

# Fernando Ontiveros Llamas

St. John Fisher University | Life Sciences Division  
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## Education

<b>PHD IMMUNOLOGY</b>	<b>2008</b>
<b>MS MICROBIOLOGY AND IMMUNOLOGY</b> University of Rochester School of Medicine and Dentistry.	<b>2004</b>
<b>BS BIOLOGY</b> TOP HONORS National Autonomous University of México (UNAM). College semester abroad. University of California Berkeley.	<b>2001</b>

## Teaching

<b>ASSOCIATE PROFESSOR</b> BIOL107 Microbes and Disease, HNRS1299 Philosophy of Science, BIOL207 Bioethics, BIOL214 Microbiology, BIOL311 Cell Biology, BIOL3990 Humanities in Biomedicine, BIOL330 Advanced Cell Culture & Bioengineering, BIOL418 Immunology. Department of Biology   St. John Fisher University.	<b>2018-PRESENT</b>
<b>ADJUNCT TEACHER</b> Science (High School 9th-10th grade). Chesterton Academy of Rochester.	<b>2019-PRESENT</b>
<b>ASSISTANT PROFESSOR</b> Department of Biology   St. John Fisher College.	<b>2012-2018</b>
<b>ADJUNCT PROFESSOR</b> Clinical Microbiology Laboratory 318L. Biology Dept. Nazareth College.	<b>SPRING 2012</b>
<b>ADJUNCT PROFESSOR</b> Biochemistry 421 (Lecture & Laboratory). Chemistry Dept. Nazareth College.	<b>FALL 2011</b>
<b>INSTRUCTOR</b> Immunology Case Studies (4 sessions). University of Rochester.	<b>FALL 2011</b>
<b>COMMUNITY EDUCATION TEACHER</b> Modern Biology. Acton-Boxborough, MA   Community Education.	<b>2009</b>
<b>WORKSHOP INSTRUCTOR</b> Immunology PBL (4 sessions). Tufts School of Veterinary Medicine.	<b>2009</b>
<b>TEACHING ASSISTANT</b> Advanced Immunology 515. University of Rochester.	<b>2004</b>
<b>SUBSTITUTE LECTURER</b> Undergraduate Cell Biology (2 Lectures). Simon Bolivar University (Mexico City).	<b>2001</b>

# Research

**PRINCIPAL INVESTIGATOR, ST. JOHN FISHER UNIVERSITY** **2012-PRESENT**

Development of low cost, ultra-thin microfluidic devices for education and diagnostics.  
Use of lipid-based nanoparticles to modulate the sterile inflammatory response.  
Description and remote sensing (via satellite imagery) of freshwater bacterial flora.

**VISITING RESEARCHER, U OF NOTRE DAME** **SUMMER 2022**

Development of microfluidic devices and curricula for education and research.  
Dept. of Chemical & Biomolecular Engineering. Dr. Jeremiah Zartman Research Group.

**NSF-ROA RESEARCHER, UNIVERSITY OF ROCHESTER** **SUMMER 2020**

Development of microfluidic devices as sensors for SARS-CoV-2.  
Dept. of Biomedical Engineering. Dr. James McGrath Research Group.

**NSF-ROA ADJUNCT ASSOCIATE PROFESSOR, U OF NOTRE DAME** **SUMMER 2019**

Development of microfluidic devices and curricula for education and research.  
Dept. of Chemical & Biomolecular Engineering. Dr. Jeremiah Zartman Research Group.

**VISITING (SABBATICAL) RESEARCHER/CONSULTANT** **SPRING 2019**

Technology transfer and development of microfluidic devices for basic research.  
1. Laboratorio Nacional de Micro y Nano Fluídica, CIDETEQ (Dr. Arriaga), México.  
2. Centro de Física Aplicada y Tecnología Avanzada, UNAM Juriquilla (Dr. Castaño), México.

**MELCHOR VISITING ASSISTANT PROFESSOR, U OF NOTRE DAME** **SUMMER 2018**

Development of microfluidic devices and curricula for education and research.  
Dept. of Chemical & Biomolecular Engineering. Dr. Jeremiah Zartman Research Group.

**NSF-ROA RESEARCHER, UNIVERSITY OF ROCHESTER** **SUMMER 2014**

Development of microfluidic devices.  
Dept. of Biomedical Engineering. Dr. James McGrath Research Group.

**POSTDOCTORAL RESEARCH FELLOW, UNIVERSITY OF ROCHESTER** **2010-2012**

Antimicrobial properties of amyloid fibrils. Dr. Stephen Dewhurst.

**POSTDOCTORAL RESEARCH ASSISTANT, UNIVERSITY OF ROCHESTER** **2010**

Targeted nanoparticles as a delivery system to eukaryotic cells. Dr. Minsoo Kim.

**POSTDOCTORAL RESEARCH FELLOW, UMASS MEDICAL SCHOOL** **2007-2010**

Acute sterile inflammation induced by cell damage. Dr. Kenneth Rock.

**GRADUATE STUDENT, UNIVERSITY OF ROCHESTER** **2001-2007**

CD4 T cell help for CD8 T cell responses. Dr. Alexandra Livingstone.  
CD4 T cell differentiation (Th17). Dr. Timothy Mosmann, Co-mentor.

**UNDERGRADUATE RESEARCH FELLOW, UNIVERSITY OF ROCHESTER** **SUMMER 2000**

Activation of murine dendritic cells. Dr. Alexandra Livingstone.

**UNDERGRADUATE RESEARCH FELLOW, COLD SPRING HARBOR LAB** **SUMMER 1999**

Biology of the cell nucleus. Dr. David Spector.

**UNDERGRADUATE RESEARCH, NATIONAL A. UNIVERSITY OF MEXICO** **1997-2001**

Murine immune responses against a synthetic vaccine. Dr. Edda Sciutto (HHMI).  
Ultrastructural analysis of the cell nucleus. Dr. Olga Echeverria.

## Mentored Students (Undergraduates)

<b>ANDRES DURAN</b> Undergraduate Summer Research (NY-CSTEP). Identification of Freshwater Microbial Flora.	<b>2025</b>
<b>SIDNEY CHINA</b> Summer Research Scholar (NSF PFI-REU): Microfluidics for cell culture and diagnostics	<b>2025</b>
<b>JADEN FAIR</b> Undergraduate Summer Research: Identification of Freshwater Microbial Flora. Presented at Rochester Academy of Sciences Meeting, Fall 2024. (Poster)	<b>2024-2025</b>
<b>OWEN BOGUE</b> Undergraduate Summer Research: Identification of Freshwater Microbial Flora	<b>2024</b>
<b>DOMINIC TABECHIAN</b> Undergraduate research and Summer Research Scholar (NSF PFI-REU) Microfluidics for cell culture and diagnostics. U. of Rochester (McGrath Lab).	<b>2023-2024</b>
<b>JACOB ALBERTI</b> Undergraduate Research: Identification of Freshwater Microbial Flora	<b>2023-2024</b>
<b>GIANNA RAQUEÑO (U OF ROCHESTER)</b> Undergraduate Summer Research: Identification of Freshwater Microbial Flora	<b>2023</b>
<b>RAUNAK AL-RUBAYIE</b> Undergraduate Research, NY-CSTEP Program and Summer Research Scholar: Multi-year analysis of microbial flora in Lake Ontario. The student was awarded a \$400.00 <b>research grant</b> from the Rochester Academy of Science to work on this project (2021).	<b>2020-2023</b>
<b>ELISABETH DONA</b> Undergraduate Research: Microfluidics for cell culture	<b>2022</b>
<b>MEGHAN MURPHY (WALSH U)</b> Undergraduate Summer Research: Microfluidics for cell culture.	<b>2022</b>
<b>JACQUELINE CHOUINARD</b> Undergraduate Research and Summer Research Scholar: PETL microfluidics. (Poster) The student was awarded a \$450.00 <b>research grant</b> from Tri-Beta Biological Honors Society to work on this project (2021).	<b>2020-2022</b>
<b>AUDREY COLLINS</b> Science Scholar Program: Coupling nanofiltration and microfluidic devices for biosensing applications. (Poster)	<b>2021-2022</b>
<b>KARNAVAAL AL-RUBAYIE (CORNELL U)</b> Undergraduate summer research: Microfluidics for cell culture and diagnostic devices. (Poster)	<b>2021</b>
<b>CODY SIRIKHAMPHOUNE</b> Undergraduate research: Collection and analysis of microbial flora in Lake Ontario. Research funded by the <b>National Geographic Society</b> .	<b>2021</b>
<b>MICHAEL BAUMAN</b> Undergraduate research: Development of isothermal PCR in microfluidic devices.	<b>2021</b>
<b>VIDHI JOSHI</b> Undergraduate research: NY-CSTEP Program: PETL microfluidics.	<b>2021</b>

