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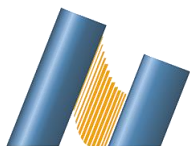


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Dear Colleagues,

From its inception, the Annual Conference of the Sociedad Mexicana de Ciencia y Tecnología de Superficies y Materiales (SMCTSM, Mexican Society of Science and Technology of Surfaces and Materials) has been an important forum for the Mexican scientific community to discuss topics related to research in the fields of surface and materials science.

On this occasion, we are pleased to welcome you to participate in the XVIII International Conference on Surface, Materials and Vacuum (ICSMV), to be held in Puebla, México, from September 22-26, 2025.

The conference program includes plenary talks, short courses, and the various symposia featuring oral and poster presentations. In addition to the scientific program, there will be a Science Outreach symposium, a traditional forum that brings together students and the general public to engage with the Society's work.

We hope that the efforts of the organizing committee, sponsors and colleagues will lead to an engaging and friendly gathering, providing opportunities for close and new interactions among researchers from diverse institutions.

The XVIII ICSMV
Organizing Committee SMCTSM
Puebla, Mexico
September 2025

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INAOE

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Dr. Edgar Martínez (UANL)

Dr. Sandra Julieta Gutiérrez (IFUNAM)

Thin Films

Dr. Alfredo Morales Sánchez (INAOE)

Dr. Servando Aguirre (CIMAV)

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Dr. Dalia Alejandra Mazón Montijo

(SECIHTI, TECNOL-CIIT)

Dr. Wilfrido Calleja Arriaga (INAOE)



Alessandro Chiasera, PhD

IIFN-CNR, CSMFO Lab and FBK Photonics Unit, Trento, Italy

Flexible glass planar structures fabricated by rf-sputtering



A.H. MacDonald, PhD

Physics Department, University of Texas at Austin, USA

Moiré Materials



Cathy Wong, PhD

University of Oregon, USA

In situ transient absorption spectroscopy during materials formation



Huziel Saucedo, PhD

Institute of Physics-UNAM, México

Machine Learning in condensed matter: from molecular systems to materials



Juan Francisco Rivas Silva, PhD

IFUAP, Puebla, México

An overview of computational material modelling



Jean-Claude M'Peko, PhD

São Carlos Institute of Physics, University of São Paulo, Brasil

Flash and Reactive Flash Sintering in Electroceramics Manufacturing



Manuel Quevedo, PhD

University of Texas, Dallas, USA

CHIPs Act and Related Efforts in North Texas in Semiconductor Materials and

Devices for Harsh Environments



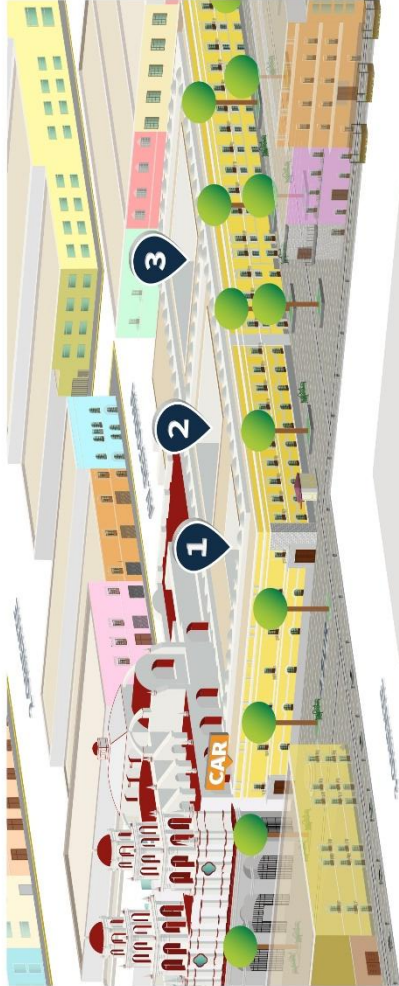
Sergio Ivan Yanez Sanchez, MSc

C2MI, Quebec, Canada

C2MI's collaborative model for innovation: The Canadian experience on Lab to Fab development for next generation MEMS

XVIII International Conference on Surfaces, Materials and Vacuum 2025

SUNDAY, 21 SEPTEMBER			MONDAY, 22 SEPTEMBER			TUESDAY, 23 SEPTEMBER			WEDNESDAY, 24 SEPTEMBER			THURSDAY, 25 SEPTEMBER			FRIDAY, 26 SEPTEMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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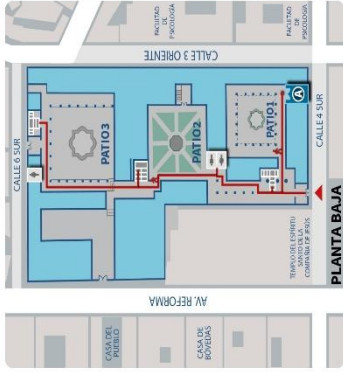
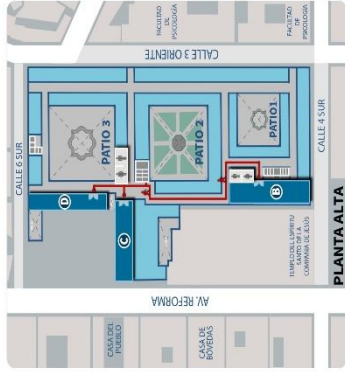
PLANTA BAJA

- A** Sala de Proyecciones
- R** Ruta Peatonal
- P** Puertas de Acceso

- E** Escaleras
- S** Sanitarios
- A** Acceso y Salida

PLANTA ALTA

- B** Paraninfo
- C** Salón Barroco
- D** Salón Verde
- R** Ruta Peatonal
- P** Puertas de Acceso
- E** Escaleras
- S** Sanitarios



ORAL PRESENTATIONS

MONDAY SEPTEMBER 22ND

Opening Talk: Moiré Materials
Allan H. Macdonald

THEORY OF SIMULATION OF MATERIALS

[TSM-094] TWO-DIMENSIONAL SiSe AS A PROMISING ANODE MATERIAL FOR ALKALI-ION BATTERIES. *Gabriel Antonio Cosio Aguilar.*

