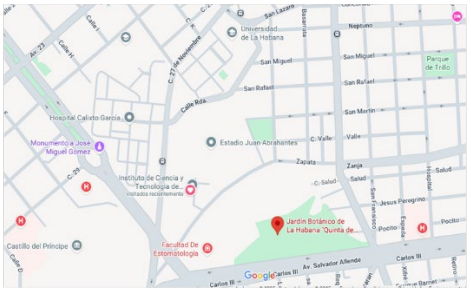
II International Symposium on Materials Science

Quinta de los Molinos
Centro Demostrativo de Energía Renovables
Avenida Salvador Allende y Luaces



General Program

Monday May 26th, 2025

Accreditation of delegates
Place: Institute of Materials Science and Technology (IMRE), University of Havana
Time: All day

Tuesday May 27th, 2025

9:00 – **Accreditation of Delegates. Place:** Quinta de los Molinos

9:15 – 9:30 **Symposium Opening: Dr. Carlos Ricardo Milián Pila**, President of the Organizing Committee and Director of the Institute of Materials Science and Technology (IMRE), University of Havana. **Place:** Salón de los Internacionalistas.

9:30 – 10:10 **Plenary Conference:** Growth of nanostructures of metallic oxides by means of thermic oxidation by Joule heating. **Dr. Javier Piqueras**. Complutense University of Madrid. Department of Materials Physics, Madrid, Spain. **Place:** Salón de los Internacionalistas.

10:10 – 11:40 **Work in Commissions**

- Nanoscience and materials science: Oral Presentations. **Place:** Salón de los Internacionalistas.
- Materials for sustainability and environmental applications: Oral Presentations. **Place:** Salón de Proyecciones.

11:40 – 12:00 **Coffee Break**

12:00 – 14:00 **Work in Commissions**

- Nanoscience and materials science: Oral Presentations. **Place:** Salón de los Internacionalistas.
- Materials for sustainability and environmental applications: Oral Presentations. **Place:** Salón de Proyecciones.

Wednesday May 28th, 2025

9:30 – 10:10 **Plenary Conference:** Developing innovative NEREA® technology for the industrial production of new zeolitic substrates, fertilizers and pesticides for sustainable agriculture based on natural zeolite engineering. **Dr. Gerardo Rodríguez Fuentes**. Institute of Materials Science and Technology (IMRE), University of Havana, Cuba. **Place:** Salón de los Internacionalistas.

10:10 – 11:40 **Work in Commissions**

- Nanoscience and materials science: Oral Presentations. **Place:** Salón de los Internacionalistas.
- Materials for sustainability and environmental applications: Oral Presentations. **Place:** Salón de Proyecciones.

11:40 – 12:00 **Coffee Break**

12:00 – 14:00 **Work in Commissions**

- Nanoscience and materials science: Oral Presentations. **Place:** Salón de los Internacionalistas.
- Materials for sustainability and environmental applications: Oral Presentations. **Place:** Salón de Proyecciones.

Thursday May 29th, 2025

9:30 – 10:10 **Plenary Conference:** Perovskite oxides for photochemistry and electrochemistry. **Dr. Manuel Antuch**. Université de Lille, CNRS, Centrale Lille, France. **Place:** Salon de los Internacionalistas.

10:10 – 11:40 **Work in Commissions**

- Materials for energy conversion and storage: Oral Presentations and Posters. **Place:** Salón de Proyecciones.
- Nanosciencies and materials science: Posters. **Place:** Salón de los Internacionalistas.

11:40 – 12:00 **Coffee Break**

12:00 – 14:00 **Work in Commissions**

- Materials for energy conversion and storage: Oral Presentations and Posters. **Place:** Salón de Proyecciones.
- Materials for sustainability and environmental applications: Posters. **Place:** Salón de los Internacionalistas.

14:00 – 17:00 Closing Ceremony. **Place:** To be defined

Scientific Program

Glossary

CI	Invited Conference
PO	Oral Presentation
C	Poster
N	Commission: Nanoscience and materials science
S	Commission: Materials for sustainability and environmental applications
E	Commission: Materials for energy conversion and storage

May 27th, 2025

Nanoscience and materials science: Oral Presentations
Chairperson: Dr. Beatriz Concepción Rosabal

10:10 – 10:40	**CI-N1:** Physics and chemistry on the nanoscale. **Karina Morgenstern**, Ruhr-Universtät Bochum, Germany.
10:40 – 11:00	**PO-N1:** Master Degree Program on Materials Science and Technology: an opportunity for the postgraduate formation on materials. **Olimpia L. Arias de Fuentes**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:00 – 11:20	**PO-N2:** The structure-giving role of Rb^+ ions for water–ice nanoislands supported on Cu(111). **Javier Martínez Pons**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:20 – 11:40	**PO-N3:** Hybrid materials based a natural resource for skin care: bentonite/vitamin C and bentonite/metformin. **Dayaris Hernández Oliva**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:40 – 12:00	**Coffee Break**
12:00 – 12:20	**PO-N4:** Natural clay/polymer films by the casting method. **Clariselys Leal Reyes**, Faculty of Chemistry, University of Havana, Cuba.
12:20 – 12:40	**PO-N5:** Magnetics nanoparticles with potential applications on the removal of ibuprofen. **Crislaine Suárez Llerena**, Bioorganics Laboratory, Faculty of Chemistry, University of Havana, Cuba.
12:40 – 13:00	**PO-N6:** Biomimetic accelerated deposition of hydroxyapatite doped with zinc on polyether ether ketone (PEEK). **Yazmín Márquez Cruz**, Faculty of Chemistry, University of Havana, Cuba.
13:00 – 13:20	**PO-N7:** Biomimetic accelerated deposition of hydroxyapatite doped with strontium on titanium. **Lianét de la C. García Hernández**, Faculty of Chemistry, University of Havana, Cuba.
13:20 – 13:40	**PO-N8:** Acrylic-type polymer for molecular impression for the development of electrodes sensitive to glutamate ion **Yenisleidy Valdés Arencibia**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:40 – 14:00	**PO-N9:** Volatile organic compounds, sensorial evaluation, and type of rum. **Daimy L. López Hernández**, Faculty of Chemistry, University of Havana, Cuba.