<b>NICK WARTERS</b>	<b>2019-2021</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario.	
<b>ALEX MARTINEZ &amp; FABIO SACCO</b>	<b>2019</b>
Summer Research Scholars, <i>Univ. Radiation Medicine Foundation</i> , St. John Fisher College. Circulating Tumor Cell (CTC) separation using microfluidics. (Poster & Oral presentation) Research carried out at the U of Notre Dame, IN.	
<b>MICHAEL CHASE</b>	<b>2018-2019</b>
Undergraduate research: 3D Bioprinting platform (Poster & Oral presentation).	
<b>TANNER BRILL</b>	<b>2018</b>
Summer Research Scholar, <i>Trybulski Fellowship</i> , St. John Fisher College. UAV-assisted bacterial flora water sampling. (Poster)	
<b>TESSA MCARTHUR</b>	<b>2018</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario.	
<b>EDEN WAGNER</b>	<b>2018</b>
Undergraduate research: Culture and imaging of human chondrocytes.	
<b>ANTHONY EMANUEL</b>	<b>2017-2018</b>
a) NSF-REU 2017: Detection of viral particles using ultra-thin nano membranes. (Poster) b) Undergraduate research 2017 (SJFC): 3D Bioprinting platform (Poster). <b>Honorable Mention Award</b> at the NE Regional Tri-Beta Honors Society Meeting, 2017. c) The student was also awarded a <u>\$500.00 research grant</u> from Tri-Beta Biological Honors Society to work on this project (2017). d) SelectBio Conference: Bioengineering 2018   <i>Lab on a Chip (RSC)</i> <b>Poster Award</b> .	
<b>MARK VANMARTER</b>	<b>2017-2018</b>
Undergraduate research: Discovery of novel bacterial species in freshwater samples.	
<b>CONNOR JENSEN</b>	<b>2017</b>
Summer Research Scholar: UAV-assisted bacterial flora water sampling. (Poster)	
<b>MARY PELKOWSKI</b>	<b>2017</b>
Undergraduate research: PETL-based production of lipid nanoparticles. (Poster)	
<b>CHELSEA CLEVELAND</b>	<b>2016-2017</b>
Undergraduate research: PETL-based production of lipid nanoparticles. (Oral pres.)	
<b>XAYATHED SOMOULAY</b>	<b>2016</b>
Undergraduate research: 3D Bioprinting platform. (Poster)	
<b>DYLAN CORNELL</b>	<b>2016</b>
Summer Research Scholar: UAV-assisted bacterial flora water sampling. (Poster) <b>Best Student Poster Award (\$200)</b> GRSS-STRATUS Meeting, RIT.	
<b>AMANDA WAHL</b>	<b>2016</b>
Undergraduate research: Nanoparticle-based modulation of the inflammasome.	
<b>KIANA TOM</b>	<b>2016</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario.	

<b>KELSEY MOORE</b>	<b>2015-2016</b>
Undergraduate research: Nanoparticle-based modulation of the inflammasome. The student was awarded a \$400.00 <b>travel grant</b> from the Rochester Section of the <b>American Chemical Society</b> to present her work at a national meeting. (Poster)	
<b>SAMUEL CAPADANO</b>	<b>2015-2016</b>
Undergraduate research: Bacterial degradation of environmental pollutants.	
<b>DANIEL ZIMMERMAN</b>	<b>2014-2016</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario. (Poster) Research funded by the <b>National Geographic Society</b> .	
<b>JAMES RYAN MCDOWELL</b>	<b>2014-2015</b>
Undergraduate research: Microfluidic-production of lipid nanoparticles. (Poster) Research funded by the <b>National Science Foundation</b> .	
<b>NIECY CAMERON</b>	<b>2013-2014</b>
Undergraduate research: Cell culture in silicon/glass chambers. (Poster)	
<b>JONATHAN PELC</b>	<b>2013-2014</b>
Undergraduate independent study: Nanotoxicity. (Poster & Oral presentation). The student was awarded a \$350.00 <b>research grant</b> from Tri-Beta Biological Honors Society to work on this project.	
<b>STEPHEN MAISTO</b>	<b>2014</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario. (Poster)	
<b>JOHN CREAN</b>	<b>2014</b>
Undergraduate research: Multi-year analysis of microbial flora in Lake Ontario. (Poster)	
<b>ALEXANDRIA ARGENTIERI</b>	<b>2013</b>
Summer Research Scholar: Quantum dot-loaded lipid nanoparticles. (Poster)	
<b>ROBERT BATTAGLIA</b>	<b>2013</b>
Undergraduate independent study: Nanoemulsions.	
<b>JESSICA SAXUM</b>	<b>2013</b>
Undergraduate independent study: Nanoparticle sonophoresis. (Poster)	
<b>MOLLY SIMPSON</b>	<b>2012</b>
Undergraduate independent study: RNA-mediated silencing of the inflammasome. (Poster)	
<b>YOEL KIM (U OF R)</b>	<b>2012</b>
Undergraduate independent study: Antimicrobial properties of amyloid fibril aggregates.	

## Mentored Students (Graduate)

<b>MEGAN LEVIS (U OF NOTRE DAME)</b>	<b>2018-2019</b>
PhD Project: Use of PETL microfluidics for confocal imaging of fly organ development.	
<b>ELIZABETH ELLISON (SJFC)</b>	<b>2018</b>
PharmD Project: Scaffold-free tissue engineering using immortalized epicardial cells.	
<b>NINA KIM (U OF R)</b>	<b>2011</b>
PhD Rotation: Activation of dendritic cells by bacteria-amyloid fibril aggregates.	

