# Felicia S. Manciu

**Professor**

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## EDUCATION:

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| 2004 | **Ph.D. Physics**; University of Buffalo, SUNY (NY, U.S.) |

## PROFESSIONAL EMPLOYMENT:

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| 2016 – | **Professor**; Department of Physics; The University of Texas at El Paso |
| 2010 – 2016 | **Associate Professor**; Department of Physics; The University of Texas at El Paso |
| 2004 – 2010 | **Assistant Professor**; Department of Physics; The University of Texas at El Paso |

## RESEARCH INTERESTS AND HIGHLIGHTS OF ACADEMIC CAREER:

**Research interests:** My academic research interests in my entire career have addressed emerging biomedical and clean energy technologies. I have extensive experience in nonlinear optical investigations of soft and hard condensed matter, with specific training and expertise in Raman microscopy and spectroscopy. These studies, of fundamental and applied interest, are valuable for developing new, reliable nano- and micro-structures with applications in various fields, from electronics and photonics to medical diagnostics. Supporting this affirmation is the broad range of collaborative projects I have conducted, which include:

- Studying doped diamond materials, carbon fibers, metal oxides, magnetic materials, and transition metal chalcogenide alloys for biosensors and device development;
- Detecting and monitoring multiple neurotransmitters simultaneously by using label-free confocal Raman microscopy;
- Assessing cancer-related signatures using combined Raman microscopy and novel statistical and machine learning algorithms;
- Detecting label-free *Giardia* parasites and assessing their resistance to drugs;
- Investigating the prophylactic effects of natural and chemical plant extracts in traditional medicine;
- Analyzing new avenues for water decontamination.

**Research highlights:** The collaborative projects I oversee as Principal Investigator enabled me to secure more than **$1.4M** of sustainable external funding from NSF, DOD-MDA, DOE, NIH, and the Mayo Clinic in Rochester, Minnesota. In addition, I was also MPI on a **$2.5M NIH U01** research grant and other grants submitted to NIH and NSF based on long-term and ongoing joint research efforts (internal at UTEP and external with the Mayo Clinic, Deakin University in Australia, and Hanyang University in Korea).

Also, since 2004, shortly after receiving my Ph.D. and joining the UTEP faculty as an Assistant Professor, I have established and directed the **Optical Spectroscopy and Microscopy Laboratory**.

**Mentoring highlights:** Direct evidence of my sustained high standards in mentoring is that all of my **22** student alumni (**7** Ph.D. and **15** M.S. students) were either admitted to graduate/professional school or entered the STEM workforce, government, or academia. I consider the academic success of the students I have mentored to be an achievement of my career and theirs. The external funding I secured as a PI, combined with

other internally funded proposals/scholarships, has enabled me to support them financially, along with several other students from different departments. I have also served on the committees of **43** awarded M.S. theses and **34** awarded Ph.D. dissertations.

**Service highlights:** By extending my mentorship philosophy, I advocate for supporting junior faculty. In my role as the Physics Department Representative in the College of Science Tenure and Promotion Committee at UTEP (2022–2025 and 2013–2015), I am proud and honored to mention that all of my junior colleagues secured tenure and promotion. Highlights of other service activities include:

- Coordinating/chair or supporting/member departmental search committee for faculty hiring, annual evaluation, and promotion processes. Results: **seven** new tenure-track Assistant Professor hires, **five** promotions to Associate Professor, and **two** promotions to Full Professor;
- Mentoring/member of internal university-wide workshops on grant writing training for faculty, postdocs, and graduate students;
- Evaluating as the *Representative* of the Graduate Council on the *Research Committee* internal research grant proposals;
- Reviewing as the *Vice-Chair* and *Representative* of the College of Science in the *Graduate Council* proposals for new graduate programs, tracks/certifications that are in high demand, and existing B.S., M.S., and Ph.D. programs/concentrations;
- Evaluating as the *Representative* of the Graduate Council on the *Graduate Scholarship Committee* internal fellowship and scholarship grant proposals;
- Developing graduate course material. Mentoring and teaching are continuous learning processes in which I constantly strive to improve my effectiveness through certifications and redesigned professional curricula. My certifications from the *ACUE Inclusive Teaching for Equitable Learning*, the *Teaching Hybrid Academy*, the *Teaching Online Academy*, and *Biosafety/Biosecurity - EH&S Staff Complete Training* (CITI program, 64 modules) were beneficial to this activity.
- Implementing new student recruitment and retention strategies as *Undergraduate Program Director*. Results: the number of Physics majors doubled in two consecutive semesters, reaching 150 in the Spring of 2015.

## AWARDS AND HONORS:

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| 2015 – 2017 | ***Spring 2015, Spring 2016,*** and ***Spring 2017 Undergraduate Student Choice Award for Outstanding Teaching*** by the UTEP College of Science |
| 2015 | ***Miguel Izquierdo Award for Outstanding Teaching*** by the UTEP College of Science |
| 2015 | ***Fall 2015 New Grant Award Recognition*** by the UTEP Office of Research and Sponsored Projects and the College of Science for continuous efforts in securing extramural funding |
| 2014 | ***Fall 2014 New Grant Award Recognition*** by the UTEP Office of Research and Sponsored Projects and the College of Science for continuous efforts in securing extramural funding |
| 2014 – 2017 | ***Honorary Associate Professor*** at Deakin University, School of Engineering, Faculty of Science, Engineering and Built Environment, Australia |
| 2011 – 2021 | ***Visiting Research Collaborator*** at the Mayo Clinic, Department of Neurologic Surgery, Neural Engineering Laboratory, and Division of Engineering, Rochester, MN |
| 2008 | ***Robert S. Hyer Recognition for Exceptional Research*** by student-advisor team, American Physical Society Texas Section |
| 2007 – 2008 | ***Outstanding Research Performance Award*** by The University of Texas at El Paso |

## PROFESSIONAL ACTIVITIES & SPECIAL APPOINTMENTS:

2022 – 2025 ***Department of Physics Representative*** in the College of Science Tenure and Promotion Committee at UTEP

2020 – 2021 ***Vice-Chair*** of the Graduate Council at UTEP

2018 – 2021 ***Representative of the Graduate Council on the Research Committee*** at UTEP

2018 – 2021 ***Representative of the Graduate Council on the Graduate Scholarship Committee***,UTEP

2014 – 2015 ***Undergraduate Program Director*** in the Department of Physics at UTEP

2013 – 2016 ***College of Science Representative*** in the Graduate Council at UTEP

2013 – 2015 ***Department of Physics Representative*** in the College of Science Tenure and Promotion Committee at UTEP

2015 – ***Faculty Associate of the Biomedical Engineering Ph.D. program*** at UTEP

2011 – 2012 ***Chair of Faculty Senate's Graduate Scholarship Committee*** at UTEP

2010 – 2014 ***Member of the Council of the Material Science and Engineering Ph.D. Program*** at UTEP

2010 – ***Faculty Associate of the Border Biomedical Research Center*** at UTEP

2008 – 2010 ***President and Vice-President of Sigma Xi Scientific Research Society***; The University of Texas at El Paso Chapter

2006 – 2010 ***Officer of the Executive Committee Board*** of the Texas Section of the American Physical Society

## OTHER PROFESSIONAL EXPERIENCE:

2020 – 2022 ***Chair, Annual Merit Evaluation Committee*** in the Department of Physics at UTEP

May 2022 ***Participant*** and certified by ACUE – Inclusive Teaching for Equitable Learning

Nov 2020 ***Session Chair*** at Texas section conference of the American Physical Society

2019 – 2020 ***Member, Annual Merit Evaluation Committee*** in the Department of Physics at UTEP

2019 – 2021 ***Member, Tenure and Promotion Committee*** in the Department of Physics at UTEP

Nov 2018 ***Member,*** Kinesiology Faculty Search Committee for tenure-track Assistant Professor position in human fitness and performance that resulted in hiring of Dr. Cory Smith

May 2017 ***Graduate School Faculty Marshal*** at The University of Texas at El Paso

2016 – 2021 ***Member at large of the College of Science*** in the Faculty Senate Graduate Council at The University of Texas at El Paso

Sept 2016 ***Member,*** Physics Faculty Search Committee for tenure-track Assistant Professor position in experimental biomaterials which resulted in hiring of Dr. A. El-Gendy

2015 – ***Member,*** Neuroscience Research Group at UTEP

2014 – 2016 ***Participant*** at the Annual BRAIN Initiative Investigators Meeting, Bethesda MD

2014 – ***Judge***, Graduate Student Research Expo, The University of Texas at El Paso