[TSM-150] ELECTRONIC AND MAGNETIC PROPERTIES OF CeN: A FIRST PRINCIPLES STUDY. *Jose Mario Galicia Hernández.*

[TSM-369] ELECTRODYNAMIC MODEL OF REBCO STRIPS FOR USE IN THE GENERATION OF HIGH MAGNETIC FIELDS. *Michell Osornio Plancarte.*

[TSM-017] BREAKING HOLE-ELECTRON SYMMETRY AND STRAIN-TUNABLE MAGNETISM IN ScSi₂N₄/VSi₂N₄ VAN DER WAALS HETEROSTRUCTURE. *Brandon Pedroza Rojas.*

[TSM-186] FIRST-PRINCIPLES STUDIES ON Sc₂RuZ (Z= Si, Ge, Sn) INVERSE HEUSLER ALLOYS: STRUCTURAL, ELECTRONIC, AND TRANSPORT PROPERTIES. *Edgar Martínez Guerra.*

[TSM-065] EXPLORING THE STRUCTURAL CONDITIONS FAVORING Au ANIONIC BEHAVIOR ON Au IMPURIFIED CeO₂. *Luis Enrique López González.*

[TSM-233] IMPACT OF ELECTRODE SPACING ON ELECTRICAL CHARACTERIZATION SENSITIVITY OF SKIN LAYERS: A FINITE ELEMENT APPROACH. *Daniela Ocampo*

LUMINESCENCE PHENOMENA

[LP-005] FLUORESCENCE MODULATION OF RHODAMINE B AND CARBON DOTS EMBEDDED IN HYBRID GELS BY SILVER NANOPARTICLES. *Josefina Alvarado Rivera.*

[LP-011] GREEN SYNTHESIS OF MOS₂ NANOPARTICLES VIA LASER FRAGMENTATION: EFFECT OF THE SOLVENT ON MORPHOLOGY AND OPTICAL PROPERTIES. *Patricia Maldonado Altamirano.*

[LP-036] SOLVENT-FREE GRINDING SYNTHESIS COMBINED WITH A HALIDE DOPING STRATEGY IN A ZERO- DIMENSIONAL HYBRID COPPER HALIDE FOR WHITE-LIGHT EMISSION. *Disnel Ferrera.*

[LP-141] YPO₄:Eu³⁺:Yb³⁺ CERAMIC POWDERS OBTAINED BY HYDROTHERMAL METHOD. *María del Rosario González García.*

[LP-180] THERMOLUMINESCENCE RESPONSE OF CAMOO₄: DY³⁺ EXPOSED TO UV RADIATION. *Andrés Alfonso Saavedra Romero.*

[LP-195] SYNTHESIS AND CHARACTERIZATION OF METAL-HALIDE PHOSPHOR Cs₂TeCl₆ MODIFIED WITH Er³⁺. *Eduardo Pérez Domínguez.*

[LP-198] SYNTHESIS AND CHARACTERIZATION OF HALIDE PHOSPHOR Cs₂CdBr₂Cl₂ ACTIVATED WITH Sb³⁺. *Yelinni Pineda Montiel.*

[LP-212] STUDY OF CQDS WITH DOWN CONVERSION EFFECT TO IMPROVE EFFICIENCY OF BiFeO₃/PbS HETEROJUNCTION SOLAR CELL. *Pedro Ezequiel Castellanos Hernández.*

[LP-306] ALKALI METAL-DOPED CARBON DOTS FOR LUMINESCENCE ENHANCEMENT AND NONLINEAR PROPERTIES: THEIR USE IN BIOIMAGING. *Gabriel Ramos Ortiz.*

[LP-309] DEVELOPMENT OF Al₂O₃-Li₂O-B₂O₃ INVERTED GLASSES DOPED WITH DY³⁺, SM³⁺, AND DY³⁺/SM³⁺ FOR YELLOW/ORANGE LASER MEDIUM AND YELLOWISH-ORANGE PHOSPHOR APPLICATIONS. *Omar Soriano Romero.*

[LP-310] CHARACTERIZATION OF THE INVERTED 10Al₂O₃-70Na₂O-20B₂O GLASS DOPED WITH LANTHANIDES EMITTING IN THE INFRARED. *Daniel Morales Tepayotl.*

[LP-337] ANALYSIS OF Cs₃Bi₂Cl₉ AND Cs₃Bi₂Br₉ COMPOUNDS BY DENSITY FUNCTIONAL THEORY. *Cristina Rodríguez Guijarro.*

[LP-342] Al₂(WO₄)₃ DOPED WITH Eu EMBEDDED IN GLASS FOR LASER APPLICATIONS AT 613nm. *Piero Alessandro Pérez Ramos.*

BIOMATERIALS AND POLYMERS

[BIO-066] PHYSICOCHEMICAL CHARACTERIZATION, IN VITRO ANTIFUNGAL ACTIVITY AND STUDY OF THE BIODEGRADABILITY OF CHITOSAN/POLYVINYL ALCOHOL/ORANGE WASTE NANOSTRUCTURED FILMS. *Zormy Nacary Correa Pacheco.*

[BIO-426] PREPARATION OF HYDROXYAPATITE AND CHITOSAN PARTICLES USING SPRAY-DRYING WITH POTENTIAL PHARMACEUTICAL APPLICATIONS. *Henry Morelos Mijangos.*

[BIO-277] ELECTROSPUN PVA NANOFIBERS ENCAPSULATING CIPROFLOXACIN: FABRICATION AND ANTIMICROBIAL EVALUATION. *Estefanía Álvarez Martínez.*

[BIO-257] GREEN SYNTHESIS OF GOLD NANOPARTICLES USING ALOE VERA AND THEIR INCORPORATION INTO ELECTROSPUN PVP

NANOFIBERS FOR WOUND HEALING APPLICATIONS. Britania Janet Gutiérrez Rafael.