<b>VINAYAK DENDUKURI (U OF R)</b> MS project: Use of targeted nanoparticles to deliver microRNAs to eukaryotic cells.	<b>2010</b>
<b>ASHLYN RITTER (UMASS)</b> PhD Rotation: Models of apoptosis-induced inflammation.	<b>2009</b>
<b>MATTHEW JANKO (UMASS)</b> Lab Technician/Pre-med: Impact of IL-1 signaling in radiation induced dermatitis.	<b>2008-2009</b>
<b>GABRIELA LLENIN FIGUEROA (U OF R)</b> Pre-doctoral Program: Analysis of the immune response elicited by dendritic cells.	<b>2004</b>

## Professional Development

<b>BRIDGING THE SCIENCES</b> Thomistic Philosophy & Natural Science Symposium   Participant Thomistic Institute at the Dominican House of Studies. Washington, DC.	<b>SUMMER 2025</b>
<b>NATIONAL SCIENCE FOUNDATION   INNOVATION-CORPS COURSE</b> National Cohorts   NSF-PFI Grantee   Co-Technical Lead	<b>WINTER 2025</b>
<b>CONFERENCE ON MINIATURIZED SYSTEMS FOR CHEM &amp; LIFE SCIENCES</b> MicroTAS 2024   Montreal, Canada   Participant	<b>FALL 2024</b>
<b>MICROFLUIDICS CONSORTIUM MEETING</b> Center for Business Innovation   Conference, Boston, MA.	<b>SUMMER 2024</b>
<b>NATIONAL SCIENCE FOUNDATION   INNOVATION-CORPS COURSE</b> NSF-Venture Well   Beat the Odds Bootcamp   Technical Lead	<b>SUMMER 2022</b>
<b>APPLE TEACHER CERTIFICATION AND ONLINE TEACHING</b> Online Courses.	<b>SPRING 2022</b>
<b>BOOK LEARNING CIRCLE: "WHAT IS ESSENTIAL IN LIFE: JOSEF PIEPER ON LEISURE, CONTEMPLATION AND FESTIVITY"</b> Participant. First Things - Institute on Religion and Public Life.	<b>SPRING 2021</b>
<b>VIRTUAL KEYSTONE SYMPOSIA</b> Attendant to Conference: Vaccinology in the Age of Pandemics Strategies Against COVID-19 & Other Global Threats. (2-day conference).	<b>SUMMER 2020</b>
<b>CERTIFICATE COURSE: INFECTIOUS DISEASES IN PRIMARY CARE</b> Trainee (3-day course). Harvard Medical School.	<b>FALL 2019</b>
<b>VIRTUAL KEYSTONE SYMPOSIA</b> Continual Education. Genital Tract Microbiome and Reproductive Health.	<b>FALL 2019</b>
<b>BOOK LEARNING CIRCLE: HOW HUMANS LEARN, BY J.R. EYLER</b> Participant. Kaneb Learning Center, U of Notre Dame.	<b>SUMMER 2019</b>
<b>EPIDEMIOLOGY AND RECENT TRENDS IN METHICILLIN-RESISTANT &amp; -SUSCEPTIBLE STAPH AUREUS BLOODSTREAM INFECTIONS - US</b> Continual Education. <i>AMA PRA Category 1 Credits (0.5).</i>	<b>SUMMER 2019</b>

<b>NOTRE DAME VITA INSTITUTE</b>	<b>SUMMER 2019</b>
Participant ( <i>selected lectures</i> ). U of Notre Dame de Nicola Center for Ethics & Culture.	
<b>CONFERENCE: WHAT DOES IT MEAN TO BE HUMAN?</b>	<b>SUMMER 2019</b>
Participant. Society of Catholic Scientists. University of Notre Dame.	
<b>ONLINE TRAINING: NSF PROPOSAL &amp; AWARD POLICIES &amp; PROCEDURES</b>	<b>FALL 2018</b>
Trainee (webinar). National Science Foundation (PAPPG).	
<b>CERTIFICATE COURSE: CLINICAL BIOETHICS</b>	<b>SUMMER 2018</b>
Trainee (3-day course). Center for Bioethics, Harvard Medical School.	
<b>CONFERENCE: THE HUMAN MIND AND PHYSICALISM</b>	<b>SUMMER 2018</b>
Participant. Society of Catholic Scientists. Catholic University of America.	
<b>CONFERENCE: "CATHOLIC PERSPECTIVES ON MODERN DAY HEALTHCARE"</b>	<b>MAY 2018</b>
Participant. Catholic Medical Association, Western NY.	
<b>SHORT TRAINING COURSE: 3D PRINTING IN MICROFLUIDICS</b>	<b>SPRING 2018</b>
Trainee. SelectBio: Bioengineering 2018, Boston, MA.	
<b>WORKSHOP: SINGLE-USE TECHNOLOGY IN BIOMANUFACTURING</b>	<b>SUMMER 2017</b>
Trainee & Scholarship recipient (3 day course). Northeast Biomanufacturing Center - NSF-Advanced Tech Ed. Boston, MA.	
<b>CERTIFICATE COURSE: MORAL THEOLOGY</b>	<b>FALL 2016</b>
Participant. St. Bernard's School of Theology, Rochester, NY.	
<b>WORKSHOP: RESEARCH MENTOR TRAINING I &amp; II</b>	<b>SUMMER 2016</b>
Trainee. American Society for Microbiology (ASM 2016).	
<b>ONLINE COURSE: NEW DEVELOPMENTS IN THE IMMUNE SYSTEM</b>	<b>SUMMER 2015</b>
Statement of Accomplishment. Osaka U - EdX.org.	
<b>ONLINE COURSE: INTRODUCTION TO BIOETHICS</b>	<b>SPRING 2014</b>
Statement of Accomplishment. Georgetown U - EdX.org.	
<b>ONLINE COURSE: VACCINES</b>	<b>FALL 2013</b>
Statement of Accomplishment. University of Pennsylvania - Coursera.org.	
<b>NSF DAY AT RIT</b>	<b>FALL 2013</b>
Attendant to grant writing workshop. National Science Foundation.	
<b>ONLINE COURSE: INTRODUCTION TO PHILOSOPHY</b>	<b>SPRING 2013</b>
Statement of Accomplishment. University of Edinburgh-Coursera.org.	
<b>KEYSTONE SYMPOSIA</b>	<b>FALL 2012</b>
Attendant to Meeting: Immunological Mechanisms of Vaccination. Ottawa, ON.	
<b>CERTIFICATE COURSE: FOUNDATION IN CATHOLIC BIOETHICS</b>	<b>FALL 2012</b>
Participant. St. Bernard's School of Theology, Rochester, NY.	
<b>MINI-COURSE: CONTROLLED RELEASE TECHNOLOGY</b>	<b>SUMMER 2012</b>
Trainee & scholarship recipient (1 week course). Langer Lab, MIT.	
<b>WORKSHOP: ENTREPRENEURSHIP</b>	<b>SPRING 2012</b>
Participant. Graduate Student Society, University of Rochester.	

<b>WORKSHOP: EXPANDING YOUR TEACHING REPERTOIRE</b>	<b>SPRING 2012</b>
Attendant. Office of the Associate Dean for Faculty Development, U. of Rochester.	
<b>WORKSHOP: FUTURE FACULTY</b>	<b>FALL 2011</b>
Attendant. Office of the Provost, University of Rochester.	
<b>WORKSHOP: ASEPTIC TECHNIQUE FOR RODENT SURGERY</b>	<b>SUMMER 2011</b>
Trainee. UCAR/DLAM, University of Rochester.	
<b>FACULTY DEVELOPMENT COLLOQUIA</b>	<b>SUMMERS 2010 &amp; 2011 &amp; 2012</b>
Attendant. Continuing Professional Education, University of Rochester.	
<b>WORKSHOP: SURGICAL TECHNIQUES IN THE LABORATORY MOUSE</b>	<b>FALL 2009</b>
Trainee (1 week course) The Jackson Laboratory, Maine.	
<b>ADVANCED COURSE IN IMMUNOLOGY</b>	<b>SUMMER 2003</b>
Trainee (1 week course ) AAI, Stanford University.	

