# **Stefania Chirico Scheele**

Curriculum Vitae

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## Ph.D., Mechanical Engineering

Texas Tech University, Lubbock, TX Advisor: Paul F. Egan, Ph.D.

### **B.S., Mechanical Engineering**

Texas Tech University, Lubbock, TX

### **RESEARCH INTERESTS**

**3D Food Printing** \_

- Design of Experiments -
- Rheology
- Additive Manufacturing
- Geometric Modeling Personalized Nutrition

**Texture Analysis** 

**User Studies** 

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## **RESEARCH EXPERIENCE**

Texas Tech University, Mechanical Engineering Department, Lubbock, TX (Jan. 2019 – May 2023) **Research Assistant** 

- Controlled experiments and data collection
- Designed experiments for user studies
- Manufactured experimental setups
- Created new solutions for the use of new food materials
- Helped write proposals for grants
- Advised fellow graduate students in their projects

## **TEACHING INTERESTS**

- -Engineering Design
  - Thermodynamics I & II

Statics Solid Mechanics

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Heat Transfer

Manufacturing

## **TEACHING EXPERIENCE**

## **Texas Tech University, Mechanical Engineering Department, Lubbock, TX** (June 2023 – Present) Instructor

- Prepared course material such as syllabi, lectures, homework assignments, exams, and guizzes \_
- Initiated, facilitated, and moderated classroom discussion to promote open learning environment -
- Maintained regularly scheduled office hours to advise and assist students
- Assessed student progress and communicated results to students
- Provided individual tutoring to students who required it
- Supervised teaching assistants

(May 2023)

(December 2018)

## **Texas Tech University, Mechanical Engineering Department, Lubbock, TX** (*May 2022 – May 2023*) Graduate Part Time Instructor – Heat Transfer ME 3371

- Prepared course material such as syllabi, lectures, homework assignments, exams, and quizzes
- Planned Heat Transfer lectures to suit the curriculum and the 4-week course period
- Initiated, facilitated, and moderated classroom discussion to promote open learning environment
- Assessed student progress and communicated results to students

## **Texas Tech University, Mechanical Engineering Department, Lubbock, TX** (Jan. 2019 – May 2022) <u>Teaching Assistant</u>

- Provided support to professors in charge of a classroom
- Tutored individual students and small groups
- Helped professors with recordkeeping, teaching, and grading
- Graded classes according to rules and regulations of the department and the instructor
- Mentored undergraduate student groups to support their senior design projects

## **PROFESSIONAL EXPERIENCE**

## LACTEC Institutes, UEGA Group, Curitiba, Brazil (June 2017 – Aug. 2017) Intern Designed and optimized combustion chamber Worked on gas turbines combustion research Studied the phenomenon of combustion dynamics through simulations Applied optimization algorithms Texas Tech University, Whitacre College of Engineering, Lubbock, TX (Sept. 2016 – Dec. 2018) LYFE Mentorship Program Lead Mentor Worked as a lead mentor Provided guidance and support to incoming engineering students Served as a role model in engineering Lone Star College - Montgomery, The Woodlands, TX (Sept. 2014 – July 2016) STAR Center Tutor Provided an in-depth review of core academic concepts Assisted students to achieve academic success in the areas of Math, Physics, and Chemistry -Became certified as a tutor by the College Reading and Learning Association

#### PUBLICATIONS

#### **Journal Articles**

- **S. Chirico Scheele**, C. Hartmann, M. Siegrist, M. Binks, P. Egan, "User assessment of 3D printed food shape, taste, and fidelity", Journal of 3D Printing and Additive Manufacturing, 2022.

- **S. Chirico Scheele**, M. Binks, G. Christopher, F. Maleky, P. Egan, *"Printability, Texture, and Sensory Trade-offs for 3D Printed Potato with Added Proteins and Lipids",* Journal of Food Engineering, 2023.
- **S. Chirico Scheele**, M. Binks, G. Christopher, F. Maleky, P. Egan, *"Impact on Printability, Texture, and Viscoelastic Properties of Soy, Strawberry, and Cream Cheese Blends in Multi-material 3D Food Printing Designs"*, Journal of 3D Printing and Additive Manufacturing, (In Progress)

## **Book Chapters**

- **S. Chirico Scheele**, M. Binks, P. Egan, *"3D Printing Food: Manufacturing, Mechanics, and Validation",* Materials Science and Engineering in Food Product Development, Wiley, 2023.

## Peer-reviewed Conference Articles

- **S. Chirico Scheele**, P. Egan, "Effect of Varied Additives on The Texture and Shape Stability of 3D Printed Mashed Potato and Pumpkin", ASME IDETC/CIE, 2022.
- **S. Chirico Scheele**, M.N. Hoque, G. Christopher, P. Egan, "*Printability and Fidelity of Protein-Enriched 3D Printed Foods: A Case Study Using Cricket and Pea Protein Powder*", ASME IDETC/CIE, 2021.
- **S. Chirico Scheele**, M. Binks, P. Egan, "*Design and Manufacturing of 3D Foods Printing with User Validation*", ASME IDETC/CIE, 2020.