[BIO-119] ZnO NANOPARTICLES EMBEDDED IN POLYMERIC MEMBRANES AND THEIR EFFECT ON PHYTOPATHOGENIC FUNGI. Mario Cervantes Contreras.

[BIO-264] ACOUSTIC PERFORMANCE EVALUATION OF A STARCH-BASED BIOPOLYMER REINFORCED WITH COCONUT FIBERS. Miriam Jaqueline Cruz Espinoza.

[BIO-459] NANO AND MICROFIBER-REGENERATED CELLULOSE MEMBRANES VIA ELECTROSPINNING AS SELECTIVE PAPER-BASED MICROFLUIDIC DEVICES. Esmeralda Aguilar Martinez.

[BIO-456] IN SITU STUDIES AND SPR DETECTION OF MOLECULAR INTERACTION BETWEEN THE PROTEIN E SEROTYPE 2 OF DENV AND PARITAPREVIR. Natalia Hinostroza-Moya.

[BIO-252] DEVELOPMENT OF ECO FRIENDLY AGNPS FROM PLEUROTUS EXTRACTS FOR ANTIMICROBIAL APPLICATIONS. Rafael Contreras-Chávez.

[BIO-366] SYNTHESIS OF MESOPOROUS SILICA NANOPARTICLES DECORATED WITH GOLD NANOPARTICLES FOR DRUG DELIVERY. Jose Rafael Motilla Montes.

[BIO-244] POROUS POLYMERS FROM BIOSTRUCTURES FOR WATER CONTAMINATION MITIGATION IN AGRICULTURE. Gesuri Yareth Salgado Hernández.

[BIO-054] RECYCLING PET INTO CHABAZITE-FUNCTIONALIZED FIBERS: APPLICATION IN WASTEWATER TREATMENT. Rafael Ramírez Bon.

[BIO-137] MECHANICAL CHARACTERIZATION OF PPF-GO AND APPLICATION TO 3D PRINTED PROTOTYPES. Douglas Fuentes de la O

SEMICONDUCTORS

[SEM-350] ADVANCEMENTS IN CATALYTIC SYSTEMS FOR ENVIRONMENTAL REMEDIATION: FROM POLYCYCLIC AROMATIC HYDROCARBON DEGRADATION TO ELECTROCHEMICAL CO₂ TRANSFORMATION. Luis Ortiz-Frade.

[SEM-028] MICROWAVE-ASSISTED SYNTHESIS OF g-C₃N₄/ZnS COMPOSITES FOR PHOTOCATALYTIC DICLOFENAC DEGRADATION. Teresa Montalvo Herrera.

[SEM-370] DEACTIVATION OF MICROORGANISMS CONTAINED IN ATMOSPHERIC BIOAEROSOLS BY HETEROGENEOUS PHOTOCATALYSIS WITH ZnO/ZEOLITE. Andrea Daniela Negrete Muñoz.

[SEM-171] PHOTOCATALYTIC DEGRADATION OF BLUE METHYLENE BY Mn_3O_4 . Melissa Chavez Portillo.

[SEM-351] REMOVAL OF SOLUBLE ORGANIC MATTER FROM MUNICIPAL WASTEWATER BY HETEROGENEOUS PHOTOCATALYSIS WITH ZnO /ZEOLITE IN A COMPACT TREATMENT SYSTEM. Celestino Odín Rodríguez Nava.

Plenary 2: Flash and Reactive Flash Sintering in Electroceramics Manufacturing.

Jean Claude M'Peko

ORAL PRESENTATIONS

TUESDAY SEPTEMBER 23RD

SEMICONDUCTORS

[SEM-098] ELECTRICAL AND STRUCTURAL CHARACTERIZATION FOR THIRD GENERATION SOLAR CELL. [Julio Villanueva-Cab.](#)

[SEM-164] EFFECTS OF MAGNESIUM INCORPORATION ON PEALD-GROWN GaN THIN FILMS. [Dylan Tepatzi.](#)

[SEM-042] PHOTOCONDUCTIVE SENSOR FOR UV RADIATION MONITORING IN ENVIRONMENTAL IoT. [Raziel Sánchez Guarneros.](#)

[SEM-148] STRAIN REDUCTION IN MULTI-STACKING QUANTUM WELLS OF III-N-V MATERIALS USING STRAIN-BALANCE METHOD FOR PHOTOVOLTAIC HETEROSTRUCTURES. [Ángel Iván Méndez García.](#)

[SEM-152] ANISOTROPIC OPTICAL RESPONSE AND MORPHOLOGY OF P-TYPE DOPED GaAs(631) AND (100) FILMS GROWN BY MBE. [María Fernanda Mora Herrera.](#)

[SEM-463] IMPROVING THE FREQUENCY RESPONSE OF THE N-InGaP/P-GaAs/N-GaAs BIPOLAR JUNCTION TRANSISTOR. [Jaime Mimila-Arroyo](#)

[SEM-056] THERMOMETRY AND ELECTROCHEMICAL CHARACTERIZATION OF CHALCOPYRITE SYNTHESIZED BY MICROWAVE IRRADIATION WITH Zn, Pb, AND Ni IMPURITIES. [Isaí Raya Farías.](#)

[SEM-163] Mn²⁺-DOPED TiO₂-SiO₂ AEROGELS SYNTHESIZED THE SOL-GEL METHOD COMBINED WITH A SOLVOTHERMAL TREATMENT. [Melissa De Jesús Rodríguez Flores.](#)

[SEM-067] TUNABLE DENSITY-OF-STATES IN CHROMIUM OXIDE THIN FILMS VIA ROOM TEMPERATURE LASER ABLATION. [Angel Regalado Contreras.](#)

[SEM-178] EFFICIENT ANCHORING OF NANOSTRUCTURED CADMIUM SELENIDE ON DIFFERENT KINDS OF CARBON NANOTUBES. [Yesmin Panecatí Bernal.](#)

[SEM-464] SPECTROSCOPIC ELLIPSOMETRY IN THE CHARACTERIZATION OF METAL-OXIDE SEMICONDUCTOR INTERFACES AND ITS APPLICATION TO DEVICE FABRICATION. [J.G.R. Hernández-Arteaga.](#)

[SEM-185] EARLY-STAGE BIOMARKER FOR IDIOPATHIC PULMONARY FIBROSIS USING PHOSPHATIDYLETHANOLAMINE-BIOCONJUGATED InP@ZnS QUANTUM DOTS. [Daladier Alonso Granada Ramirez.](#)

[SEM-220] DEVELOPMENT AND CHARACTERIZATION OF A LOW-COST SYSTEM FOR THIN FILM DEPOSITION VIA SPIN COATING. Yoshua Juárez Elías.