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| Oct. 2013 – Apr. 2014 | ***Chair*** of the Physics Faculty Search Committee for tenure-track Assistant Professor position in experimental condensed matter which resulted in hiring of Dr. Jose Banuelos |
| 2014 | ***Faculty Recruiter*** for the candidates for tenure-track Assistant Professor position in Electrical and Computer Engineering Department that resulted in hiring of Dr. Deidra Hodges |
| 2013 – 2021 | ***Reviewer*** for Dodson scholarship applications / UTEP Graduate School |
| 2010 – 2014 | ***Student Recruiter*** at the College of Science orientation and the Department of Physics "Real Physics LIVE - Open House Event" - Tour of Optical Spectroscopy & Microscopy Laboratory and poster presentations |
| 2010 | ***Member,*** Physics Faculty Search Committee for tenure-track Assistant Professor position in experimental condensed matter which resulted in hiring of Dr. C. Li |
| 2008 – 2009 | ***Faculty Associate***, Department of Mechanical Engineering at UTEP<br>• Collaborated on DOD – Missile Defense Agency research contract (PI: F.S. Manciu) with Dr. Ashan Choudhuri and Dr. Arturo Bronson<br>• Mentored and supervised graduate student Layra Reza (M.S., 2009) |
| 2008 | ***Proposal Reviewer*** and ***Review Panelist***, DMR Program, the National Science Foundation |
| Dec. 2008 | ***Graduate School Faculty Marshal*** at The University of Texas at El Paso |
| 2007 | ***Facilitator*** at the Cancer Health Disparities Summit 2007: Catalyzing Trans-Disciplinary Regional Partnerships to Eliminate Cancer Health Disparities organized by National Cancer Institute |
| 2007 | ***Participant*** in Congressional and Capitol Hill visits as American Physical Society officer and member of the Texas Section Executive Committee Board |
| 2007 – 2011 | ***Member*** of UTEP's Library Committee |
| 2007 – | ***Member*** of Minority Access to Research Careers (MARC) fellowship selection at UTEP |
| 2007 | ***Proposal Reviewer*** for beam-time allocation proposals at Stanford Synchrotron Radiation Laboratories |
| 2007 – | ***Session Chair*** and ***Judge*** at several Texas section conferences of the APS |
| 2007 – | ***Member***, Sigma Xi Scientific Research Society |
| 2004 – | ***Scientific reviewer*** for numerous international journals and conference proceedings |
| 2004 – | ***Judge*** – El Paso ISD Science Fair |
| 2000 – | ***Member***, Materials Research Society |
| 1999 – | ***Member***, American Physical Society and Texas Section |

## RESEARCH FUNDING:

### External funding

$30,000 Contract agreement UTEP–Mayo Clinic Manciu (PI) 02/2025 – 01/2026
Assessment of Diamond Film Grown by Chemical Vapor Deposition.
The goal of this study is to understand the evolutions of the structure of diamond films with changes in their growth conditions by chemical vapor deposition and the substrates used.
Role: PI

$20,000 Contract agreement UTEP–Mayo Clinic Manciu (PI) 02/2024 – 01/2025
Raman Spectroscopic and Microscopic Analysis of Carbon-based Microelectrodes.
The goal of this study is to resolve by spectral Raman analysis and confocal Raman mapping microscopy the material's constituents and to explore ways of improving the characteristics of such materials.
Role: PI

$2,000,000 NSF-DMREF (*pending*) Manciu (Co-PI) 08/2025 – 07/2029
DMREF: Accelerated Design of Ultra Wide Band Gap Oxides for Advanced Electronics and Optoelectronics - Combined Experimental and Theoretical Approach.
The proposal seeks to develop ultra-wide band gap (UWBG) materials with precisely engineered band structures and optoelectronic properties. By integrating experimental and theoretical approaches, the objective is to establish de novo structure-property correlations in UWBGs, paving the way for next-generation optoelectronic applications.
Role: Co-PI, C.V. Ramana (PD/PI)

$414,739 NIH-R21 (*pending*) Manciu (PD/PI) 02/2025 – 01/2027
Assessing *Giardia* Intestinal Interaction by Raman Microscopy and Machine Learning.
The proposed research aims to assess the capability of a fast, accurate, and cost-effective testing method based on combined label-free Raman microscopy and improved statistical and machine learning (ML) algorithms for monitoring the stage-specific status of *Giardia lamblia* (trophozoites or viable cysts) and its infection dynamics due to host-parasite interactions.
Role: PD/PI

$3,373,579 (UTEP 733,083) NIH-R01 (*pending*) Manciu (PI) 12/2024 – 12/2027
A novel boron doped diamond / carbon fiber composite microelectrode for chronic monitoring of neurotransmitters and electrophysiological activities in the brain.
The goal of this multidisciplinary project is the development of a boron-doped diamond-coated carbon fiber-tipped microelectrode for *in vivo* long-term neurochemical and electrophysiological recordings in the brain for basic and clinical neuroscience research.
Role: MPI (PI at UTEP), Bennet (PD/PI)

$360,000 Contract agreement UTEP–Mayo Clinic Manciu (PI) 06/01/2015 – 07/31/2019
Optical Detection of Neurotransmitters
The goal of this project is to develop new optical approaches for real-time, label-free, simultaneous detection of multiple neurotransmitters and to investigate the extent to which the natural tissue fluorescence will influence the sensitivity of detection.
Role: PI

$2,500,000 NIH U01 NS 90455 Manciu (PI) 09/01/2014 – 08/31/2018
Neurotransmitter Absolute Concentration Determination with Diamond Electrode
The goal of this project is to develop techniques to measure tonic levels of neurotransmitters using fast-scan cyclic voltammetry based on diamond electrodes for closed-loop deep brain stimulation.
Role: MPI (PI at UTEP), Lee (PD/PI)

$50,000 Contract agreement UTEP–Mayo Clinic Manciu (PI) 05/2014 – 12/2015
Analysis of boron-doped diamond electrode materials
The goal of this study was to resolve, by spectral Raman analysis and confocal Raman mapping microscopy, the material's constituents and to explore ways of improving the characteristics of doped diamond materials.
Role: PI

$65,450 Contract agreements UTEP–Mayo Clinic Manciu (PI) 09/2011 – 04/2014
Raman Detection of Neurotransmitters at Physiological Levels
The goal of this project was to experimentally confirm simultaneous *in vitro* detection of neurotransmitters and to determine experimentally their local diffusion in real-time.
Role: PI

$199,546 DOE DENT0008022 Manciu (PI) 01/2009 – 01/2012
$50,000 (renewal) 01/2012 – 12/2013
Investigation of $WO_3$-based $H_2S$ Sensor Materials for Coal Gasification Systems
The overall efforts of this project were to develop new high-quality sensor materials able to detect poisoning gases resulting from coal-gasification processes, especially $H_2S$.
Role: PI

$299,910 DOD-MDA HQ0006-08-C-0040 Manciu (PI) 01/2008 – 04/2010
Investigation of $Al_4H_6/AlH_3$ Mixture for a High Energetic Solid Rocket Fuel
The overall goal of this research project consisted of synthesis, characterization and combustive analysis of high energetic materials for use as propellants.
Role: PI

$288,090 NSF-MRI DMR-0723115 Manciu (PI) 09/2007 – 08/2010
Acquisition of a Confocal Raman/AFM Hybrid System
The goal of this project was the acquisition of *WITec alpha 300RAS* confocal Raman/AFM/SNOM cutting-edge instrumentation for education, research, and research training purposes.
Role: PI

## Internal funding

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| 2014 – 2015 | $20,000 | UTEP College of Science - Multidisciplinary Research Pilot Program, "The Role of Breast Cancer Organ Specific Metastasis on the Therapeutic Impact of Anti-Cancer Drugs," PI: Dr. Giulio Francia, Co-PI: Dr. Felicia S. Manciu |
| 2008 – 2011 | $55,000 | UTEP cost-sharing for NSF-MRI award; Research support for Dr. William Durrer as part-time Research Associate in the Physics Department |
| 2004 – 2006 | $73,000 | UTEP Start-up funds |

## Graduate students supported by external research grants (PI: F.S. Manciu)

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| 2008 – 2010 | **DOD-MDA** research award: | Layra Reza | (M.S., 2009) |
| | | Luis Alonso Pinales | (Ph.D., 2010) |
| | | Sudipa Sarker | (M.S., 2010) |
| | | David Pham | (M.S., 2010) |
| | | Carlos Gomez | (M.S., 2010) |
| | | Jesus Flores | (M.S., 2010) |
| | | Young Yun | (Ph.D., 2012) |
| 2009 – 2013 | **DOE** research award: | Jose Luis Enriquez | (M.S., 2010) |
| | | Jose Mares | (M.S., 2010) |
| | | Narasimha Kalidindi | (M.S., 2010) |
| | | Francisco Pineda | (M.S., 2012) |
| | | Young Yun | (Ph.D., 2012) |

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| | | Rama Vermuri | (Ph.D., 2013) |
| | | Aurelio Paez | (M.S., 2014) |
| | | Satya Gullapalli | (Ph.D., 2014) |
| 2015 – 2019 | **NIH U01** research award | John Ciubuc | (Ph.D, 2019 & M.S., 2017) |
| | and **Mayo Clinic** research | Emma Sundin | (Ph.D., 2017-2019) |
| | contract agreements | Tamanna Khan | (M.S., 2017) |
| | | Katia Ochoa | (B.S., 2019) |
| 2020 | ESE program | Jose Guerrero | (Ph.D., 2024) |

**Graduate students supported by other research proposals:**

Summer 2016 **John D. Ciubuc** (M.S. student) was the first student awarded fellowship at the Mayo Clinic in Rochester, MN.

2013 – 2015 **Jessica Salazar** (M.S. student) was the recipient of a fellowship through the PARTNERS FOR SUCCESS (PASS): Building Partnerships to Increase Success of Underrepresented Minorities in Physics grant

2010 – 2012 **Jose Luis Enriquez** (Ph.D. student) was the recipient of one of the most prestigious international fellowships awarded by the Mexican Government through CONACyT. The fellowship was awarded through an international competition based on research proposals developed by faculty-student teams.