## PRESENTATIONS

- "Effect of Varied Additives on The Texture and Shape Stability of 3D Printed Mashed Potato and Pumpkin", ASME IDETC/CIE 27th Design for Manufacturing and the Life Cycle Conference, St. Louis, MO, August 14–17, 2022.
- *"Effects of Cricket and Pea Protein Addition on the Firmness, Taste Preferences, and Printability of 3D Printed Mashed Potatoes",* IFT FIRST: Annual Event and Expo, Chicago, IL, July 10-13, 2022.
- *"Effects of Cricket and Pea Protein Addition on the Firmness, Taste Preferences, and Printability of 3D Printed Mashed Potatoes",* 21st Annual Graduate Student Research Poster Competition, Texas Tech University, Lubbock, TX, March 3, 2022.
- "Printability and Fidelity of Protein-Enriched 3D Printed Foods: A Case Study Using Cricket and Pea Protein Powder", ASME IDETC/CIE 26th Design for Manufacturing and the Life Cycle Conference, Virtual, August 17-20, 2021.
- *"3D Food Printing: Printability and Fidelity Assessments"*, Texas Tech University Mechanical Engineering Graduate Seminar Series Internal, Virtual, February 15, 2021.
- "Design and Manufacturing of 3D Foods Printing with User Validation", ASME IDETC/CIE 25th Design for Manufacturing and the Life Cycle Conference, Virtual, August 17-19, 2020.
- *"Design and Manufacturing of 3D Food Printing with User Validation"*, 19th Annual Graduate Student Research Poster Competition, Texas Tech University, Lubbock, TX, March 11, 2020.

## **INVITED TALKS**

- *"Additive Manufacturing: A Review of 3D Food Printing"*, Texas Tech University, Biomaterials and Bioproducts Lectures for Students from Costa Rica, July 20, 2023.

- *"Fabricación Aditiva: Impresión 3D de Alimentos"* (Additive Manufacturing: 3D Food Printing), Instituto Tecnológico de Santo Domingo, Product Design and Engineering Class, Virtual, March 9, 2022.
- "Additive Manufacturing: A Review of 3D Food Printing", Purdue University, Additive Manufacturing Class, Virtual, November 20, 2020.

## **CONFERENCES ATTENDED**

- ASME International Design Engineering Technical Conference & Computers and Information in Engineering Conference, St. Louis, MO, August 14–17, 2022.
- IFT FIRST: Annual Event and Expo, Chicago, IL, July 10-13, 2022.
- ASME International Design Engineering Technical Conference & Computers and Information in Engineering Conference, Virtual, August 17-20, 2021.
- ASME International Design Engineering Technical Conference & Computers and Information in Engineering Conference, Virtual, August 17-19, 2020.

### HONORS / AWARDS

- Pi Tau Sigma, Honor Society for Mechanical Engineers (GPA>3.5)
- Phi Theta Kappa, National Honor Society Member (GPA>3.5)
- Proven Achievers Scholarship (GPA>3.5)

#### **PROFESSIONAL AFFILIATIONS / MEMBERSHIPS**

-	The American Society of Mechanical Engineers - Member	(2016 – Present)
-	Latin Dance Club - Secretary	(2022 – Present)
-	Mechanical Engineering Graduate Student Association - Secretary	(2022 – 2023)
-	Venezuelan Student Association - President	(2019 – 2023)
-	Society of Petroleum Engineers - Secretary	(2021 – 2022)
-	Society of Oil and Gas Contractors - Secretary	(2019 – 2022)
-	Society of Oil and Gas Contractors - Secretary	(2019 – 2022)
-	International Student Advisory Board - Secretary	(2017 – 2019)
-	Engineers Without Borders - Translator Chair	(2016 – 2018)
-	Orchestra - Violin Player	(2003 – 2018)

#### LANGUAGES

-	English (Fluent)	-	Italian (Conversational)
-	Spanish <i>(Fluent)</i>	-	Turkish (Conversational)

- Portuguese (Advance)

#### **COMPUTER SKILSS**

-	Inventor	-	R Programming
-	Python	-	SolidWorks
-	ANSYS Workbench	-	MATLAB
-	AutoCAD	-	MS Office

### **PERSONAL SKILLS**

- Problem Solving
- Leadership
- International Communication
- Teamwork
- Time Management

#### HOBBIES

- Dancing
- Cooking
- Playing violin & piano
- Painting

- Adaptability
- Creative Thinking
- Relationship Management
- Constant Learning
- Strong Ethics
- Yoga
- Soccer
- Outdoor activities
- Reading