[SEM-238] AUTOMATION OF A ROBOTIC DEVICE FOR CHEMICAL DEPOSITION USING THE SILAR METHOD. Herber Martell Puente.

[SEM-239] ROBOTIC DEVICE FOR MEASURING RESISTIVITY IN SEMICONDUCTOR MATERIALS SENSITIVE TO PENETRATION. Alondra Maybeth Vaquera Domínguez.

THEORY OF SIMULATION OF MATERIALS

[TSM-167] THEORETICAL STUDY OF CARBOPLATIN ENCAPSULATION IN BORON PHOSPHIDE NANOTUBES USING DFT-D. Aracely del Carmen Martínez Olguín.

[TSM-173] Ag AND Au ATOMIC WIRES ON THE Si (113)-1X1 SURFACE STUDY BY DFT. Reyes García Díaz.

[TSM-023] CO₂ ADSORPTION ON GRAPHENE OXIDE NANORIBBONS WITH HETEROATOM DOPING OF KETIDIC SYSTEMS: A COMPARATIVE STUDY USING DFT. Juan Enrique Ramírez Hernández.

[TSM-156] STUDY OF ENERGY BARRIERS BETWEEN FUNCTIONAL GROUPS PRESENT IN GRAPHENE OXIDE BY DFT. Luis Ángel Campos Ortiz.

[TSM-407] KEKULÉ DISTORTIONS IN GRAPHENE ON CADMIUM SULFIDE. Yonatan Betancour Ocampo.

[TSM-209] MODELING THE 2D HEXAGONAL AsBi AND AsSb MONOLAYARES: A FIRST-PRINCIPLES STUDY. Carlos Antonio Corona García.

LUMINESCENCE PHENOMENA

[LP-362] UNRAVELING THE PHOTOLUMINESCENCE MECHANISMS IN LOW-DIMENSIONAL CESIUM LEAD HALIDE PEROVSKITES. Fernando Quintero Borbon.

[LP-389] INFRARED LIGHT-EMITTING DIODE STRUCTURE DEPOSITED VIA AEROSOL-ASSISTED CHEMICAL VAPOR DEPOSITION USING CsPbCl₃:Yb³⁺ AS THE EMITTER LAYER. Luis Alberto Becerril Landeros.

[LP-401] INFLUENCE OF ACID ADDITIVES ON THE CRYSTALLIZATION AND MORPHOLOGY OF LEAD-FREE CANBIC PEROVSKITE THIN FILMS. Bibiana Rodríguez García.

[LP-404] INFLUENCE OF HTLS ON THE PHOTOLUMINESCENT EMISSION OF LEAD HALIDE PEROVSKITES. Gilberto Alarcón-Flores.

- [LP-421]** ERBIUM TEMPERATURE SENSING: A NEW STRATEGY TO IMPROVE SENSITIVITY BY USING ATOMIC EXCHANGE IN THE HOST LATTICE. Raul Lopez Esquivel.
- [LP-432]** HIGHLY LUMINESCENT POLYMER AND ITS APPLICATION IN THE NONLINEAR EXCITATION OF A PHOTOSENSITIZER AT NEAR-INFRARED WAVELENGTHS. Gabriel Ramos Ortiz.
- [LP-442]** PHOTOLUMINESCENCE AND JUDD-OFELT STUDIES ON Pr^{3+} ACTIVATED $\text{CdO-B}_2\text{O}_3$ INVERT GLASSES: ADVANCED REDDISH SOLUTIONS FOR CROP ILLUMINATION. William Romero Romo.

MICROELECTRONICS AND MEMS

- [MEM-188]** DESIGN OF A CURRENT ACQUISITION CIRCUIT IN 28NM CMOS TECHNOLOGY FOR RESPONSE MEASUREMENT OF ELECTROCHEMICAL SENSORS. Juan Morales.
- [MEM-245]** EVALUATION OF THE PERFORMANCE OF MIS STRUCTURES BASED ON AMORPHOUS MOS_2 FOR 2D TFTS. Abril Garcia Soriano.
- [MEM-354]** A MULTI-PROJECT WAFER INITIATIVE TO FABRICATE FLEXIBLE SENSORS IN MEXICO. Norberto Hernandez Como.
- [MEM-357]** FLEXIBLE MICROELECTRODE ARRAY FOR SELECTIVE TRANSCORNEAL ELECTRICAL STIMULATION. Victor Manuel Carpio Verdin.
- [MEM-364]** FABRICATION OF AN OPERATIONAL AMPLIFIER (OPAMP) WITH THIN-FILM TRANSISTORS (TFT) USING INDIUM GALLIUM ZINC OXIDE (IGZO). Arturo Torres Sánchez.
- [MEM-402]** ELECTRICAL CHARACTERIZATION OF IGZO THIN-FILM TRANSISTORS USING CONTINUOUS AND PULSED MEASUREMENT TECHNIQUES. Isai Salvador Hernandez-Luna.

NANOSTRUCTURES

- [NS-466]** FROM CONVENTIONAL- TO HIGH-TEMPERATURE SUPERCONDUCTING NANOSTRUCTURED METAMATERIALS. Felipe Pérez Rodríguez
- [NS-248]** GRAPHENE-HETEROSTRUCTURE SENSORS FOR HIGHSENSITIVITY SENSING. Uriel Alcides Torices.
- [NS-320]** SYNTHESIS AND CHARACTERIZATION OF LUMINESCENT GRAPHENE OXIDE NANOPARTICLES FROM ORGANIC WASTE. Marco Antonio Aguila Juarez.