**Graduate students supported by UTEP internally funded research proposals – Total: $32,150**

| Source of funding | Description / Project Title | Funding Period | Amount |
|---|---|---|---|
| UTEP Graduate School | Dodson Dissertation Fellowship (Ph.D. student Young Yun) | Spring 2012 | $7,500 |
| UTEP Graduate School | Roy and Keith Chapman Scholarship (Ph.D. student Young Yun) | Spring 2011 | $2,000 |
| UTEP Graduate School | Coton Graduate Scholarship (Ph.D. student Jose Luis Enriquez) | Spring 2011 | $1,000 |
| UTEP Graduate School | Roy and Keith Chapman Scholarship (Ph.D. student Jose Luis Enriquez) | Spring 2010 | $2,000 |
| UTEP Graduate School | Dodson Dissertation Fellowship (Ph.D. student Jayesh Govani) | Spring 2009 | $7,500 |
| UTEP Graduate School | Roy and Keith Chapman Scholarship (Ph.D. student Jayesh Govani) | Spring 2008 | $2,000 |
| UTEP Advance | Growth Inhibition of Kidney Stones by Herbal Extracts (Ph.D. student Jayesh Govani) | Summer 2008 | $4,350 |
| UTEP Graduate School | Cotton Memorial Graduate Scholarship (Ph.D. student Jayesh Govani) | Spring 2007 | $2,000 |
| UTEP Advance | Spectral Reconstruction of Megavoltage X-ray Sources using Gafchromic film attenuation measurements (M.S. student Claudia Huerta) | Summer 2007 | $3,800 |

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| UTEP MARC | Layra Reza (B.S. student in Physics) | 2005 – 2007 | |

## THESES AND DISSERTATIONS DIRECTED (Total 22 – 6 Ph.D. and 15 M.S. students)

2007 **Francisco Carreto**, M.S. in Physics, "*Optical phonon modes of lead selenide nanoparticles - A Raman and infrared study*," awarded
Employment – Lab. Instructor/Manager, New Mexico State University, Las Cruces, NM.

2008 **Claudia Huerta**, M.S. in Physics, "*Spectral reconstruction for megavoltage X-ray sources from attenuation measurements*," awarded
Employment – Ph.D student, Health Science Center, San Antonio, TX.

2009 **Jayesh Govani**, Ph.D. in Materials Science and Engineering (MASE) program, "*Spectroscopic characterizations of organic/inorganic nanocomposites*," awarded
Employment – Postdoctoral Research Associate, The University of South Dakota, SD.

2009 **Layra Reza**, M.S. in Mechanical Engineering, "*Aluminium hydride compounds: a theoretical and experimental spectroscopic study*," awarded
Employment – Associate Director of Operations and Supply Chain at RTX, Raytheon Missile Systems, Tucson, AZ.

2010 **Luis Alonso Pinales**, Ph.D. in Materials Science and Engineering (MASE) program, "*Spectroscopic study of the inhibition of calcium oxalate calculi by Larrea Tridentata*," awarded
Employment – Chief of Mission Assurance and Training, Missile Defense Agency, Schriever AFB, CO.

2010 **Jose Luis Enriquez**, M.S. in Physics, "*Spectroscopic analysis of tungsten oxide thin films for sensor applications*," awarded
Employment – continued his Ph.D studies at UTEP.

2011 **Preethi Dacha**, M.S. in Physics, "*Inhibition of Calcium Oxalate Calculi by NDGA- a Spectroscopic Study*," awarded
Employment – Ph.D. student, The University of New Mexico, Albuquerque, NM.

2012 **Young Yun**, Ph.D. in Materials Science and Engineering (MASE) program, "*Microscopic and Spectroscopic Analysis of WO3 and Ti-doped WO3 Thin Films*," awarded
Employment – Assistant Professor, Seokyung University, Korea.

2012 **James Howard**, Ph.D. in Materials Science and Engineering (MASE) program, "*A Study of $WO_3$ and $W_{0.95}Ti_{0.05}O_3$ Thin Films Using Comparative Spectroscopy*," awarded
Employment – Veteran and minority disabled naval lieutenant.

2012 **Jose Luis Enriquez**, Ph.D. in Materials Science and Engineering (MASE) program, "*Raman and infrared study of electro spun PLLA/PCL*," awarded
Employment – Professor, Universidad Autonoma De Ciudad Juarez, Juarez, Mexico.

2014 **Aurelio Paez**, M.S. in Physics, "*A study of Ti-doped WO3 thin films using comparative theoretical and experimental approach*," awarded
Employment – continued his Ph.D studies at UTEP in the MASE program.

2015 **Jessica Salazar**, M.S. in Physics, "*Microscopic and Spectroscopic Analysis of Cadmium Telluride*," awarded
Employment – DMP student, Vanderbilt University, Nashville, TN.

2017 **John D. Ciubuc**, M.S. in Biomedical Engineering, "*Label-free Raman Imaging to Monitor Breast Tumor Signatures*," awarded
Employment – continued his Ph.D studies at UTEP in the BME program.

**Emma M. Sundin**, M.S. in Physics, "*Raman Microscopic Analysis of Internal Stress in Boron-doped Diamond Thin Films*," awarded
Employment – continued her Ph.D studies at UTEP in the BME program.

**Tamanna Khan**, M.S. in Physics, "*Spectroscopic and Microscopic Analysis of Graphene for Sensors Applications*," awarded
Employment – continued her Ph.D studies at Washington State University

**Matthew Alonzo**, M.S. in Physics, "*Spectroscopic Analysis of Neurotransmitters: a Theoretical and Experimental Raman Study*," awarded
Employment – continued his Ph.D studies at UTEP in the BME program.

2019 **Mahendra Subedi**, M.S. in Physics, "*Spectroscopic analysis of calcium oxalate kidney stone inhibition by NDGA*," awarded
Employment – continued his Ph.D. studies at University of North Texas.

**John D. Ciubuc**, Ph.D. in Biomedical Engineering, "*Raman Computational and Experimental Studies on Label-free Biological Investigations*," awarded
Employment – M.D. student at Texas Tech University Health Sciences Center (TTUHSC) School of Medicine in Lubbock, TX.

2020 **Jose Guerrero**, M.S. in Physics, "Comparative Experimental and Theoretical Study of Dopamine and Serotonin Interaction," awarded
Employment – continued his Ph.D. studies at UTEP in ESE program.

2022 **Mariana Castellanos**, M.S. in Physics, "Spectroscopic Study of $Bi_5Ti_3FeO_{15}$ Aurivillius Compound for Multifunctional Applications," awarded

2023 **Lizbeth Vanessa Martinez Lopez**, M.S. in Physics, "Microscopic and Spectroscopic Analysis of Nordihydroguaiaretic Acid Effect on Astrocytes," awarded
Employment – continued her Ph.D. studies at the University of Wisconsin-Madison.

2024 **Jose Guerrero**, Ph.D. in Environmental Science and Engineering, "Assessing Nordihydroguaiaretic Acid Properties and Its Potential Therapeutic Effect for Glioblastoma," awarded

## Undergraduate students mentored

2005 – 2007 **Layra Reza**, B.S. in Physics (MARC fellow), undergraduate honors thesis "*Synthetic Maya Blue pigments and the pursuit of novel materials: a Raman and infrared study*," completed

2012 – 2013 **Jessica Salazar**, B.S. in Physics, awarded

2013 – 2014 **Celia Garcia**, B.S. in Physics (MARC Fellow)

2014 – 2015 **Emma Sundin**, B.S. in Physics

2017 – 2018 **Brayant Lopez,** B.S. in Physics

2017 – 2018 **Jose Guerrero**, B.S. in Physics

2017 – 2019 **Katia Ochoa,** B.S. in Biology

2019 – 2020 **Sebastian Hincapie,** B.S. in Biology

2019 – 2020 **Grecia Campos,** B.S. in Physics

2019 – 2020 **David Rivera,** B.S. in Biology

**COMMITTEE MEMBER ON 42 M.S. THESES AND 34 PH.D. DISSERTATIONS, AWARDED**

## PEER-REVIEWED PUBLICATIONS (ISI – Thomson Reuters)

**Legend:** * corresponding author; ∓ UTEP collaborator; † outside collaborator; ± postdoc; + student

1. D. Das, F. Sanchez+, P.G. Nalam+, N. Herbort+, **F.S. Manciu**, V. Shutthanandan, C.V. Ramana∓. Effect of Thermal Oxidation on the Structure, Surface Texturing, and Microstructure Evolution in Nanocrystalline Ga– O– N Films. ***Advanced Materials Interfaces*** 1, 2400500 https://doi.org/10.1002/admi.202400500 (2005).
2. **F.S. Manciu***, J. Guerrero+, B.C. Pence+, L.V. Martinez Lopez+, S. Das∓. Assessment of Drug Activities against Giardia Using Hyperspectral Raman Microscopy. ***Pathogens***, 13(5), 358–373 PMID: **38787210** PMCID: PMC11124377 doi:10.3390/pathogens13050358 (2024).
3. F. Sanchez+, D. Das, N. Episcopo+, **F.S. Manciu**, S. Tan, V. Shutthanandan, C.V. Ramana∓. Structure, surface/interface chemistry and optical properties of W-incorporated β-Ga 2 O 3 films made by pulsed laser deposition. ***RSC Applied Interfaces*** 1(6), 1395–1409 DOI: 10.1039/D4LF00257A (2024).
4. O.A. Salas+, Y.W. Getahun, H.C. Mandujano+, **F.S. Manciu**, M. Castellanos+, J. Lopez, R. Garza Hernández, V.B. Buturlim, K. Gofryk, D. Bairwa, S. Elizabeth, H.S. Nair∓**.** Resilience of the Aurivillius structure upon La and Cr doping in a $Bi_5Ti_3FeO_{15}$ multiferroic. ***Dalton Transactions***, 53(14), 6423–6435 https://doi.org/10.1039/D4DT00159A (2024).
5. Y. Getahun+, **F.S. Manciu**, M.R. Pederson∓, A.A. El Gendy∓. Room temperature colossal superparamagnetic order in aminoferrocene–graphene molecular magnets. ***Applied Physics Letters***, 122, 241903 https://doi.org/10.1063/5.0153212 (2023).
6. **F.S. Manciu***, J. Guerrero+, S.-Y. Chang†, M. Manciu∓, K.E. Bennet†**,** M. Rahman†, L.V. Martinez Lopez+, S. Chantigian+, M. Castellanos+, M. Manciu∓. Assessing Nordihydroguaiaretic Acid Therapeutic Effect for Glioblastoma Multiforme. ***Sensors***, 22(7), 2643–2658 PMID: 35408257, doi.org/10.3390/s22072643 (2022).
7. CV Ramana∓, D. Das, G. Gutierrez+, **F.S. Manciu**, V. Shutthanandan. Microstructure, chemical inhomogeneity, and electronic properties of tin-incorporated Ga2O3 compounds. ***Journal of Materials Science***, 57, 11170–11188, doi.org/10.1007/s10853-022-07207-7 (2022).
8. Y.W. Getahun+, J. Gardea-Torresdey∓, **F.S. Manciu**, X. Li, A.A. El-Gendy∓. Green synthesized superparamagnetic iron oxide nanoparticles for water treatment with alternative recyclability. ***Journal of Molecular Liquids***, 356, 118983, doi.org/10.1016/j.molliq.2022.118983 (2022).
9. C.V. Ramana∓, B. Mallesham, A.N. Nair, **F.S. Manciu**, S. Sreenivasan∓, V. Shuttanandan. Electronic Structure, Chemical Bonding and Electrocatalytic Activity of Novel $Ba(Fe_{0.7}Ta_{0.3})O_{3-\delta}$ Compounds. ***ACS Applied Energy Materials***, 4(2), 1313–1322, doi.org/10.1021/acsaem.0c02548 (2021).
10. **F.S. Manciu***, J. Guerrero+, D. Rivera+, S.-Y. Chang†, K.E. Bennet†. Combined Theoretical and Experimental Study of Nordihydroguaiaretic Acid – From Traditional Medicine to Modern Spectroscopic Research. ***Biointerface Res. Appl. Chem.***, 10(6), 6728–6743,doi.org/10.33263/BRIAC106.67286743 (2020).