## Service

<b>CLINICAL ETHICS COMMITTEE</b>	<b>2021-2027</b>
Member. U. of Rochester/Strong Memorial Hospital.	
<b>NATIONAL GEOGRAPHIC SOCIETY EXPLORER ADVISORY PANEL</b>	<b>2017-PRESENT</b>
Member. National Geographic Society.	
<b>TRAVEL &amp; GRANTS COMMITTEE   SJFC</b>	<b>2018-2024</b>
Elected member (Elected Chair 2019, 2020, 2021 and 2022)	
<b>AD HOC PEER-REVIEWER</b>	<b>SPRING 2024</b>
Biocmicrofluidics Journal (AIP)	
<b>MIDDLE STATES ACCREDITATION WORKING GROUP</b>	<b>FALL 2023 &amp; SPRING 2024</b>
Subgroup Member. Ethics and integrity Standards. St. John Fisher University.	
<b>HIGH SCHOOL HUMANITIES SUMMER PROGRAM</b>	<b>2021, 2022, 2023, 2024 &amp; 2025</b>
Organizer. Four-day program with 10 to 25 participants/year. Agathon Institute.	
<b>AD HOC PEER-REVIEWER</b>	<b>FALL 2022</b>
Lab on a Chip Journal (RSC)	
<b>ENTREPRENEURSHIP TASK FORCE</b>	<b>2021-2022</b>
Member. School of Business, St. John Fisher College.	
<b>CLINICAL ETHICS COMMITTEE</b>	<b>2019-2021</b>
Guest Member. U. of Rochester/Strong Memorial Hospital.	
<b>AD HOC REVIEWER (2 ARTICLES - MICROFLUIDICS)</b>	<b>FALL 2020 AND FALL 2021</b>
Journal of Visualized Experimentation (JoVE).	
<b>RE-OPENING COMMITTEE   ST. JOHN BOSCO SCHOOLS</b>	<b>SUMMER 2020</b>
Member. COVID19 Pandemic-related strategic planning and preparations.	
<b>CORE COURSE DEVELOPMENT   SJFC</b>	<b>SPRING 2020</b>
Writing Fellow. Design of new 3990 Research Writing Course.	

<b>TASK FORCE: PHYSICS DEPARTMENTAL REVIEW</b>	<b>FALL 2019</b>
Member. Review and curricular enhancement. St. John Fisher College.	
<b>SCIENCE OUTREACH: NOTRE DAME EXPLORES STEM 2019</b>	<b>SUMMER 2019</b>
Faculty and student-led demonstration booth (microfluidics) at outreach event.	
<b>MISSION/SERVICE TRIP TO MEXICO</b>	<b>SPRING 2019</b>
Led a team of 7 students on a 1 week trip to provide clinical services to patients. San Lorenzo, Basilian Parish, Tehuacán MX.	
<b>SCIENCE EDUCATION CONSULTANT</b>	<b>2018</b>
Development of STEM-education kits. Ward's Science/VWR.	
<b>MISSION/SERVICE TRIP TO MEXICO</b>	<b>SUMMER 2018</b>
Led a team of 6 students on a 1 week trip to assess community needs and provide clinical services to patients. San Lorenzo, Basilian Parish, Tehuacán MX.	
<b>TEXTBOOK REVIEWER</b>	<b>SPRING 2018</b>
World of the Cell (9th Ed). Pearson Education.	
<b>WEGMAN'S SCHOOL OF PHARMACY ADMISSIONS COMMITTEE</b>	<b>2013-2017</b>
External Member.	
<b>SJFC STRATEGIC PLAN COMMITTEE: DIVERSITY</b>	<b>2016-2017</b>
Member.	
<b>RUGBY CLUB</b>	<b>2014-2017</b>
Faculty Advisor.	
<b>SEARCH COMMITTEE: ASSISTANT DIRECTOR OF CAMPUS MINISTRY</b>	<b>2016</b>
Member.	
<b>LIBRARY COMMITTEE   SJFC</b>	<b>2013-2016</b>
Elected member.	
<b>CROWDFUNDING RESEARCH EXPERIENCES FOR UNDERGRADUATES</b>	<b>SPRING 2015</b>
Proposal reviewer.	
<b>AMERICAN SOCIETY FOR MICROBIOLOGY- MENTOR</b>	<b>SPRING 2014</b>
Conducted mentoring sessions for postdoctoral and graduate research fellows. ASM General Meeting, Boston 2014. <i>Published advice: ASM Microbe, Jan 2016.</i>	
<b>NATIONAL SCIENCE FOUNDATION</b>	<b>SPRING 2014</b>
Proposal reviewer.	
<b>TEXTBOOK REVIEWER</b>	<b>SPRING 2014</b>
Microbiology: A Clinical Approach (2nd Ed). Garland Science.	
<b>AD HOC REVIEWER</b>	<b>SPRING 2013</b>
Journal of Immunological Methods.	
<b>REVIEWER</b>	<b>2012-2013</b>
External reviewer for the Clinical Journal at the Universidad de Costa Rica-HSJD.	

## Academic & Nonprofit Memberships

<b>CHESTERTON ACADEMY OF ROCHESTER</b> Member, Board of Directors.	<b>2021-PRESENT</b>
<b>AGATHON INSTITUTE</b> President, Board of Trustees.	<b>2021-PRESENT</b>
<b>CATHOLIC MEDICAL ASSOCIATION   FINGER LAKES GUILD</b> Member, Board of Directors.	<b>2018-PRESENT</b>
<b>SOCIETY OF CATHOLIC SCIENTISTS</b> Regular Member, National Organization   Board member, Local Chapter (2022)	<b>2016-PRESENT</b>
<b>AMERICAN SOCIETY FOR MICROBIOLOGY</b> Regular Member.	<b>2012-PRESENT</b>
<b>NATIONAL SCIENCE TEACHERS ASSOCIATION</b> Regular Member.	<b>2012-2024</b>
<b>ROCHESTER ACADEMY OF SCIENCE</b> Regular Member.	<b>2012-2018</b>

## Invited speaker

<b>LECTURER</b> Lecture/workshop: “Practical Microfluidics” (Course: BME442 Microbiomechanics). Department of Biomedical Engineering. University of Rochester, NY.	<b>SPRING 2017, 2018, 2020, 2022, 2024 &amp; 2025</b>
<b>WORKSHOP LEADER</b> Microfluidics design, fabrication and device-testing workshop. Milton Academy, Boston MA.	<b>SUMMER 2024</b>
<b>PANELIST</b> 1st Annual Life Issues Series: Igniting the Next Generation. St. Bernard’s School of Theology, Rochester, NY.	<b>SUMMER 2024</b>
<b>PANELIST</b> Use of Microphysiological Systems for STEM Outreach. Upstate NY-Microphysiological Systems Symposium (UNY-MPSS), University of Rochester, NY.	<b>SPRING 2024</b>
<b>SPEAKER</b> “A Talk about Advanced Research Models and Internship Opportunities” XII Simposio de Biomedicina   Bahiana School of Medicine. Salvador, Bahia, Brasil (Remote).	<b>FALL 2023</b>
<b>LECTURER</b> Lecture on the biology of human fertilization and the ethics of abortion. Catholic Bioethics Course. St. Bernard’s School of Theology, Rochester, NY.	<b>FALL 2019, 2022, 2023, 2024</b>
<b>SPEAKER</b> Remote Lecture for student group: “Rapid Microfluidics Design and Fabrication”. Laboratorio de Microscopia Electrónica, Facultad de Ciencias, UNAM, México.	<b>SPRING 2023</b>