[NS-289] COMPARATIVE ANALYSIS OF THE EXFOLIATION METHODS FOR 3:1:2 TITANIUM CARBIDES MXENES OBTAINED BY MICROWAVE ASSISTED HYDROTHERMAL SYNTHESIS. Jorge Luis Peñuela.

[NS-236] SYNTHESIS AND CHARACTERIZATION OF SILVER CHLORIDE NANOPARTICLES USING EICHHORNIA CRASSIPES EXTRACT. Martha Lizzete Cabrera.

COURSE-1

Impedance Spectroscopy in Materials Science

Jean-Claude M'Peko

Plenary 3: Flexible glass planar structures fabricated by rf-sputtering.

Alessandro Chiasera

Plenary 4: In situ transient absorption spectroscopy during materials formation.

Cathy Wong

POSTER SESSION I

SEMICONDUCTORS [SEM]		NANOSTRUCTURES [NS]		LUMINESCENCE PHENOMENA [LP]	
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RENEWABLE ENERGY [REN]		THIN FILMS [THF]		THEORY AND SIMULATION OF MATERIALS [TSM]	
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BIOMATERIALS AND POLYMERS [BIO]		TRIBOLOGY, SURFACES AND INTERFACES [TSI]		CHARACTERIZATION AND METROLOGY [CHM]	
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MICROELECTRONICS AND MEMS [MEM]		PLASMA AND VACUUM (PLV)			
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ORAL PRESENTATIONS

WEDNESDAY SEPTEMBER 24TH

NANOSTRUCTURES

[NS-109] CORE/SHELL NANOCOLUMNS ON GRAPHENE USING VAN DER WAALS EPITAXY. Nayeli Colin.

[NS-213] ELECTRICAL CHARACTERIZATION OF APLD-DEPOSITED HFTIO THINFILMS: CONTROL OF THE DIELECTRIC CONSTANT BY PARTIAL DOSES. Cuitlahuac Mójica.

[NS-015] SYNTHESIS, CHARACTERIZATION AND PHOTOCATALYTIC APPLICATION OF CEVO4 AND TIO2 BASED COMPOUNDS. Sergio Negrete.

[NS-227] CUBIC INXGA1-XN/GAN QUANTUM WELLS BY MBE. Erik Arroyo.

[NS-004] SPIRAL GROWTH AND MECHANICAL RESPONSE OF MOLYBDENUM DISULFIDE STRUCTURES SYNTHESIZED BY CVD. Daniela Lucio.

[NS-210] DEPOSITION OF $\text{In}_x\text{Ga}_{1-x}\text{N}$ MULTIPLE QUANTUM WELLS VIA APLD: A STRATEGY FOR ATOMIC-SCALE CONTROL OF OPTICAL AND ELECTRONIC PROPERTIES. Ivan Jasso.

[NS-429] STRUCTURAL AND MAGNETIC PROPERTIES OF MN-ZN FERRITE ACCORDING TO THE EFFECT ON POLYMER MATRIX. Pierre Giovanni Mani

[NS-410] MANGANESE NANOFERRITES COATED WITH PSIDIUM GUAJAVA EXTRACT FOR MAGNETIC HYPERTHERMIA APPLICATIONS. Brayan Javier.

[NS-201] PHOTOELECTRODES BASED ON ZnO /FUNCTIONALIZED GRAPHENE NANOCOMPOSITE ON 3D-PRINTED STRUCTURES USING PLASMA-ASSISTED ATOMIC LAYER DEPOSITION (PALD). Edgar Homero

[NS-379] GOLD NANOPARTICLES: INVESTIGATING THEIR OPTICAL PROPERTIES, MORPHOLOGY, AND POTENTIAL FOR INNOVATIVE APPLICATIONS. Mou Pal.

[NS-016] SYNERGISTIC HETEROJUNCTION OF CeO_2 NANOTUBES AND $\text{La}_2\text{Ti}_2\text{O}_7$ NANOSHEETS FOR ENHANCED PHOTOCATALYTIC HYDROGEN EVOLUTION. Laura Marcela Prieto Zuleta.

[NS-194] DESIGN, SIMULATION AND FABRICATION OF METASURFACES FOR VISIBLE HOLOGRAPHY AND INFRARED ABSORPTION BY EBL. José Antonio Cuevas.

[NS-368] STUDY OF WATER CONDENSATION ON COPPER MICRO- AND NANO-STRUCTURED SURFACES AND MULTI-WALLED CARBON NANOTUBES. Julio Cesar Cruz.

[NS-333] PREDICTION OF PERFORMANCE PARAMETERS OF A SPR BIOSENSOR WITH HYPERBOLIC METAMATERIAL USING MACHINE LEARNING. Jesus Madrigal.

[NS-385] EPITAXIAL GROWTH AND STRUCTURAL CHARACTERIZATION OF INAS NANOWIRES ON GRAPHENE-COATED SI(111) SUBSTRATES. Miguel González.

[NS-349] MBE QUANTUM DOT SHAPE ENGINEERING THROUGH REAL TIME RHEED MONITORING DURING OVERGROWTH. Daniel Vilchis.

[NS-452] COMPARATIVE DFT STUDY OF PRISTINE AND NITROGEN-DOPED GRAPHYNE AS NANOCARRIERS FOR THE DELIVERY OF TAMOXIFEN IN BREAST CANCER TREATMENT. César Quej.

RENEWABLE ENERGY: MATERIALS AND DEVICES

[REN-074] UNDERSTANDING THE PERFORMANCE LIMITING EFFECTS OF HOLE TRANSPORT LAYERS IN PEROVSKITE SOLAR CELLS. Arturo Morales-Acevedo.

[REN-102] SOLAR CELL IMPROVED PERFORMANCE BY THE OPTIMIZATION OF BROMIDE INCORPORATION IN THE HYBRID PEROVSKITE ABSORBERS DEPOSITED BY A TWO STEP DEPOSITION METHOD David Mateus Torres-Herrera.