11. M.M. Manciu*, M. Cardenas+, K.E. Bennet†, A. Maran†, M.J. Yaszemski†, T.A. Maldonado‾, **F.S. Manciu***. Assessment of Renal Osteodystrophy via Computational Analysis of Label-free Raman Detection of Multiple Biomarkers. ***Diagnostics***, 10(2), 79–92, doi.org/10.3390/diagnostics10020079 (2020).

12. S.Sen†, M. Manciu‾, **F.S. Manciu**, A.J. Hurd†. ***Powder and Grains***, 121–124, (2020).

13. **F.S. Manciu***, Y. Oh†, A.S. Barath†, A.E. Rusheen†, A.Z. Kouzani†, D.R. Hodges‾, J. Guerrero+, J.R. Tomshine†, K.H. Lee†, K.E. Bennet*. Analysis of Carbon-based Microelectrodes for Neurochemical Sensing. ***Materials***, 12(19), 3186–3199, PMID: 31569398, doi.org/10.3390/ma12193186 (2019).

14. R. Baral+, H.S. Fierro, C. Rueda+, B. Sahu, A.M. Strydom, N. Poudel, K. Gofryk, **F.S. Manciu**, C. Ritter, T.W. Heitmann, B.P. Belbase, S. Bati, M.P. Ghimire, and H.S. Nair‾. Signatures of low-dimensional magnetism and short-range magnetic order in Co-based trirutiles. **Physical Review B** 100 (18), 184407, doi.org/10.1103/PhysRevB.100.184407 (2019).

15. F. Alvarez-Primo+, S. Anil Kumar+, **F.S. Manciu**, B. Joddar‾. Fabrication of surfactant dispersed HiPco single-walled carbon nanotube-based alginate hydrogel composites as cellular products. ***International Journal of Molecular Sciences***, (2019), 4802, doi.org/10.3390/ijms20194802 (2019).

16. **F.S. Manciu***, J.D. Ciubuc+, K. Ochoa+, P. Dacha+, M. Subedi+, J. Guerrero+, M. Eastman‾, D.R. Hodges‾, K.E. Bennet†. Comparative spectroscopic analysis of nordihydroguaiaretic acid and related natural products to inhibition of calcium oxalate calculi. ***Biointerface Research in Applied Chemistry***, 9(3), 3942–3948, doi.org/10.33263/BRIAC93.942948 (2019).

17. N. Makeswaran+, A.K. Battu+, R. Swadipta+, **F.S. Manciu**, C.V. Ramana‾. Spectroscopic Characterization of the Electronic Structure, Chemical Bonding, and Band Gap in Thermally Annealed Polycrystalline $Ga_2O_3$ Thin Films. ***ECS Journal of Solid State Science and Technology***, 8(7), Q3249–Q3253 doi:10.1149/2.0461907jss (2019).

18. **F.S. Manciu***, M. Manciu‾, J.D. Ciubuc+, E.M. Sundin+, K. Ochoa+, M. Eastman‾, W.G. Durrer‾, J. Guerrero+, B. Lopez+, M. Subedi+, K.E. Bennet†. Simultaneous Detection of Dopamine and Serotonin – a Comparative Experimental and Theoretical Study of Neurotransmitter Interactions. ***Biosensors***, 9(1), 3 PMID: 30587770, PMCID: PMC6468865 doi.org/10.3390/bios9010003 (2018).

19. E.M. Sundin+, J.D. Ciubuc+, K.E. Bennet†, K. Ochoa+, **F.S. Manciu***. Comparative Computational and Experimental Detection of Adenosine Using Ultrasensitive Surface-Enhanced Raman Spectroscopy. ***Sensors***, 18(8), 2696–2711, PIMD: 30115871, PMCID: PMC6111885 doi.org/10.3390/s18082696 (2018).

20. J.D. Ciubuc+, M. Manciu‾, A. Maran†, M.J. Yaszemski†, E.M. Sundin+, K.E. Bennet†, **F.S. Manciu***. Raman Spectroscopic and Microscopic Analysis for Monitoring Renal Osteodystrophy Signatures. ***Biosensors***, 8(2), 38–49, PMID: 29642494, PMCID: PMC6022865 doi.org/10.3390/bios8020038 (2018).

21. **F.S. Manciu***, J.D. Ciubuc+, E.M. Sundin+, C. Qiu±, K.E. Bennet†. Analysis of Serotonin Molecules on Silver Nanocolloids – a Raman Computational and Experimental Study. ***Sensors***, 17(7), 1471–1482, PMID: 28640186, PMCID: PMC5539499 doi.org/10.3390/s17071471 (2017).

22. J.D. Ciubuc+, C. Qiu±, K.E. Bennet†, M. Alonzo+, W.G. Durrer‾, **F.S. Manciu***. Raman Computational and Experimental Studies of Dopamine Detection. ***Biosensors***, 7(4), 43–55, doi.org/10.3390/bios7040043, PMID: 28956820 (2017).

23. E.M. Deemer+, P.K. Paul±, **F.S. Manciu**, C.E. Botez‾, D.R. Hodges‾, Z. Landis, T. Akter, E. Castro+, R.R. Chianelli‾. Consequence of oxidation method on graphene oxide produced with different size graphite precursors. ***Materials Science & Engineering B***, 224, 150–157, doi.org/10.1016/j.mseb.2017.07.018 (2017).

24. U. Ramabadran[†], G. Ryan[†], X. Zhou[†], S. Farhat[†], **F. Manciu**, Y. Tong[†], R. Ayler[†], G. Garner[†]. Reduced Graphene Oxide on Nickel Foam for Supercapacitor Electrodes. ***Materials***, 10(11), 1295–1311, doi.org/10.3390/ma10111295 (2017).

25. **F.S. Manciu***, J.D. Ciubuc[+], K. Parra[+], M. Manciu[∓], P. Valenzuela[+], E.M. Sundin[+], L. Reza[+], G. Francia[∓]. Label-free Raman imaging to monitor breast tumor signatures. ***Technology in Cancer Research & Treatment***, 16(4), 461–469, PMID: 27381847 doi.org/10.1177/1533034616655953 (2017).

26. J.D. Ciubuc[+], C. Qiu[±], K.E. Bennet[†], M. Alonzo[+], W.G. Durrer[∓], **F.S. Manciu***. Raman computational and experimental studies of dopamine molecules on silver nanocolloids. ***IEEE International Symposium on Medical Measurements and Applications***, 153–158, doi: 10.1109/MeMeA.2017.7985867 (2017).

27. M. Manciu[∓], **F.S. Manciu**, E. Ruckenstein[†]. On the surface tension and Zeta potential of electrolyte solutions. ***Advances in Colloid and Interface Science***, 244, 90–99, doi.org/10.1016/j.cis.2016.06.006 (2017).

28. C. Qiu[±], K.E. Bennet[†], J.R. Tomshine[†], S. Hara[†], J.D. Ciubuc[+], U. Schmidt[†], W.G. Durrer[∓], M.B. McIntosh[†], M. Eastman[∓], **F.S. Manciu***. Ultrasensitive detection of neurotransmitters by surface enhanced Raman spectroscopy for biosensing applications. ***Biointerface Res. Appl. Chem.***, 7(1), 1921–1926 (2017).

29. K.E. Bennet[†], J.R. Tomshine[†], H.-K. Min[†], **F.S. Manciu**, M.P. Marsh, S.B. Paek, M.L. Settell, E.N. Nicolai, C.D. Blaha[†], A.Z. Kouzani[†], S.-Y. Chang[†], K.H. Lee[†]. A Diamond-Based Electrode for Detection of Neurochemicals in the Human Brain. ***Frontiers in Human Neuroscience***, 10(102), 1–12, PMID:27014033, PMCID:PMC4791376 doi.org/10.3389/fnhum.2016.00102 (2016).

30. M. Manciu[∓], **F.S. Manciu**, E. Ruckenstein[†]. Ion-specific effects on surface potential and surface tension of water solutions explained via volume exclusion effects. ***Colloids and Surfaces A: Physicochemical and Engineering Aspects***, 494, 156–161, doi.org/10.1016/j.colsurfa.2016.01.026 (2016).