<b>SPEAKER</b>	<b>SPRING 2023</b>
Lecture for student group: "From the tropics to the Great Lakes, a Happy Scientist Story" UR SACNAS, U of Rochester, NY.	
<b>SPEAKER</b>	<b>SPRING 2022</b>
BME Seminar Series: "Rapid Microfluidics Design and Fabrication". Department of Microsystems Engineering. Rochester Institute of Technology, NY.	
<b>SPEAKER</b>	<b>SPRING 2022</b>
"From Basic Science to Market: Discovery, Invention, Innovation". Entrepreneurship Course. School of Business, SJFC.	
<b>SPEAKER</b>	<b>SPRING 2021</b>
Biology Seminar Series: "Rapid Microfluidics Design and Fabrication". Department of Biology. SUNY Geneseo, NY.	
<b>SPEAKER</b>	<b>FALL 2020</b>
BME Seminar Series: "Rapid Microfluidics Design and Fabrication". Department of Biomedical Engineering. University of Rochester, NY.	
<b>WORKSHOP LEADER</b>	<b>SPRING 2019</b>
Workshop (5 hours): "Introducción a la fabricación de chips para microfluidos" Facultad de Ingeniería, Universidad Autónoma de Querétaro, México.	
<b>SPEAKER</b>	<b>SPRING 2019</b>
Seminar: "Microfluidica para Todos: Desafíos y Oportunidades" Instituto de Física, Universidad Autónoma de San Luis Potosí, México.	
<b>WORKSHOP LEADER</b>	<b>SPRING 2019</b>
Workshop (6 hours): "Introducción a la fabricación de chips para microfluidos" Centro de Física Aplicada y Tecnología Avanzada, UNAM, México.	
<b>SPEAKER/WORKSHOP LEADER</b>	<b>SPRING 2019</b>
Seminar: "Microfluidica para Todos: Desafíos y Oportunidades" Workshop (6 hours): "Introducción a la fabricación de chips para microfluidos" Instituto Tecnológico Superior de Lagos de Moreno, México.	
<b>TV INTERVIEW</b>	<b>SPRING 2019</b>
Guest Speaker: Integral (Intellectual and Moral) Education. Show: Educación y Conciencia. CEAR Television Network. México. <a href="https://youtu.be/p_ddfAEiJXE">https://youtu.be/p_ddfAEiJXE</a>	
<b>SPEAKER</b>	<b>FALL 2018</b>
Keynote Message: "A Career in the the Biomedical Sciences at U of R" UR STARS Doctoral Career Advancement Program, U of Rochester, NY.	
<b>LECTURER</b>	<b>FALL 2018</b>
Lecture/workshop: "PETL Microfluidics" (Course: CBE30357 Biotransport). College of Engineering, University of Notre Dame, IN.	
<b>SPEAKER</b>	<b>SUMMER 2018</b>
Technology presentation: Film-based (PETL) microfluidic chips. 3D Printing and Design Team, Merck & Co. Rahway, NJ.	
<b>SPEAKER</b>	<b>SPRING 2018</b>
Science talk: "3D BioPrinting of human tissue". <i>Taste of Science</i> Festival at The Imaginarium. Elsevier   Scientists Inc. Rochester, NY.	

- SPEAKER/WORKSHOP LEADER** **SUMMER 2017**  
Seminar: "Simplified Microfluidics and Bioprinting Systems for Research and Education" Dept. of Chemical and Biomolecular Engineering. University of Notre Dame. Developed and carried out a microfluidic device-building workshop for graduate students.
- SPEAKER** **SPRING 2017**  
Presentation: "What Killed Lucy: Using 3D Printing and Forensic Anthropology to Better Understand our Past". Department of Anthropology. SJFC.
- PANELIST: THE FACULTY ROLE** **FALL 2016**  
Career Development Seminar Series. Provost Office, University of Rochester. Participated as panelist in an open Q & A session regarding transition from graduate studies to a faculty position in academia. One-on-one review of students' curriculum vitae.
- LECTURER/WORKSHOP LEADER** **SUMMER 2016**  
*URnano* Summer Workshops. Department of Biomedical Engineering. U. of Rochester. Developed and carried out a microfluidic device-building workshop for participants.
- PANELIST: PENSAR LA FAMILIA, VIVIR LA FAMILIA** **SUMMER 2016**  
Seminar Series on Pope Francis' *Amoris Laetitia*. Universidad Panamericana, Mexico City. Participated as panelist in 2 sessions.
- LECTURER** **SUMMER 2014, 2015 & 2016**  
Video-lectures (1-3 each year) on topics in Chemistry and Biology. Delivered live to middle school students in México via Skype.
- LECTURER/WORKSHOP LEADER** **SPRING 2016**  
Ultra-thin, flexible microfluidics devices. Beloit College, WI. Developed and carried out a microfluidic device-building workshop for college students.
- PANELIST: THE FACULTY ROLE** **FALL 2015**  
Career Development Seminar Series. Provost Office, University of Rochester. Participated as panelist in an open Q & A session regarding transition from graduate studies to a faculty position in academia. One-on-one review of students curriculum vitae.
- LECTURER/WORKSHOP LEADER** **SPRING 2015**  
Nanobiology and microfluidics. Allendale Columbia High School. Developed and carried out microfluidic device-building workshop for high school students.
- LECTURER** **SPRING 2015**  
STANYS science fair. St. John Fisher College. Conducted two lecture sessions with an audience of middle and high school students on the detection of microbial flora using satellite imagery.
- LECTURER & PANELIST** **FALL 2014 & 2015**  
Catholic Bioethics Course. Finger Lakes Guild, Catholic Medical Association. Lectured on the biology of human fertilization and the ethics of abortion.
- RESUME ADVISING SESSION** **SPRING 2014**  
Faculty advisor-panelist. One-on-one review of students' curriculum vitae. U of Rochester Postdoctoral Association.
- PANELIST: BALANCING LIFE OUTSIDE OF SCIENCE** **SPRING 2013**  
University of Rochester Postdoctoral Association. Participated as panelist in an open Q & A session regarding the balance between academic work and family life.

**LECTURER** **SPRING 2012**  
Advanced Immunology 515 (1 Lecture). University of Rochester.

**PANELIST: TEACHING AND THE PHD** **SPRING 2012**  
Career Development Seminar Series, Provost Office, University of Rochester.  
Participated as panelist in an open Q & A session regarding the acquisition of teaching experience before applying for a job in academia.

## Grants & Awards

**FULBRIGHT U.S. SCHOLAR PROGRAM** **2026**  
Microfluidics & Biofilms project | National Laboratory for Nanotechnology, Costa Rica.

**NSF-PFI PARTNERSHIPS FOR INNOVATION GRANT AWARD (\$549,360)** **2023-2026**  
Rapid and specific detection of pathogens using functionalized microslit silicon membranes as fouling-based sensors (NSF#: 2234394). Collaboration with U. of Rochester (McGrath Lab).