[REN-271] INCORPORATION OF NANO-GRAPHITE INTO PDINO ELECTRON TRANSPORT LAYER FOR ORGANIC SOLAR CELLS. Magaly Ramírez Como.

[REN-040] EXPLORING THE PERFORMANCE OF FILMS OF SOLID PHASE SOLUTION (CDTE)_{1-x}ALX AS A PHOTOVOLTAIC MATERIAL. Miguel Meléndez-Lira.

[REN-124] GROWTH OF ZnO THIN FILMS FOR SOLAR CELL APPLICATIONS. Eduardo Merino Montes.

[REN-190] MOLYBDENUM OXIDE THIN FILMS AND NANOSTRUCTURES BY VAPOR-PHASE METHODS: KEY MATERIALS FOR SUSTAINABLE ENERGY. Osvaldo de Melo.

[REN-436] SYNTHESIS OF MOLYBDENUM DISULFIDE THROUGH THERMOCOLLOIDAL METHOD. Araceli Flores Conde.

[REN-064] EFFECTS OF THE SURFACE TERMINATION ON THE ELECTROCHEMICAL PROPERTIES OF THE Ti(3-x)MoxC2Tz (Tz = O, S) MXenes. Victor Hugo Medina Macias.

- [REN-273]** VALORIZATION OF RESIDUAL MEZCAL BAGASSE FOR BIOETHANOL PRODUCTION AND CHARACTERIZATION OF ITS PRECURSORS. Josua Esquiliano Pareja.
- [REN-268]** GREEN DIESEL PRODUCTION VIA HYDROTREATING OF WASTE COOKING OIL USING NI CATALYST SUPPORTED ON ZEOLITE DESILICATED. Isaac Nava Bravo.
- [REN-153]** INITIAL STUDY OF HYBRID MATERIAL USING POROUS SILICON AND CONDUCTIVE POLYMERS AS SOLID ELECTROLYTE. Laura Elvira Serrano de la Rosa.
- [REN-208]** VANADIUM OXIDE THIN FILMS AS CATALYSTS FOR GREEN HYDROGEN PRODUCTION: TOWARD A RENEWABLE ENERGY FUTURE. Pastor Alan Rodríguez Echeverría.
- [REN-439]** CARBON-DOPED G-C₃N₄: A METAL-FREE CATALYST FOR HYDROGEN GENERATION. Montserrat Gallegos-Alegria.
- [REN-155]** PHOTOCATALYTIC HYDROGEN PRODUCTION USING AG₂S QUANTUM DOTS SYNTHESIZED VIA SILAR TECHNIQUE: INFLUENCE OF DEPOSITION PARAMETERS. Julián Alfaro Chacón.
- [REN-048]** ENHANCED OXYGEN EVOLUTION IN ALKALINE MEDIUM USING SPRAY-DEPOSITED RUTHENIUM-COBALT OXIDE ON NICKEL FOAM. Miriam Tellez Cruz.
- [REN-034]** NiO AND WO₃ AS BASE MATERIALS FOR ELECTROCHROMIC DEVICES. Israel Omar Perez Lopez.

THIN FILMS

- [THF-330]** CuSbS₂ THIN FILMS BY ELECTRODEPOSITION AND THE PHOTOELECTROCHEMICAL HYDROGEN EVOLUTION. Nini Rose Mathews
- [THF-010]** OPTIMIZATION OF CUS COATINGS DEPOSITED BY SILAR THROUGH ADVANCED MATHEMATICAL MODELS: THE IMPORTANCE OF TRANSPORT PARAMETERS. Axel Agustín Ortiz Atondo
- [THF-197]** STUDY OF THE DIELECTRIC FUNCTION OF CuIn_{1-X}Ga_XSe₂ AND CuInSe₂ ELECTRODEPOSITED AND SELENIZED THIN FILMS BY SPECTROSCOPIC ELLIPSOMETRY. Miguel Angel Contreras Ruiz
- [THF-225]** BISMUTH OXYIODIDE THIN FILMS DEPOSITED BY SILAR METHOD USING NON-AQUEOUS SOLUTIONS. Miguel Angel Santana-Aranda
- [THF-345]** TOWARDS AREA SELECTIVE DEPOSITION: PHOTOASSISTED CHEMICAL VAPOR DEPOSITION USING RU PRECURSORS. Christopher Brewer.

[THF-061] STRUCTURAL ANALYSIS OF CARBON THIN FILMS DEPOSITED IN Ti-6Al-4V BY THE PIII&D TECHNIQUE. Beiker Martínez Rueda.

[THF-142] GREEN LUMINESCENCE OF $\text{Lu}_2\text{O}_3:\text{Tb}^{3+}$ AEROGELS AND THEIR ADHESION ON THIN FILMS WITH PLURONIC F-127. Alan Daniel Alcantar Mendoza.

[THF-274] DIELECTRIC FUNCTION OF NIOBIUM THIN FILMS BY SPECTROSCOPIC ELLIPSOMETRY. Francisco Alberto Amador Ramirez.

[THF-282] THE ROLE OF SILICON AND GLASS SUBSTRATES IN THE ELECTROLUMINESCENT PROPERTIES OF PIN DIODES BASED ON A-Si₃Cy:H THIN FILMS. Juan Ramón Ramos Serrano.

[THF-006] A FEASIBLE SURFACE MODIFICATION OF GLASS SUBSTRATES TO ENHANCE CADMIUM SULFIDE FILM ADHESION. Dalia Alejandra Mazón Montijo.

[THF-323] SPECTROSCOPIC ELLIPSOMETRY CHARACTERIZATION OF SPRAY-DEPOSITED COPPER OXIDE THIN FILMS. Miguel Angel Aguilar Frutis.

[THF-398] TUNABLE ELECTRICAL PROPERTIES IN THIN-FILMS OF TRANSITION METAL OXIDES (TMO) THROUGH MAGNETRON SPUTTERING. Karen Ailed Neri Espinoza

[THF-382] STUDY OF THE PHOTO-RESPONSE PROPERTIES OF THIN FILMS OF BaTiO₃ DOPED WITH Mn AND Nb. Jesús Iván Peña Flores.