31. T.N. Nunley[+], T.I. Willett-Gies, J.A. Cooke, **F.S. Manciu**, P. Marsik, C. Bernhard, S. Zollner[†]. Optical constants, band gap, and infrared-active phonons of $(LaAlO_3)_{0.3}(Sr_2AlTaO_6)_{0.35}$ (LSAT) from spectroscopic ellipsometry. ***Journal of Vacuum Science & Technology A,*** 34(5), 051507, doi.org/10.1116/1.4960356 (2016).

32. C. Qiu[±], K.E. Bennet[†], T. Khan[+], J.D. Ciubuc[+], **F.S. Manciu*.** Raman and Conductivity Analysis of Graphene for Biomedical Applications. ***Materials***, 9(11), 897–908, doi.org/10.3390/ma9110897 (2016).

33. Md K. Hosain[†], A.Z. Kouzani[†], S.J. Tye[†], F. Samad, R.P. Kale, K.E. Bennet[†], **F.S. Manciu**, M. Berk[†]. Radio Frequency Energy Harvesting from a Feeding Source in a Passive Deep Brain Stimulation Device for Murine Preclinical Research. ***Medical Engineering & Physics***, 37, 1020–1026 (2015).

34. **F.S. Manciu***, J.G. Salazar[+], A. Diaz[+], S.A. Quinones[∓]. Spectroscopic, microscopic, and internal stress analysis in cadmium telluride grown by close-space sublimation. ***Thin Solid Films***, 589, 298–302 (2015).

35. K.E. Bennet[†], K.H. Lee[†], J.R. Tomshine[†], E.M. Sundin[+], J.N. Kruchowski, W.G. Durrer[∓], B.M. Manciu, A. Kouzani[†], **F.S. Manciu***. Raman microscopic analysis of internal stress in boron-doped diamond. ***Materials***, 8, 2782–2793; doi:10.3390/ma8052782 (2015).

36. L. Cabrales[†], N. Abidi[†], **F. Manciu.** Characterization of Developing Cotton Fibers by Confocal Raman Microscopy. ***Fibers***, *2*, 285–294; DOI:10.3390/fib2040285 (2014).

37. **F.S. Manciu***, M. Manciu[∓], W.G. Durrer[∓], J.G. Salazar[+], K.H. Lee[†], K.E. Bennet[†]. A Drude model analysis of conductivity and free carriers in boron-doped diamond films and investigations of their internal stress and strain. ***Journal of Materials Science***, 49, 5782–5789, DOI :10.1007/s10853-014-8309-x (2014).

38. **F.S. Manciu***, K.H. Lee[†], W.G. Durrer[‾], K.E. Bennet[†]. Detection and Monitoring of Neurotransmitters - a Spectroscopic Analysis. ***Neuromodulation***, 16(3),192–198 DOI: 10.1111/j.1525-1403.2012.00502.x (2013).

39. K.E. Bennet[†], K.H. Lee[†], J.N. Kruchowski, S.Y. Chang[†], M.P. Marsh, A.A. Van Orsow, A. Paez[+], **F.S. Manciu*.** Development of Conductive Boron-Doped Diamond Electrode: a Microscopic, Spectroscopic, and Voltammetric Study. ***Materials***, 6, 5726–5741, (2013).

40. **F.S. Manciu*,** Y. Yun[+], W.G. Durrer[‾], U. Schmidt[†], J. Howard[+], C.V. Ramana[‾]. Spectroscopic analysis of temperature dependent growth of $WO_3$ and $W_{0.95}Ti_{0.05}O_3$ thin films. ***Journal of Materials Science***, 47(18), 6593–6600 (2012).

41. **F.S. Manciu*,** L. Reza[+], W.G. Durrer[‾], A. Bronson[‾], D. Lacina[†], J. Graetz[†]. Spectroscopic and structural investigations of $\alpha$-, $\beta$-, and $\gamma$-$AlH_3$ phases. ***Journal of Raman Spectroscopy***, 42(3), 512–516 (2011).

42. L.A. Pinales[+], R.R. Chianelli[‾], W.G. Durrer[‾], R. Pal[+], M. Narayan[‾], **F.S. Manciu*.** Spectroscopic study of inhibition of calcium oxalate calculi growth by Larrea Tridentata. ***Journal of Raman Spectroscopy***, 42(3), 259–264 (2011).

43. N.R. Kalidindi[+], **F.S. Manciu**, C.V. Ramana[‾]. Crystal Structure, Phase, and Electrical Conductivity of Nanocrystalline $W_{0.95}Ti_{0.05}O_3$ Thin Films. ***ACS Applied Materials & Interfaces***, 3(3), 863–868 (2011).

44. A. Ramirez[+], C. Sifuentes[+], **F.S. Manciu**, S. Komarneni, K.H. Pannell[‾], R.R. Chianelli[‾]. The Effect of Si/Al Ratio and Moisture on an Organic / Inorganic Hybrid Material: Thioindigo / Montmorillonite. ***Applied Clay Science***, 51, 61–67 (2011).

45. **F.S. Manciu*,** J.L. Enriquez[+], W.G. Durrer[‾], Y. Yun[+], C.V. Ramana[‾], S.K. Gullapalli[+]. Spectroscopic analysis of tungsten oxide thin films. ***Journal of Materials Research***, 25(12), 2401–2406 (2010).

46. S.K. Gullapalli[+], **F.S. Manciu**, J.L. Enriquez[+], C.V. Ramana[‾]. Tungsten Oxide ($WO_3$) Thin Films for Application in Advanced Energy Systems. ***Journal of Vacuum Science and Technology A,*** 28(4), 824–828 (2010).

47. **F.S. Manciu***, J.R. Govani[+], W.G. Durrer[‾], L. Reza[+], L.A. Pinales[+]. Inhibition of urinary calculi – a spectroscopic study. ***Journal of Raman Spectroscopy***, 40(8), 861–865 (2009).

48. J.R. Govani[+], W.G. Durrer[‾], M. Manciu[‾], C. Botez[‾], **F.S. Manciu*.** Spectroscopic study of L-arginine interaction with potassium dihydrogen phosphate crystals. ***Journal of Materials Research***, 24(7), 2316–2320 (2009).

49. M. Manciu[‾], **F.S. Manciu**, T. Vulcan[†], E. Nes[+], R.G. Waggener[†]. Robust Megavoltage X-ray Spectra Estimation from Transmission Measurements. ***Journal of X-ray Science and Technology***, 17(1), 85–99 (2009).

50. **F.S. Manciu,** J. Camacho[+], A.R. Choudhuri[‾]. Flame Synthesis of Multi-Walled Carbon Nanotubes Using $CH_4$-$H_2$ Fuel Blends. ***Fullerenes Nanotubes and Carbon Nanostructures***, 16(4), 231–246 (2008).

51. **F.S. Manciu***, A. Ramirez[+], W. Durrer[‾], J.R. Govani[+], R.R. Chianelli[‾]. Spectroscopic analysis of a dye-mineral composite – a Raman and FT-IR study. ***Journal of Raman Spectroscopy***, 39(9), 1257–1261 (2008).

52. **F.S. Manciu*,** Y. Sahoo[†], F. Carreto[+], P.N. Prasad[†]. Size-dependent Raman and infrared studies of PbSe nanoparticles. ***Journal of Raman Spectroscopy***, 39(9), 1135–1140 (2008).

53. L.A. Polette[‾], **F.S. Manciu**, B. Torres[+], M. Alvarado Jr.[+], RR. Chianelli[‾]. Organic/Inorganic Complex Pigments: Ancient Colors Maya Blue. ***Journal of Inorganic Biochemistry***, 101(11-12), 1958–1973, PMID: 17761292 (2007).

54. **F.S. Manciu***, L. Reza[+], L.A. Polette[∓], B. Torres[+], R.R. Chianelli[∓]. Raman and infrared studies of synthetic Maya pigments as a function of heating time and dye concentration. ***Journal of Raman Spectroscopy***, 38(9), 1193–1198 (2007).

55. K. Castillo[+], **F. Manciu**, J. Parsons[∓], R.R. Chianelli[∓]. Synthesis and characterization of 1,2,3,4 tetrahydroquinoline intercalated into $MoS_2$ in search of cleaner fuels. ***Journal of Materials Research***, 22(10), 2747–2757 (2007).

56. M. Manciu[∓], **F. Manciu**, T. Vulcan[†], E. Ness[+], R. Waggener[†]. A Robust Method for Megavoltage X-ray Spectra Reconstruction using Attenuation Measurements. ***Medical Physics***, 34(6), 2409 (2007).

57. **F.S. Manciu,** R.E. Tallman, B.D. McCombe, B.A. Weinstein, D.W. Lucey, Y. Sahoo, P.N. Prasad. Infrared and Raman Spectroscopies of InP/II-VI Core-Shell Nanoparticles. ***Physica E: Low-dimensional Systems and Nanostructures***, 26(1-4), 14–18 (2005).

58. **F.S. Manciu,** R.E. Tallman, B.A. Weinstein, B.D. McCombe, D.W. Lucey, Y. Sahoo, P.N. Prasad. Optical phonon modes of InP/II-VI core-shell nanoparticles: a Raman and infrared study. ***AIP conference proceedings***, 772, 847–848 (2005).

59. **F.S. Manciu**, Y. Sahoo, D.J. MacRae, M. Furis, B.D. McCombe, P.N. Prasad. Optical phonon spectra of GaP nanoparticles prepared by nanochemistry. ***Applied Physics Letters***, 82 (23), 4059–4061 (2003).