**NSF-SBIR PHASE I AWARD | PETL FLUIDICS, LLC (\$256,000)** **2022-2023**  
Design and Fabrication of Novel Microfluidic Devices for STEM Education (NSF#:2112200)

**NATIONAL GEOGRAPHIC SOCIETY | STEM FIELD ASSISTANT PROGRAM (\$5,725)** **2021**  
Summer undergraduate research. St. John Fisher College (1 of 4 sites nationwide).  
Project: Remote sensing of fresh-water bacterial populations using spectral analysis of satellite imagery. Ongoing project (2013-2021)

**FULBRIGHT SPECIALIST PROGRAM** **2018-2023**  
Roster Specialist. The Fulbright Program and World Learning.

**TRUSTEES' AWARD FOR DISTINGUISHED SCHOLARLY ACHIEVEMENT** **2021**  
Board of Trustees, St. John Fisher College.

**NSF-RESEARCH OPPORTUNITY AWARD (ROA) (\$12,000)** **2020**  
Development of SARS-CoV-2 microfluidic sensor at U. of Rochester (McGrath Lab).

**FACULTY DEVELOPMENT AWARDS - SJFC (\$2,000 - \$4,500 EACH YEAR)** **2013-2023**  
Internal funding. Undergraduate research. St. John Fisher College.  
2013 Project: Nanotoxicity.  
2014 Project: Nanoparticles to deliver anti-tumor & anti-inflammatory agents.  
2015 Project: Low-cost diagnostics for the developing world.  
2016 Project: Control of the inflammatory response using lipid-based nanoparticles.  
2017 Project: Low-cost 3D bioPrinting platform.  
2018 Project: Organogenesis and Tissue Engineering.  
2019 Project: Organ Printing and Scaffold-free Tissue Assembly.  
2020 Project: Development of a Microfluidic Cell Culture device.  
2021 Project: Microfluidic Devices for the Processing of Biological Samples  
2022 Project: Microbial particle uptake by macrophages in dynamic culture conditions.  
2023 Project: Identification of Freshwater Bacterial Populations in Freshwater

**SCHOLARLY INNOVATION GRANT - SJFC (\$950)** **2019**  
Novel Microfluidics Device for Cell Culture. Internal funding. St. John Fisher College.

**NSF-RESEARCH OPPORTUNITY AWARD (ROA) (\$16,000)** **2018-2019**  
Reverse engineering embryonic organ patterning at U. of Notre Dame (Zartman Lab).

<b>NSF-RESEARCH EXPERIENCE FOR UNDERGRADUATES AWARD (REU) (\$6,000)</b>	<b>2017</b>
Nano membranes & microfluidics research at U. of Rochester (McGrath Lab). Directed a summer undergraduate research experience (REU) at U of R for 1 SJFC student.	
<b>ASM-UNDERGRADUATE RESEARCH FACULTY FELLOWSHIP (\$2,000)</b>	<b>2016</b>
Leadership in Undergraduate Education. Travel to General Meeting & Training Award. ASM-LINK: American Society for Microbiology.	
<b>NATIONAL GEOGRAPHIC SOCIETY   EXPLORERS GRANT (\$5,000)</b>	<b>2015</b>
Undergraduate research. St. John Fisher College. Project: Remote sensing of fresh-water bacterial populations using spectral analysis of satellite imagery. Ongoing project (2020)	
<b>NSF-RESEARCH OPPORTUNITY AWARD (ROA) (\$25,000)</b>	<b>2014</b>
Microfluidics research at U. of Rochester (McGrath Lab) & SJFC. Directed a summer undergraduate research experience for 2 SJFC students.	
<b>CENTER FOR IMAGING SCIENCE (CIS) MICRO-GRANT (\$5,150)</b>	<b>2012-2013</b>
Funding of multidisciplinary collaboration (Helguera Lab). RIT-SJFC. Undergraduate research project: Use of ultrasound to enhance transdermal delivery of lipid-based nanoparticles.	
<b>NIH-NRSA T32 POSTDOCTORAL FELLOWSHIP</b>	<b>2011-2012</b>
Dept. of Pharmacology and Physiology, University of Rochester.	
<b>NIH-NRSA T32 POSTDOCTORAL FELLOWSHIP</b>	<b>2008-2010</b>
Immunology and Virology Program, UMASS Medical School.	
<b>NATIONAL PRIZE FOR THE YOUTH 2000</b>	<b>2001</b>
Finalist Diploma, Mexican Ministry of Education.	
<b>ACADEMIC EXCELLENCE AWARD (PERFECT GPA)</b>	<b>1998 AND 2001</b>
Diploma, National Autonomous University of Mexico.	
<b>ACADEMIC ACHIEVEMENT AWARD, L.A. GALLARDO FOUNDATION (MX)</b>	<b>1998-2001</b>
Scholarship.	
<b>ACADEMIC ACHIEVEMENT AWARD, TELMEX FOUNDATION (MX)</b>	<b>1997-2000</b>
Scholarship.	

## Patent Applications

### **MICROFLUIDIC DEVICES BUILT BY THERMALLY BONDED LAYERS OF PET FILM AND USES THEREOF** US 62/200,817. PROVISIONAL APPLICATION. 2015-2016.

The devices developed at SJFC are a powerful educational tool for an introduction to the field of microfluidics due to their low cost and ease of manufacture and use.

### **FLUIDIC DEVICE FOR CELL CULTURE** US 62/948,374. PROVISIONAL APPLICATION. 2019-2020.

The devices developed at SJFC provide a platform for microfluidic control and microscopic imaging of cell culture environments.

## Conference Presentations *(SJFU undergraduate student authors in bold)*

### **RAPID AND SPECIFIC BLOOD TYPING USING ULTRA THIN MEMBRANES**

**Dominic Tabechian** & Fernando Ontiveros.

Penn-York Undergraduate Research Conference, 2024. Houghton U. (Oral presentation)

### **A DATABASE OF ENVIRONMENTAL BACTERIAL FLORA FOR REMOTE SENSING APPLICATIONS**

**Jacob Alberti, Gianna Raqueño**, Nina Raqueño, Raunak Al-Rubayie, Maryann Herman and Fernando Ontiveros. IEEE-GRSS STRATUS Conference. SUNY ESF, 2024. (Oral presentation)

### **SLOW CODE AND THE ANTHROPOLOGY OF EMBODIMENT**

Thomas Carroll, **Anthony Nicolosi, Maria Robinson**, Fernando Ontiveros.

2nd Annual Ethics in Healthcare Conference, 2024. U of Rochester. (Local Meeting, Poster)

### **DIVERSITY AND ANTIBIOTIC RESISTANCE OF BACTERIA ISOLATED FROM THE ROCHESTER, NY EMBAYMENT.**

**Brad O'Neill, Nate Taylor**, Fernando Ontiveros, Maryann Herman.

Rochester Academy of Sciences. SUNY Geneseo, 2023. (Local Meeting, Poster)

### **FILM-BASED MICROFLUIDICS DEVICES FOR CELL CULTURE UNDER DYNAMIC CONDITIONS**

**Jacqueline Chouinard, Karnavaal Al-Rubayie** and Fernando Ontiveros.

SelectBio Conference: Innovations in Microfluidics. Boston, MA. 2022 (Nat'l. Meeting, Poster)

### **CELL IMAGING IN MICROFLUIDICS DEVICES UNDER DYNAMIC CONDITIONS**

**Jacqueline Chouinard, Karnavaal Al-Rubayie** and Fernando Ontiveros.

Rochester Academy of Sciences. Nazareth College, 2021. (Local Meeting, Poster)

### **UTILIZING PET-EVA FILM FOR MICROFLUIDICS**

**Audrey Collins, Karnavaal Al-Rubayie** and Fernando Ontiveros.

Rochester Academy of Sciences. Nazareth College, 2021. (Local Meeting, Poster)

### **PETLS: DESIGN, FABRICATION AND TESTING OF MICROFLUIDICS DEVICES IN THE CLASSROOM AND RESEARCH LABORATORY**

Fernando Ontiveros.