[THF-393] OPTOELECTRONIC CHARACTERIZATION OF ULTRATHIN 2D NANOMATERIAL FILMS FOR THZ DEVICES. Pablo Córdova Morales

[THF-409] ELECTRODEPOSITED SILVER SELENIDE THIN FILMS WITH HIGH THERMOELECTRIC PERFORMANCE. Estela Calixto Rodriguez

Plenary 5: C2MI's collaborative model for innovation: The Canadian experience on Lab to Fab development for next generation MEMS.

Sergio Ivan Yanez Sanchez

Plenary 6: Machine Learning in condensed matter: from molecular systems to materials

Huziel E. Saucedo

TT 1: IOP

TT 2: NANOCIENCIAS DE MÉXICO

POSTER SESSION II

NANOSTRUCTURES [NS]		SEMICONDUCTORS [SEM]		LUMINESCENCE PHENOMENA [LP]	
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BIOMATERIALS AND POLYMERS [BIO]		CHARACTERIZATION AND METROLOGY [CHM]		THEORY AND SIMULATION OF MATERIALS [TSM]	
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RENEWABLE ENERGY [REN]		TRIBOLOGY, SURFACES AND INTERFACES [TSI]		THIN FILMS [THF]	
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PLASMA AND VACUUM (PLV)		ATOMIC LAYER DEPOSITION (ALD)		MICROELECTRONICS AND MEMS [MEM]	
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ORAL PRESENTATIONS

THURSDAY SEPTEMBER 25TH

PLASMA AND VACUUM

[PLV-372] INFLUENCE OF WORKING PRESSURE ON ELECTRICAL PROPERTIES OF PULSED LASER DEPOSITED Nd₂O₃ THIN FILMS: A PRELIMINARY IMPEDANCE SPECTROSCOPY STUDY. Laura Patricia Rivera Reséndiz.

[PLV-075] ANALYSIS OF THE PHYSICAL PROPERTIES OF SrTiO₃ THIN FILMS GROWN BY PLD WITH A 1064 NM WAVELENGTH. Pablo Agustín Calderón Franco.

[PLV-353] CARBON-DOPED TiO₂ THIN FILMS DEPOSITED BY PLD: ROLE OF PLASMA PARAMETERS. José Guadalupe Quiñones Galván

[PLV-062] DIFFUSION WELDING OF SURFACE-TREATED ALUMINUM PLATES VIA PLASMA SPUTTERING. Beiker Martínez Rueda.

[PLV-166] A SPATIAL STUDY OF TARGET POISONING IN REACTIVE MAGNETRON SPUTTERING VIA LIBS. Roberto Sangines.

[PLV-059] ULTRA-THIN P-TYPE NICKEL OXIDE FILMS GROWN BY RPLD AT ROOM TEMPERATURE: XPS IN SITU CHARACTERIZATION. Ivonne Julieta Silva Contreras.

[PLV-344] TIME-RESOLVED PERMITTIVITY MEASUREMENT OF LASER-INDUCED PLASMA IN AIR USING A HIGH-VOLTAGE RC CIRCUIT. Ulises Vargas Nolasco

[PLV-367] CHEMICAL CHARACTERIZATION OF BIOLOGICAL SYSTEMS USING X-RAY PHOTOELECTRON SPECTROSCOPY. Yazael Rafael Morales Flores.

[PLV-193] MODELING THE INELASTIC BACKGROUND IN XPS AND HAXPES: A TOOL FOR ACCURATE ANALYSIS OF LAYERED MATERIALS. Dulce María Guzmán Bucio.

[PLV-250] CHEMICAL EVOLUTION OF YTTRIUM OXIDATION IN THE PRESENCE OF YF₃: A MULTILAYER MODELING APPROACH. Orlando Cortazar Martinez.

CHARACTERIZATION AND METROLOGY

[CHM-079] COUPLED RESONANCES: A UNIFYING FRAMEWORK FOR SYMMETRIC AND ASYMMETRIC LINESHAPES IN MATERIALS SPECTROSCOPY. Alberto Herrera Gómez.

- [CHM-123]** EVAPORATED DROPLET RESIDUES AS A LOW-COST TOOL FOR MORPHOLOGICAL AND OPTICAL ANALYSIS OF UPCONVERSION MATERIALS. David Alejandro Chavez Campos.
- [CHM-260]** INFLUENCE OF BI/FE RATIO ON THE NANOSCALE FERROELECTRIC BEHAVIOR OF BIFEO₃ THIN FILMS UNDER DIFFERENT ANNEALING ATMOSPHERES. Carolina Janani Diliegros Godines.
- [CHM-182]** NIS-LOADED N/S-DOPED HOLLOW CARBON SPHERES AS EFFICIENT AND STABLE ELECTROCATALYSTS FOR ALKALINE HYDROGEN EVOLUTION. Juan Carlos Carrillo Rodríguez.
- [CHM-204]** WATER DROPLETS AS LIQUID LENSES FOR LASER-BASED MATERIAL PROCESSING. Rodrigo Rena Gonzalez.
- [CHM-231]** DYNAMIC SPECKLE IMAGING FOR SURFACE ACTIVITY ANALYSIS IN LIVE BIOLOGICAL SAMPLES. Assad Alejandro Climent Tame.
- [CHM-249]** OPUNTIA FICUS-INDICA YOUNG CLADODES CHARACTERIZATION USING NORMALIZED DIFFERENCE VEGETATION INDEX. Ivan Rodrigo Santacruz Bravo.
- [CHM-140]** SYNTHESIS AND CHARACTERIZATION OF KEPLER-TYPE RU(III) COMPLEXES WITH DMSO AND AZOLES AS LIGANDS FOR NEUROPROTECTIVE APPLICATIONS. Uriel Espinoza Carmona.
- [CHM-283]** CHARACTERIZATION OF THE MAGNETIC DYNAMIC BEHAVIOR IN MAGNETIC POLYMER COMPOSITE TOROIDS FABRICATED WITH 3D PRINTING. Luis Enrique Guerra Camacho.
- [CHM-324]** ENHANCED RAMAN SIGNAL IN TiO₂-SiO₂ AEROGELS USING LINEAR AND CIRCULAR POLARIZATION. Leonardo Frias Gasparri.
- [CHM-336]** SYNTHESIS, CHARACTERIZATION, AND DNA INTERACTION OF A NEW COPPER(II) COORDINATION COMPLEX WITH KETOCONAZOLE AS LIGAND. Juan José Maldonado Rios.