60. M. Furis, D.J. MacRae, Y. Sahoo, **F.S. Manciu**, B.D. McCombe, P.N. Prasad. Surfactant imposed interference in optical characterization of GaP nanaocrystals. ***Journal of Physical Chemistry B***, 107 (10.1021/jp0302941), 11622–11625 (2003).

61. **F.S. Manciu** and S. Sen. Secondary solitary wave formation in systems with generalized Hertz interactions. ***Physical Review E: Statistical Nonlinear Soft Matter Physics*****,** 66(1-2), 016616 (2002).

62. S. Sen, **F.S. Manciu,** M. Manciu. Thermalizing an impulse. ***Physica A: Statistical Mechanics and its Applications***, 299(3-4), 551–558 (2001).

63. S. Sen, M. Manciu, **F.S. Manciu**, A.J. Hurd. Impulse propagation in granular chains. ***Powders and Grains***, 121–124 (2001).

64. **F.S. Manciu**, M. Manciu, S. Sen. Possibility of controlled ejection of ferrofluid grains from a magnetically ordered ferrofluid using high frequency non-linear acoustic pulses. ***Journal of Magnetism and Magnetic Materials***, 220(2-3), 285**–**292 (2000).

65. S. Sen, M. Manciu, **F.S. Manciu**. Ejection of ferrofluid grains using nonlinear acoustic impulses - A particle dynamical study. ***Applied Physics Letters***, 75(10), 1479–1481 (1999).

## INVITED TALKS AND SEMINARS

2021 **Felicia S. Manciu**: "*Label-free Optical Assessment of Cancer and Bone Disease – a Combined Experimental and Computational Study*," University of Texas at El Paso, El Paso TX. (April 23, 2021).

**Felicia S. Manciu**: "*Label-free Optical Detection of Cancer and Renal Osteodystrophy – a Combined Experimental and Computational Study*," University of Texas at Dallas, Dallas TX. (April 7, 2021).

2020 **Felicia S. Manciu**: "*Ultrasensivite Detection of Neurotransmitters – a Comparative Experimental and Theoretical Study of Their Dynamics and Interactions,*" American Physical Society Texas section conference, November 14.

2019 **Felicia S. Manciu**: "*Simultaneous Detection of Dopamine and Serotonin – a Comparative Experimental and Theoretical Study of Neurotransmitter Interactions,*" SNUH-Mayo Clinic Joint Symposium, June 21.

2018 **Felicia S. Manciu**: "*Exploring New Optical Avenues for Ultrasensitive Detection of Neurotransmitters,*" Seoul, Korea, July 19.

**Felicia S. Manciu**: "*Label-free Raman Imaging to Monitor Breast Tumor Signatures*," Beijing, China, April 3.

**Felicia S. Manciu: "***Exploring New Optical Avenues in Hard and Soft Condensed Matter Studies,*" Lanzhou University, China, March 30.

2017 **Felicia S. Manciu**: "*The Pursuit of Label-free Detection of Cancer and Neurodiseases,*" SUNY Buffalo, Buffalo, New York, November 9.

2016 **Felicia S. Manciu**: "*Label-free Optical Detection of Bioanalytes in Cancer and in Neurological Diseases*," UTEP, Border Biomedical Research Center, UTEP, November 4.

**Felicia S. Manciu**: "*Label-free Optical Detection of Bioanalytes for Cancer and Neurodisease Monitoring*," American Physical Society, 2016 Joint Fall Meeting of the Texas and Four Corners Sections of APS and AAPT, Las Cruces, New Mexico, October 21.

2015 **Felicia S. Manciu**: "*Drude model analysis and confocal Raman microscopy investigations of boron-doped diamond films*," Texas Tech, Lubbock, Texas, November 12.

**Felicia S. Manciu**: "*Conductivity and Raman analysis of boron-doped diamond films*," UTEP, Department of Physics, April 10.

**Felicia S. Manciu**: "*Spectroscopic and Microscopic Analysis of Boron-doped Diamond*," Mayo Clinic, Rochester, Minnesota, February 9.

**Felicia S. Manciu**: "*Investigations of boron-doped diamond films - a microscopic, spectroscopic, and Drude model analysis*," New Mexico State University, New Mexico, January 29.

2013 **Felicia S. Manciu**: "*Women in Science*," guest speaker, The Women in Business Association, El Paso, TX, November 18.

**Felicia S. Manciu**: "*Detection and Raman Imaging of Neurotransmitters in Cells and Brain Tissue using SERS*," Mayo Clinic, Rochester, Minnesota, March 15.

2012 **Felicia S. Manciu**: "*Comparative spectroscopic analysis of urinary calculi inhibition by Larrea Tridentata infusion and NDGA chemical extract*," Texas Tech University, Lubbock TX, Feb. 16.

2011 **Felicia S. Manciu**: "*Raman spectroscopy*," Mayo Clinic, Rochester, MN, July 15.

**Felicia S. Manciu**: "*Investigation of $WO_3$-based $H_2S$ sensor materials for coal gasification systems*," DOE-NETL, University Coal Research/Historically Black Colleges and Universities and Other Minority Institutions Contractors Review Conference, Pittsburgh, Pennsylvania, June 7.

2010 **Felicia S. Manciu**: "*Spectroscopic and Microscopic Analysis of $WO_3$ Thin Films*," DOE-NETL, University Coal Research/Historically Black Colleges and Universities and Other Minority Institutions Contractors Review Conference, Pittsburgh, Pennsylvania, June 2.

**Felicia S. Manciu**: "*Inhibition of kidney stone formation by herbal extracts – a spectroscopic study*," UTEP, Department of Physics, October 28.

2009 **Felicia S. Manciu**: "*Spectroscopic characterizations of Maya Blue organic/ inorganic material*," UTEP, Department of Physics, March 27.

2007 **Felicia S. Manciu**: "*Lattice vibrational properties of organic/inorganic compounds*," Baylor University, Waco TX.

2006 **Felicia S. Manciu**: "*Optical characterization of $MoS_2$ catalysts*," UTEP, Department of Physics, October.

2005 **Felicia S. Manciu**: "*Optical properties of novel nano-organic-inorganic materials: nanoparticles and core-shell nanostructures*," UTEP, Department of Physics, November.

## CONFERENCE PRESENTATIONS (talks and posters)

**2023** **American Physical Society, March Meeting**, Las Vegas, Nevada.

1. Y. Getahun**,** **F.S. Manciu**, M.R. Pederson, A.A. El Gendy. "*Room Temperature Superparamagnetic Order with Colossal Magnetocrystalline Anisotropy in Aminoferrocene-based Graphene Molecular Magnets*." (oral)
2. L.V. Martinez Lopez, **F.S. Manciu**, K.E. Bennet, M. Manciu. "*Larrea tridentata: A path to a non-invasive brain cancer treatment*." (oral)
3. J. Guerrero, **F.S. Manciu**, K.E. Bennet, M. Manciu. "*Assessing nordihydroguaiaretic acid therapeutic effect for glioblastoma*." (oral)
4. M. Castellanos, J.A. Guerrero, L.V. Martinez Lopez, S.L. Stanley, H.S. Nair, **F.S. Manciu**."*Spectroscopic Study of $Bi_5Ti_3FeO_{15}$ Aurivillius Compound for Multifunctional Applications*." (poster)

**2020** **American Physical Society, 2020 Joint Fall Meeting of the Texas and Four Corners Sections of APS and AAPT** (virtual conference)**,** Arlington, Texas, November 14.

5. J. Guerrero, **F.S. Manciu**, S.Y. Chang, K.E. Bennet. "*Combined Theoretical and Experimental Spectroscopic Study of Nordihydroguaiaretic Acid*." (oral)

**2019** **Materials Research Society Spring Meeting**

6. C. Rueda, H.S. Fierro, R. Baral, B. Sahu, A.M. Strydom, N. Poudel, K. Gofryk, **F.S. Manciu**, C. Ritter, T.W. Heitmann, B.P. Belbase, S. Bati, M.P. Ghimire, H. Nair. "*Magnetic instabilities in low-dimensional Co1- xMgxTa2O6 trirutile*" (poster)

**COURI symposia at UTEP**

7. C. Rueda, H.S. Fierro, R. Baral, B. Sahu, A.M. Strydom, N. Poudel, K. Gofryk, **F.S. Manciu**, C. Ritter, T.W. Heitmann, B.P. Belbase, S. Bati, M.P. Ghimire, H. Nair. "*Magnetic instabilities in low-dimensional Co1- xMgxTa2O6 trirutile*" (poster)

**2018** **6th Annual Interdisciplinary Research and Education (IDRE) Symposium, Connector Event,** El Paso, Texas, November 6.

8. **F.S. Manciu** and R.R. Chianelli: "*Kidney Stones – From an Ancient Tea to Modern Research"* (oral)
9. **F.S. Manciu** and R.R. Chianelli: "*Maya Pigments – Ancient Technology Coloring Your Future"* (oral)
10. **F.S. Manciu** and G. Francia: "*The Pursuit of Label-free Breast Cancer Detection"* (oral)
11. E.M. Sundin, K.E. Bennet, K. Lee, W.G. Durrer, **F.S. Manciu**,: "*Investigations of boron-doped diamond films - a confocal Raman mapping and SEM study*" (poster)

12. K. Ochoa, K.E. Bennet, J.D. Ciubuc, E.M. Sundin, W.G. Durrer, M. Eastman, **F.S. Manciu**: "*Ultrasensitive Detection of Neurotransmitters by Surface Enhanced Raman Spectroscopy for Biosensing Applications*" (poster)
13. **F.S. Manciu**, M. Subedi, J. Guerrero, W.G. Durrer, M. Narayan, R.R. Chianelli: "*Kidney Stones – From an Ancient Tea to Modern Research*" (poster)
14. J.D. Ciubuc, G. Francia, M. Manciu, K. Parra, K.E. Bennet, E.M. Sundin, P. Valenzuela, and **F.S. Manciu**: "*Label-Free Raman Imaging to Monitor Breast Tumor Signatures*" (poster)

**6th International Meeting Metronomic Chemotheraphy in Oncology**, Grand Rapids, Michigan, October 1-2.

15. I. Sosa, K. Parra, P. Orlandi, T. Di Desidero, P. Valenzuela, K. Chavez, D. Gonzalez Garcia, J. Martinez, **F.S. Manciu**, M. Manciu, G. Francia, G. Bocci: "*Pharmacodynamics and pharmacogenomics of metronomic vinorelbine in human endothelial cells"* (oral)

**2017** **American Physical Society, 2017 Joint Fall Meeting of the Texas and Four Corners Sections of APS and AAPT,** Dallas, Texas, October 21.