ACUBE 63rd Annual Meeting, Syracuse University, October 2019. (National Meeting, Oral presentation).

### **DIY BIOPRINTING AND MICROFLUIDICS PLATFORMS FOR EDUCATION AND RESEARCH**

**Anthony Emanuel** & Fernando Ontiveros.

SelectBio Conference: Bioengineering 2018 | 3D Bioprinting & Microfluidics. Boston, MA. (National Meeting, **Lab on a Chip (RSC) Student Poster Award**)

### **CAPTURE OF NANOPARTICLES USING ULTRA-THIN MICROFLUIDICS AND MEMBRANES.**

**Anthony Emanuel, James McGrath** & Fernando Ontiveros.

Undergraduate Research Symposium, U of Rochester School of Medicine, & Rochester Academy of Sciences, SJFC, 2017. (Local Meeting, Poster)

### **MITIGATION OF ORGANIC WASTEWATER CONTAMINANTS FROM THE LAKE ONTARIO EMBAYMENT VIA EMULSIONS AND BIOREMEDIATION TECHNOLOGIES**

**Erika Bravo**, Maryann Herman, Fernando Ontiveros & Anju Gupta.

Rochester Academy of Sciences. SJFC, 2017. (Local Meeting, Poster)

**UNDERSTANDING THE IMPACT OF STATE & FEDERAL AID ON THE CATHOLIC IDENTITY OF COLLEGES AND UNIVERSITIES IN NEW YORK STATE.**

Fernando Ontiveros.

Conference: *Origins*. Soc. for Catholic Scientists. Chicago, IL. 2017. (National Meeting, Poster).

**DEVELOPMENT OF A LOW-COST PLATFORM FOR 3D BIOPRINTING APPLICATIONS (2).**

**Anthony Emanuel & Fernando Ontiveros.**

Tri-Beta Honor Society. Frostburg State U, 2017. (Regional Meeting, **Awarded Poster**).

**DEVELOPMENT OF A LOW-COST PLATFORM FOR 3D BIOPRINTING APPLICATIONS (1).**

**Xayathed Somoulay & Fernando Ontiveros.**

Rochester Academy of Sciences. Roberts Wesleyan College, 2016. (Local Meeting, Poster).

**USE OF A UAV FOR WATER SAMPLING TO ASSIST REMOTE SENSING OF BACTERIAL FLORA IN FRESHWATER ENVIRONMENTS**

**Dylan Cornell & Fernando Ontiveros.** (Regional Meeting, **Awarded Poster**).

Geoscience and Remote Sensing Society (STRATUS Workshop, 2016) RIT.

**IMPLEMENTING A MICROFLUIDIC EXPERIMENT IN AN UNDERGRADUATE GENERAL CHEMISTRY LABORATORY: LESSON LEARNED**

Kermin Martínez-Hernández, Nahyr Rovira-Figueroa, Fernando Ontiveros.

24th Biennial Conference on Chemical Education (BCCE, 2016) U of Northern Colorado, Greeley, Colorado. (National Meeting, Oral presentation by KMH).

**BUILDING A FRESHWATER BACTERIAL FLORA DATABASE FOR REMOTE SENSING APPLICATIONS**

**Daniel Zimmerman, Laura Moore,** Javier Concha, Nina Raqueno, Maryann Herman & Fernando Ontiveros American Society for Microbiology, General Meeting 2016. (International meeting, Poster).

**ULTRA-THIN MICROFLUIDICS DEVICES BUILT VIA THERMAL LAMINATION**

Fernando Ontiveros & **James Ryan McDowell**

International Conference on Nanochannels, Microchannels and Minichannels. (Wash. DC) American Society of Mechanical Engineers (ASME 2016). (International meeting, Speaker)

**MODULATING STERILE INFLAMMATION WITH LIPID-BASED NANOPARTICLES**

**Kelsey Moore & Fernando Ontiveros**

American Chemical Society, San Diego, Spring 2016. (National meeting, Poster)

**MULTIYEAR ANALYSIS OF MICROBIAL POPULATIONS IN THE ROCHESTER-LAKE ONTARIO EMBAYMENT**

**Daniel Zimmerman, Joseph Dora,** Javier Concha, Nina Raqueno, Maryann Herman & Fernando Ontiveros

American Society for Microbiology, SUNY Buffalo, 2015. (Regional meeting, Poster)

**NANOPARTICLE PRODUCTION VIA MICROFLUIDICS DEVICES**

**James Ryan McDowell & Fernando Ontiveros**

Rochester Academy of Sciences, SUNY Brockport, 2014. (Local meeting, Poster)

**PHAGOCYTE GROWTH AND SURVIVAL IN SILICONE MICROCHAMBERS**

**Niecy Cameron & Fernando Ontiveros.**

Rochester Academy of Sciences, SUNY Brockport, 2014. (Local meeting, Poster)

**REMOTE SENSING OF FRESHWATER BACTERIAL POPULATIONS USING SPECTRAL ANALYSIS OF SATELLITE IMAGERY**

**John Crean, Steven Maisto & Fernando Ontiveros.**

American Society for Microbiology, General Meeting 2014. (International meeting, Poster, abstract selected for press release)

**PRODUCTION AND DELIVERY OF LIPID-BASED NANOPARTICLES TO MACROPHAGES IN VITRO**  
**Alexandria Argentieri & Fernando Ontiveros.**

Rochester Academy of Sciences, 2013. (Local meeting, Poster)

**ULTRASOUND-ENHANCED TRANSDERMAL DELIVERY OF NANOPARTICLES**

Fernando Ontiveros, **Jessica Saxum**, Kathy Savage, Brooke Saffren, Maria Helguera.

Rochester Academy of Sciences, 2013. (Local meeting, Poster)

**IL-1 CONTRIBUTES TO IONIZING RADIATION-INDUCED RADIODERMATITIS**

Matthew Janko, Fernando Ontiveros, T.J. Fitzgerald and Kenneth Rock. American Society for Radiation Oncology 54th Annual Meeting, 2012. (International meeting, Poster)

**INDIRECT ANTIMICROBIAL ACTION OF CATIONIC AMYLOID FIBRILS FOUND IN HUMAN SEMEN**

David Easterhoff, Fernando Ontiveros, Lauren R Brooks, Brittany Ross, Joanna S. Olsen, Changyong Feng, Dwight J. Hardy, Paul M. Dunman, Stephen Dewhurst. International Conference on Antimicrobial Agents and Infectious Diseases 2012 (International meeting, Poster)

**SEVI BINDS TO AND ENHANCES PHAGOCYTOSIS OF BACTERIAL PATHOGENS**

Fernando Ontiveros, Lauren Brooks, David Easterhoff, Joanna Olsen and Stephen Dewhurst.