RENEWABLE ENERGY: MATERIALS AND DEVICES

- [REN-465]** SOLUTION COMBUSTION SYNTHESIS OF BISMUTH FERRITE (BIFEO₃) AND ITS CATALYTIC EFFICIENCY IN THE SONOCHEMICAL DEGRADATION OF EMERGING ORGANIC CONTAMINANTS. Anel Robles.
- [REN-261]** ENHANCED PHOTODEGRADATION OF CIPROFLOXACIN USING BORON NITRIDE-BIVO₄ NANOCOMPOSITE PHOTOCATALYSTS. Gloria Isabel Siller-Monroy.
- [REN-327]** PHOTOCATALYTIC EVALUATION OF SUPPORTED ILMENITES FOR DEGRADATION OF ORGANIC DYES. Leslie Naian Ramos Domínguez.

[REN-298] DEVELOPMENT OF ELECTROCOAGULATION REACTOR FOR REMOVING CONTAMINANTS FROM GREYWATER. Mihael Shamed Islas Ortiz.

TRIBOLOGY, SURFACES AND INTERFACES

[TSI-047] SELECTIVE SURFACE PROCESSING ON CUTTING TOOL. Noe Lopez Perrusquia.

[TSI-053] INFLUENCE OF TIO₂ COATING SURFACE ROUGHNESS ON THE CORROSION BEHAVIOR OF AZ31 ALLOY. José Antonio Barrera Fernández

[TSI-057] INFLUENCE OF BORIDING AND NITRIDING ON AISI 9840 STEEL. Gerardo Julián Perez Mendoza

[TSI-070] A STUDY ON SLIDING WEAR OF HDPE COATED WITH A TITANIUM LAYER DEPOSITED USING THE PULSED LASER DEPOSITION (PLD) TECHNIQUE. Ernesto David García Bustos

[TSI-083] WEAR RESISTANCE OF NITRIDED AISI 4140 STEEL BY TWO PROCEDURES. Virgilio Alberto Aquino Cruz

[TSI-120] FRACTAL SCALING OF FE₂B MONOLAYER ROUGHNESS FORMED ON AISI 9254 STEEL USING REUSED BORON PASTE. Edgar Israel García Otamendi

Symposium: Impulso a la tecnología de semiconductores en México

COURSE-2

An Interactive, Easy, and Powerful Approach to XPS Data Peak-Fitting
Alberto Herrera Gómez

Plenary 7: CHIPs Act and Related Efforts in North Texas in Semiconductor Materials and Devices for Harsh Environments
Manuel Quevedo

TT 2: MALVERN PANALYTICAL

ORAL PRESENTATIONS

FRIDAY 26TH SEPTEMBER

TRIBOLOGY, SURFACES AND INTERFACES

[TSI-138] DEPOSITION OF SUPERCONDUCTING MOLYBDENUM NITRIDE THIN FILMS USING A HYBRID PLASMA SYSTEM. Enrique Campos Gonzalez.

[TSI-162] PLASMA NITRIDING OF QUARTZ. Stephen Muhl.

[TSI-339] INTERFACIAL RHEED STUDY FOR 2D WSe₂ CVD-GROWN OVER SAPPHIRE. Felipe Eduardo Perea Parrales.

[TSI-413] STUDY OF THE FRICTIONAL BEHAVIOR OF STEEL-POLYMER SLIDING INTERFACES IN DOUBLE-CURVED SLIDING ISOLATORS. Ulises Espinoza Nava.

[TSI-424] EXPERIMENTAL STUDY ON MICROALLOYED STEEL WITH LAYERS SUBJECTED TO DIESEL. Victor Hugo Olmos Domínguez

[TSI-050] NUMERICAL ANALYSIS OF A PIN ON DISK SYSTEM UNDER DRY FRICTION CONDITIONS. Elvis Coutiño Moreno.

ATOMIC LAYER DEPOSITION

[ALD-031] ATOMIC LAYER DEPOSITION AT THE ENGINEERING INSTITUTE OF UABC, MEXICALI: PAST DEVELOPMENTS, CURRENT ADVANCES, AND FUTURE DIRECTIONS. Jesus Roman Martinez Castelo.

[ALD -200] EXPLORING NEXT-GEN PHOTOELECTRODES WITH PALD ON 3D-PRINTED POLYMER STRUCTURES. Edgar Homero Ramirez Soria.

[ALD -101] PLASMA-TUNED ZnO-DOPED Ni THIN FILMS VIA PE-ALD: STRUCTURAL, OPTICAL, AND ELECTRONIC MODULATION FOR OPTOELECTRONIC APPLICATIONS. Yazmin Palafox.

[ALD -359] XPS ANALYSIS OF Al₂O₃ THIN FILMS DEPOSITED BY ALD ON SILICON SUBSTRATES. Agustín Calixto Ramos Solano.

[ALD -228] SURFACE TUNING OF GOLD NANOPARTICLES VIA ATOMIC LAYER DEPOSITION: A POWERFUL TOOL TO MAKE CONVENTIONAL CATALYSTS GREAT AGAIN. Liliana Magdalena Vargas Arreguín.

[ALD -400] CHEMICAL COMPOSITION AND INTERFACIAL ANALYSIS OF ATOMIC LAYER DEPOSITED ZrO₂ THIN FILMS ON Si(100). Emmanuel Martinez

Plenary 8: An overview of computational material modelling
Juan Francisco Rivas Silva



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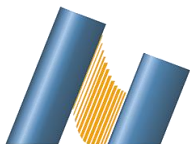


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