### **SUNY at Buffalo**

Mark Diamond Research Foundation Committee member (2017-2019)

Hellenic Graduate Student Association

President (2017-2020)

Vice President (2015-2016)

### **University of Patras**

Chemical Engineering Department Curriculum Committee  
Member (2010-2012)

### **Outreach**

- University of Boulder Colorado
  - Science Community Outreach Program and Education (2022)
- SUNY at Buffalo
  - Science is Elementary (2015-2020)

## **LANGUAGES**

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**Greek:** Native Language

**English:** Full Professional Proficiency

**German:** Professional Working Proficiency

**French:** Limited Working Proficiency

## **REFERENCES**

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**Dr. Stylianos T. Andreadis**, Distinguished Professor  
Chemical and Biological Engineering  
SUNY at Buffalo  
Email: sandread@buffalo.edu  
Phone: (716) 645-1202

**Dr. Sriram Neelamegham**, Professor  
Chemical and Biological Engineering  
SUNY at Buffalo  
Email: neel@buffalo.edu  
Phone: (716) 645-1200

**Dr. Fraser Sim**, Professor  
Immunology and Toxicology  
SUNY at Buffalo  
Email: fjsim@buffalo.edu  
Phone: (716) 829-2151