Cold Spring Harbor Lab 2011: Harnessing Immunity to Prevent and Treat Disease (National meeting, Poster)

**THE EFFECTS OF IL-1 IN MODELS OF ACUTE STERILE INFLAMMATION**

Fernando Ontiveros, Hajime Kono and Kenneth Rock. Cold Spring Harbor Lab 2009: Harnessing Immunity to Prevent and Treat Disease (National meeting, Poster)

**THE ROLE OF URIC ACID IN INFLAMMATION TO STERILE CELL DEATH**

Hajime Kono, Chun-Jen Chen, Fernando Ontiveros, and Kenneth Rock.

ACR/ARHP 2009: Insights from Innate Immunity (National meeting, Poster)

**CD4+ T CELL HELP FOR CD8+ T CELL RESPONSES PRIMED BY DENDRITIC CELLS IN THE ABSENCE OF PATHOGENS**

Fernando Ontiveros & Alexandra Livingstone

Keystone Symposia 2007: Intra & Intercellular Signaling in Dendritic Cell Function. (International meeting, Poster)

**IN VIVO REVERSION OF A HIGH FIDELITY SIV REVERSE TRANSCRIPTASE TO LOW FIDELITY**

Baek Kim, Julie Overbaugh, Fernando Ontiveros, Tracy Diamond

Cold Spring Harbor Laboratory 2002: Retroviruses (National meeting, Poster)

**ACTIVATION OF BONE MARROW-DERIVED DENDRITIC CELLS BY CD40 CROSSLINKING**

Fernando Ontiveros & Alexandra Livingstone

University of Kentucky 2001: XII National Congress on Undergraduate Research (Poster)

## Publications

### **MECHANICAL COMPRESSION OF DROSOPHILA EMBRYOS USING RAPID FABRICATION MICROFLUIDIC DEVICES**

Megan Levis, Fabio Sacco, Vijay Velagala, [Fernando Ontiveros](#), Jeremiah Zartman. *Methods in Molecular Biol.* 2024;2805: 153-160.

### **RAPID FABRICATION OF CUSTOM MICROFLUIDIC DEVICES FOR RESEARCH AND EDUCATIONAL APPLICATIONS**

Megan Levis\*, [Fernando Ontiveros\\*](#), Jonathan Juan, Anthony Kavanagh, Jeremiah Zartman. *J. Vis. Exp.* (153), e60307 (2019).

### **MICROFLUIDICS ON THE FLY: INEXPENSIVE RAPID FABRICATION OF THERMALLY LAMINATED MICROFLUIDIC DEVICES FOR LIVE IMAGING AND MULTIMODAL PERTURBATIONS OF MULTICELLULAR SYSTEMS**

Megan Levis, Nilay Kumar, Emily Apakian, César Moreno, Ulises Hernández, Ana Olivares, [Fernando Ontiveros](#), Jeremiah Zartman. *Biomicrofluidics.* 2019 April; 13, 024111.

### **IMPLEMENTATION AND ASSESSMENT OF STUDENT-MADE MICROFLUIDIC DEVICES IN THE GENERAL CHEMISTRY LABORATORY**

Kermin Martinez Hernandez, Nahyr Rovira Figueroa, [Fernando Ontiveros](#). *J Nanoeducation.* 2016 Dec; 8 (2): 84-113.

### **THE SEMEN ENHANCER OF VIRAL INFECTION (SEVI) BINDS BACTERIA, ENHANCES BACTERIAL PHAGOCYTOSIS BY MACROPHAGES, AND CAN PROTECT AGAINST A VAGINAL INFECTION BY A SEXUALLY TRANSMITTED BACTERIAL DISEASE.**

David Easterhoff\*, [Fernando Ontiveros\\*](#), Lauren R Brooks, Yoel Kim, Brittany Ross, Joanna S. Olsen, Changyong Feng, Dwight J. Hardy, Paul M. Dunman, Stephen Dewhurst. *Antimicrob Agents Chemother.* 2013 Jun; 57(6): 2443-50.

### **TRANSIENT HYPERCAPNIA REVEALS AND UNDERLYING CEREBROVASCULAR PATHOLOGY IN A MURINE MODEL FOR HIV-1 ASSOCIATED NEUROINFLAMMATION: ROLE OF NO-cGMP SIGNALING AND NORMALIZATION BY INHIBITION OF PHOSPHODIESTERASE-5**

Jharon Silva, Oksana Poleskaya, Walter Knight, Johnny Ting Zheng, Megan Granger, Tenee Lopez, [Fernando Ontiveros](#), Changyong Feng, Chen Yan, Karl Kasischke, Stephen Dewhurst. *J Neuroinflammation.* 2012 Nov; 9(1): 253.

### **IL-1 GENERATED SUBSEQUENT TO RADIATION-INDUCED TISSUE INJURY CONTRIBUTES TO THE PATHOGENESIS OF RADIODERMATITIS**

Matthew Janko, [Fernando Ontiveros](#), Thomas J. Fitzgerald, A. Deng, Maria DeCicco and Kenneth L. Rock. *Radiat. Res.* 2012 Sep; 178(3): 166-72.

### **TYPE-I IFN SUPPORTS PRIMARY CD8+ T CELL RESPONSES TO PEPTIDE-PULSED DENDRITIC CELLS IN THE ABSENCE OF CD4+ T CELL HELP**

[Fernando Ontiveros](#), Elizabeth B. Wilson and Alexandra M. Livingstone. *Immunology.* 2011 Apr; 132 (4):549-58.

### **THE STERILE INFLAMMATORY RESPONSE**

Kenneth L. Rock, Eicke Latz, [Fernando Ontiveros](#) and Hajime Kono. *Annu Rev Immunol.* 2010 Mar; 28:321-42.

### **URIC ACID PROMOTES AN ACUTE INFLAMMATORY RESPONSE TO STERILE CELL DEATH IN MICE**

Hajime Kono, Chun-Jen Chen, [Fernando Ontiveros](#) and Kenneth L. Rock. *J Clin Invest.* 2010 Jun 1;120(6):1939-49.

**UNRAVELLING THE MECHANISMS OF HELP FOR CD8+ T CELL RESPONSES**

Alexandra Livingstone, Elizabeth B. Wilson, Fernando Ontiveros, Jyh-Chiang Wang. *Immunol Res.* 2009 Feb; 45:209-17.

**THE INFLUENCE OF INNATE IMMUNE MECHANISMS ON CD4+ AND CD8+ T CELL RESPONSES**

Fernando Ontiveros; Advisor: Alexandra Livingstone. Doctoral Thesis, U of Rochester, 2008.

**ACTIVATION OF MURINE DENDRITIC CELLS BY THREE PROTECTIVE EPITOPES AGAINST CYSTICERCOSIS** (SPANISH)

Fernando Ontiveros; Advisor: Edda Sciutto. Bachelor of Science Thesis, UNAM School of Sci. 2001.

**THE NUCLEAR MATRIX CONCEPT**

Fernando Ontiveros; *Berkeley Scientific (Undergraduate Journal)*, Spring 2001.

**SCIENCE BOOKLET: BIOLOGY OF THE CELL NUCLEUS** (SPANISH)

Olga Echeverria & Fernando Ontiveros (editors); National Autonomous University of Mexico, 2001.

**EMERGING VIRUSES: FICTION OR REALITY** (SPANISH)

Fernando Ontiveros; *Ciencias (Undergraduate Journal, UNAM)*, 51, 1998.