16. **F.S. Manciu**: "*Ultrasensitive Detection of Dopamine by Combined Theoretical and Experimental Raman Studies"* (oral)
17. J.D. Ciubuc, G. Francia, K. Parra, M. Manciu, K.E. Bennet, **F.S. Manciu**: "*Label-free Raman Imaging to Monitor Breast Tumor Signatures"* (oral)
18. E.M. Sundin, J.D. Ciubuc, K.E. Bennet, C. Qiu, **F.S. Manciu**: "*Analysis of Serotonin Molecules on Silver Nanocolloids – a Raman Computational and Experimental Study*" (oral)
19. K. Ochoa, K.E. Bennet, J.R. Tomshine, S. Hara, M.B. McIntosh, J.D. Ciubuc, E.M. Sundin, C. Qiu, W.G. Durrer, M. Eastman, **F.S. Manciu**: "*Ultrasensitive Detection of Neurotransmitters by Surface Enhanced Raman Spectroscopy for Biosensing Applications*" (poster)

**Graduate Student Research EXPO,** El Paso, Texas, November 10.

20. J.D. Ciubuc, G. Francia, K. Parra, M. Manciu, K.E. Bennet, **F.S. Manciu**: "*Label-free Raman Imaging to Monitor Breast Tumor Signatures"* (oral)
21. E.M. Sundin, J.D. Ciubuc, K.E. Bennet, C. Qiu, **F.S. Manciu**: "*Analysis of Serotonin Molecules on Silver Nanocolloids – a Raman Computational and Experimental Study*" (oral)

**2016** **BRAIN Initiative Investigators Meeting**, Bethesda North Marriot Hotel and Conference Center, Bethesda, Maryland, December 12.

22. K.H. Lee, J.R. Tomshine, **F.S. Manciu**, K.E. Bennet, D.-P. Jang: "*Neurotransmitter Absolute Concentration Determination with Diamond Electrode*" (poster)

**American Physical Society,** 2016 Joint Fall Meeting of the Texas and Four Corners Sections of APS and AAPT, Las Cruces, New Mexico, October 21.

23. M. Alonzo, C. Qiu, A. Maran, M. Yaszemski, J.D. Ciubuc, M. Manciu, **F.S. Manciu**: "*Development of Label-free Raman Assessment of Metastatic Bone"* (poster)
24. E. Sundin, K.E. Bennet, K.H. Lee, J.R. Tomshine, W.G. Durrer, **F.S. Manciu**: "*Raman Microscopic Analysis of Internal Stress in Boron-Doped Diamond"* (oral)
25. J.D. Ciubuc, K.H. Lee, K.A. Ludwig, J.R. Tomshine, S. Cho, J. Jacobs, S.A. Hara, **F.S. Manciu**, K.E. Bennet: "*Boron-Doped Diamond Signal Processing"* (oral)

26. T. Khan, C. Qiu, J.D. Ciubuc, K.E. Bennet, W.G. Durrer, **F.S. Manciu**: "*Spectroscopic and Microscopic Analysis of Graphene for Sensor Applications"* (poster)
27. C. Qiu, K.E. Bennet, K.H. Lee, J.R. Tomshine, M.B. McIntosh, S. Hara, J.D. Ciubuc, **F.S. Manciu**: "*High Sensitivity Detection of Neurotransmitters*" (oral)

**Graduate Student Research EXPO,** El Paso, Texas, November 11.

28. T. Khan, C. Qiu, J.D. Ciubuc, K.E. Bennet, W.G. Durrer, **F.S. Manciu**: "*Spectroscopic and Microscopic Analysis of Graphene for Sensor Applications*" (poster)

**2015** **BRAIN Initiative Investigators Meeting**, Bethesda North Marriot Hotel and Conference Center, Bethesda, Maryland, December 10.

29. K.H. Lee, J.R. Tomshine, **F.S. Manciu**, K.E. Bennet, D.-P. Jang: "*Neurotransmitter Absolute Concentration Determination with Diamond Electrode*" (poster)

**Graduate Student Research EXPO,** El Paso, Texas, November 13.

30. E. Sundin and **F.S. Manciu**: "*Internal stress in boron-doped diamond thin films"* (oral)

**2014** **BRAIN Initiative Investigators Kickoff Meeting**, Bethesda North Marriot Hotel and Conference Center, Bethesda, Maryland, November 20.

31. K.H. Lee, J.R. Tomshine, **F.S. Manciu**, D.-P. Jang, K.E. Bennet: "*Neurotransmitter Absolute Concentration Determination with Diamond Electrode*" (poster)

**Hawaii University International Conferences on STEM and Education**, Hawaii, HI, June 16.

32. **F.S. Manciu**, K.H. Lee, J.N. Kruchowski, S.-Y. Chang, K.E. Bennet: "*Microscopic, spectroscopic, and voltammetric studies for development of conductive boron-doped diamond electrodes*" (oral)
33. J.G. Salazar, S.A. Quinones, A. Diaz, W.G. Durrer, J.A. Valdez, C. Garcia, **F.S. Manciu**: "*Microscopic, spectroscopic, and internal stress analysis in close-space sublimation grown cadmium telluride"* (poster)

**Dynamica EXPO**, El Paso, Texas, November 14.

34. J.G. Salazar, S.A. Quinones, A. Diaz, W.G. Durrer, J.A. Valdez, C. Garcia, **F.S. Manciu**: "*Microscopic, spectroscopic, and internal stress analysis in close-space sublimation grown cadmium telluride"* (poster)

**Graduate Student Research Expo**, El Paso, Texas, November 14.

35. J.G. Salazar, S.A. Quinones, A. Diaz, W.G. Durrer, J.A. Valdez, C. Garcia, **F.S. Manciu**: "*Internal stress, microscopic, and spectroscopic analysis in cadmium telluride grown by close-space sublimation"* (poster)

**The Joint Fall 2014 Meeting of the Texas Section of the American Physical Society**, American Association of Physics Teachers and the Society of Physics Students, Texas A&M University, College Station, Texas, October 17.

36. J.G. Salazar, S.A. Quinones, A. Diaz, W.G. Durrer, J.A. Valdez, C. Garcia, **F.S. Manciu**: "*Internal stress, microscopic, and spectroscopic analysis in cadmium telluride grown by close-space sublimation"* (poster)

**2013** **International Conference on Diamond and Carbon Materials**, Riva del Garda, Italy, Sept. 2.

37. **F.S. Manciu**, M. Manciu, W.G. Durrer, K.E. Bennet: "*A Drude model analysis of resistivity and free carriers in boron-doped diamond films*" (poster)
38. K.E. Bennet, S.-Y. Chang, **F.S. Manciu**, J.N. Kruchowski, I. Kim, M.P. Marsh, A.A. van Orsow, K.H. Lee: "*Development of chronic implantable boron-doped diamond electrode for fast-scan cyclic voltammetry*" (oral)
39. **F.S. Manciu**, J.N. Kruchowski, A.A. van Orsow, A. Paez, K.E. Bennet: "*Investigations of boron-doped diamond films - a confocal Raman mapping, infrared absorption, and SEM study*" (poster)

**INS 11th World Congress, Neuromodulation: Technology Transforming Chronic Illness Management**, Berlin, Germany, June 8.

40. **F.S. Manciu**, S.-Y. Chang, K.H. Lee, K.E. Bennet: "*Surface-Enhanced Raman Spectroscopy: Technology for Detecting and Imaging Neurotransmitters in Brain Tissue*" (poster)

**2012** **Joint Fall 2012 Meeting of the Texas Sections of the APS, AAPT, and Zone 13 of the SPS**, Lubbock, Texas, October 27.

41. **F.S. Manciu**: "*Spectroscopic study of inhibition of calcium oxalate calculi*" (oral)

**2011** **INS 10th World Congress, Neuromodulation: Technology that Improves Patient Care**, London, UK, May 21.

42. **F.S. Manciu**, W.G. Durrer, K.H. Lee, K.E. Bennet: "*Detection and Monitoring of Neurotransmitters - a Spectroscopic Analysis"* (poster)

**Mathematics and Engineering Conference**, Hawaii, HI, June 12.

43. J.L. Enriquez, W.G. Durrer, T. Xu, **F.S. Manciu**: "*Spectroscopic Characterization of PLLA/PCL Blends as Biodegradable Materials for Tissue Engineering"* (oral)
44. **F.S. Manciu**, W.G. Durrer, Y. Yun, C.V. Ramana: "*Analysis of Tungsten Oxide Thin Films – A Spectroscopic Investigation"* (poster)

**Southwest Energy Science and Engineering Symposium**, UTEP, El Paso, Texas, April 16.

45. Y. Yun, W.G. Durrer, C.V. Ramana, J. Howard, **F.S. Manciu**: "*A Study of $WO_3$ and $W_{0.95}Ti_{0.05}O_3$ Thin Films Using Comparative Spectroscopy"* (oral)
46. J.L. Enriquez, W.G. Durrer, C.V. Ramana, Y. Yun, S. Gullapalli, **F.S. Manciu**: "*Spectroscopic Analysis of $WO_3$ for sensor applications"* (oral)

**2010** **Sigma Xi 2010 Annual Meeting and International Research Conference**, Raleigh, North Carolina, November 11.

47. **F.S. Manciu**, L.A. Pinales, W.G. Durrer, R.R. Chianelli, M. Narayan, R. Pal: "*Inhibition of kidney stone formation by herbal extracts" – a spectroscopic study"* (poster)

**2009** **65 Southwest Regional Meeting of the American Chemical Society - USA-Mexico-Japan Materials Consortium Symposium, American Physical Society**, El Paso, Texas, November 6.

48. **F.S. Manciu**: "*Optical Phonon Modes of InP/II-VI Core-Shell Nanostructures - a Raman and Infrared Study"* (oral)

**American Physical Society**, March Meeting, Pittsburgh, Pensilvania.

49. **F.S. Manciu**, J.R. Govani, W.G. Durrer, L. Reza, L.A. Pinales: "*Inhibition of urinary calculi – a spectroscopic study"* (oral)
50. J.R. Govani, W.G. Durrer, M. Manciu, C. Botez, **F.S. Manciu**: "*Spectroscopic and structural studies of L-arginine doped Potassium Dihydrogen Phosphate crystals*" (poster)
51. W.G. Durrer, **F.S. Manciu**, A. Ramirez, J.R. Govani, R.R. Chianelli: "*Spectroscopic study of thioindigo-mineral composite*" (poster)

**2008** **American Physical Society, 2008 Joint Fall Meeting of the Texas and Four Corners Sections of APS, AAPT, and Zones 13 and 16 of SPS, and the Societies of Hispanic & Black Physicists**, El Paso, Texas.

52. **F.S. Manciu**, J.Govani, W.G. Durrer, L. Reza, L.A. Pinales: "*Inhibition of urinary calculi -- a spectroscopic study*" (oral)
53. W.G. Durrer, **F.S. Manciu**, P. Afanasiev, G. Berhault, R.R. Chianelli: "*Raman study of supported molybdenum disulfide single layers*" (poster)
54. L. Reza, **F.S. Manciu**, A. Ramirez, R.R. Chianelli: *"Raman and infrared studies of synthetic Maya Blue pigment"* (oral)

**American Physical Society, 2008 Joint Spring Meeting of the Texas Sections of APS, AAPT, and Zone 13 of SPS**, Corpus Christi, Texas.

55. J. Govani, **F.S. Manciu**, M. Joshi, K. Parikh, D. Dave: "*Optical properties of L-arginine doped potassium dihydrogen phosphate crystals*" (poster)
56. W.G. Durrer, **F.S. Manciu**, A. Ramirez, J. Govani, R.R. Chianelli: "*FTIR, Raman, and XPS Studies of a Thioindigo/Palygorskite Pigment*" (poster)
57. **F.S. Manciu**, F. Carreto, Y. Sahoo, P.N. Prasad: "*Size-dependent Raman and infrared studies of PbSe nanoparticles*" (oral)

**2007** **MI-CCP Summer Workshop**, Bethesda, Maryland.

58. M. Manciu, **F.S. Manciu**, J. Lopez, C. Esquivel, R. Waggener:" *Increasing Minority Representation in Radiation Oncology Physics*" (poster)

**The American Association of Physicists in Medicine,** Annual Meeting, Minneapolis, Minnesota.

59. M. Manciu, T. Vulcan, **F.S. Manciu**, E. Nes, R. Waggener: "*Robust method for megavoltage X-ray spectra reconstruction using attenuation measurements"* (poster)

**American Physical Society, Joint Fall 2007 Meeting of the Texas Sections of the APS and AAPT; Zone 13 of SPS**, College Station, Texas.

60. F. Carreto, **F.S. Manciu**, Y. Sahoo, P.N. Prasad: "*Optical phonon modes of PbSe nanoparticles - a Raman and infrared study*" (poster)
61. **F.S. Manciu**, M. Subramanya, J. Govani, A. Choudhuri: "*Spectroscopic studies of particulate formation in fuel blends*" (poster)
62. J. Govani, M. Joshi, D. Dipak, P. Ketan, **F.S. Manciu**: "*Spectroscopic and thermal studies of amino acid doped Potassium Dihydrogen Phosphate crystals*" (poster)
63. W.G. Durrer, **F.S. Manciu**, A. Ramirez, R.R. Chianelli: "*Surface and optical analyses of a dye-mineral composite - an XPS, FTIR and Raman study*" (poster)

**American Physical Society, Joint Spring 2007 Meeting of the Texas Sections of the APS, AAPT, and Zone 13 of the SPS**, Abilene, Texas.

64. **F.S. Manciu**, J. Govani, E. Hagedorn, R, Ziolo: "*Spectroscopic characterizations of CdS polymer*" (poster)
65. E. Hagedorn, M. Suskavcevic, **F.S. Manciu**: "*What Nanophysics is Appropriate in Which Physics Courses?*" (poster)

**American Physical Society, March Meeting**, Denver, Colorado.

66. L. Reza, **F.S. Manciu**, L. Polette, B. Torres, R.R. Chianelli: "*Raman and infrared studies of synthetic Maya pigments as a function of heating time and dye concentration*" (poster)
67. J. Govani, **F.S. Manciu**, S. Ortiz-Colón, M.P. Espe, R.F. Ziolo: "*Optical phonon spectra of CdS crosslinked sulfonate polystyrene nanocomposites*" (poster)

**2006** **American Physical Society, Texas Section of the APS Joint Fall 2006 Meeting**, Arlington, Texas.

68. **F.S. Manciu**, L. Reza, L. Polette, B. Torres, R.R. Chianelli: *"From Maya Blue to 21st century materials - a spectroscopic study"* (oral)
69. O. Calvo, **F.S. Manciu**, J. Maldonado, J. Gardea-Torresdey: *"Mechanism of Arsenic absorption using wheat biomass - a spectroscopic study"* (poster)
70. L. Reza, **F.S. Manciu**, L. Polette, B. Torres, R.R. Chianelli: *"Spectroscopic Studies of Azul Maya: Novel Organic/Inorganic Complexes"* (poster)

**American Physical Society, March Meeting**, Baltimore, MD.

71. L. Reza, **F.S. Manciu**, Y. Sahoo: "*Spectroscopic studies of $Fe_3O_4$ nanocrystals"* (poster)

**2005** **American Physical Society, March Meeting**, Los Angeles, California.

72. **F.S. Manciu**, B.D. McCombe, B.A. Weinstein, D.W. Lucey, Y. Sahoo, P.N. Prasad: "*Temperature dependence Infrared and Raman studies of III-V/II-VI core-shell nanostructures"* (oral)

**2004** **American Physical Society, March Meeting**, Montreal, Canada.

73. **F.S. Manciu**, D.W. Lucey, Y. Sahoo, B.A. Weinstein, P.N. Prasad, B.D. McCombe: "*Infrared spectroscopy of III-V and II-VI core-shell nanoparticles*" (oral)
74. B.A. Weinstein, **F.S. Manciu**, D.W. Lucey, Y. Sahoo, P.N. Prasad, B.D. McCombe: "*Raman spectroscopy of InP/II-VI core-shell nanoparticles*" (oral)

**DURINT (Defense University Research Initiative in Nanotechnology): Polymeric Nanophotonics and Nanoelectronics**, Buffalo, New York.

75. **F.S. Manciu**, B.A. Weinstein, B.D. McCombe, D.W. Lucey, Y. Sahoo, P.N. Prasad: "*Lattice vibrational properties of InP and InP/II-VI core-shell nanoparticles; nanocontrol and dynamics*" (poster)
76. M. Furis, D.W. Lucey, **F.S. Manciu**, Y. Sahoo, A.N. Cartwright, B.D. McCombe, P.N. Prasad: "*Quantum Engineering of InP-II/VI Core-Shell Nanocrystals*" (poster)

**2003** **American Physical Society, March Meeting**, Austin, Texas.

77. **F.S. Manciu**, M. Furis, B.D. McCombe, Y. Sahoo, D.J. MacRae, P.N. Prasad, "*Optical phonon spectra of nanoparticles prepared by nanochemistry*" (oral)

**2002** **DURINT (Defense University Research Initiative in Nanotechnology): Polymeric Nanophotonics and Nanoelectronics**, Buffalo, New York.

78. **F.S. Manciu**, B.D. McCombe, Y. Sahoo, D.J. MacRae, P.N. Prasad, M. Furis, A.N. Cartwright: "*Chemical Preparation and Infrared Spectroscopy of GaP Nanoparticles*" (poster)
79. D.J. MacRae, Y. Sahoo, P.N. Prasad, M. Furis A.N. Cartwright, **F.S. Manciu**, B.D. McCombe: "*An Alternate Approach to the Synthesis of Gallium Phosphide*" (poster)
80. M. Furis, A.N. Cartwright, **F.S. Manciu**, B.D. McCombe, Y. Sahoo, D.J. MacRae, P.N. Prasad: "*Challenges in Nanochemistry Route to GaP Nanoparticles*" (poster)

**2000** **American Physical Society, March Meeting**, Minneapolis, Minnesota.

81. **F.S. Manciu**, M. Manciu, S. Sen: "*Ejection of Ferrofluid Grains from a Ferrofluid using Non-linear Acoustic Impulses*" (oral)

**Materials Research Society, Spring 2000 Meeting**, San Francisco, California.

82. **F.S. Manciu**, M. Manciu, S. Sen: "*Impulse Acoustics Based Ejection of Ferrofluid Grains from a Ferrofluid: The Blueprint of a Concept for a Nozzle-Free Inkjet Printer*" (oral)