May 27th, 2025

Materials for sustainability and environmental applications: Oral Presentations
Chairperson: Dr. Markel Denet Luaces

10:10 – 10:40	**CI-S1:** Clay-polymer films for sustainable food packaging. **Aramis Rivera Denis**, Institute of Material Science and Technology (IMRE), University of Havana, Cuba.
10:40 – 11:00	**PO-S1:** Influence of the crystallinity of difurfurylidentriurea on the fertilization of tomato. **Ariel Martínez García,** Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:00 – 11:20	**PO-S2:** Development of slow-release biofertilizers from spirulina for an ecological agriculture. **Abdel L. Alimonta Alvarez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:20 – 11:40	**PO-S3:** Obtaining silica-lignin nanocomposites from rice husk and coffee endocarp as absorbents of heavy metals. **Carlos R. Castillo Hernández**, Center of Studies of Natural Products (CEPN), Faculty of Chemistry, University of Havana, Cuba.
11:40 – 12:00	**Coffee Break**
12:00 – 12:20	**PO-S4:** Preliminary characterization of residues of Cuban coffee: an opportunity for sustainable innovation. **Dayana Mesa Tejeda**, Center of Studies of Natural Products (CEPN), Faculty of Chemistry, University of Havana, Cuba.
12:20 – 12:40	**PO-S5:** Obtaining and structural comparison of lignin nanoparticles from coffee residues. **Amanda Collazo Aldana**, Center of Studies of Natural Products (CEPN), Faculty of Chemistry, University of Havana, Cuba.
12:40 – 13:00	**PO-S6:** The Fluorescence Spectroscopy applied to the detection of dermatological injuries. Aspects to consider when developing a proprietary technology. **Bradies J. Lambert Navarrete**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:00 – 13:20	**PO-S7:** Development of a white-UV emitter with LED control by Arduino for dermatological diagnostics **Rubén J. Díaz Astrain**, Faculty of Physics, University of Havana, Cuba.
13:20 – 13:40	**PO-S8:** Evaluation of the “light converter to digital” monolithic low cost, TCS3400, for the detection of auto fluoresce in demagogical injuries. **Bradies J. Lambert Navarrete**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:40 – 14:00	**PO-S9:** Implementation of a system for the characterization of LEDs with applications in photomedicine. **Fresnel Forcade Zamora**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.

May 28th, 2025

Nanoscience and materials science: Oral presentations
Chairperson: Dr. Tania Farías Piñeira

10:10 – 10:40	**CI-N2:** Innovations of the Biomaterials Center in products for stomatology. **Yaymarilis Veranes Pantoja**, Center of Biomaterials, University of Havana, Cuba.
10:40 – 11:00	**PO-N10:** Obtaining ZnO nanoparticles by aqueous synthesis: a comparison of three methods. **Augusto Iribarren Alfonso**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:00 – 11:20	**PO-N11:** Synthesis of electrolytic nano-TiO_2. Our experiences as a bactericide. **Ernesto Peláez Abellán**, Faculty of Chemistry, University of Havana, Cuba.
11:20 – 11:40	**PO-N12:** Bimetallic Cu^{2+}-Zn^{2+} system on clinoptilolite: ion-exchange selectivity and catalytic activity in NO-reduction. **Inocente Rodríguez Iznaga**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:40 – 12:00	**Coffee Break**
12:00 – 12:20	**PO-N13:** Modifying optical properties of AZO thin films fabricated by rf-sputtering with twist substrate-assisted GLAD. **Augusto Iribarren Alfonso**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:20 – 12:40	**PO-N14:** Synthesis and characterization of the nanostructured catalyzer Fe_3O_4@SiO_2@Cu_2O. **Eduardo R. González García**, Bioinorganic Laboratory, Faculty of Chemistry, University of Havana, Cuba.
12:40 – 13:00	**PO-N15:** Synthesis and characterization of zinc oxide and copper oxide(II) nanoparticles with potential agricultural applications. **Juan C. Hernández Rodríguez**, Bioinorganic Laboratory, Faculty of Chemistry, University of Havana, Cuba.
13:00 – 13:20	**PO-N16:** The role of clay charge in the mobility of compensating cations: an approach from molecular dynamics. **Carlos D. Marrero Pérez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:20 – 13:40	**PO-N17:** A DFTB+ study of the stability and electronic properties of carbon Nano onions with point defects as result of irradiation processes. **Susana M. Montesino Castillo**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:40 – 14:00	**PO-N18:** Adsorption of platinum(II) in the Cuban zeolite (San Andrés) in dynamic mode. **Ana L. Romero García**, Faculty of Chemistry, University of Havana, Cuba.

May 28th, 2025

Materials for the sustainability and environmental applications: Oral Presentations

Chairperson: Dr. Aramis Rivera Denis

10:10 – 10:40	**CI-S2:** NEREA® zeolitic nanostructured materials *vs* NPK fertilizer mixed with natural zeolites. **Gerardo Rodríguez Fuentes,** Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
10:40 – 11:00	**PO-S10:** Synthesis and characterization of biopolymers of sodium alginate. **Maybelline L. Torres Rondón**, Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic.
11:00 – 11:20	**PO-S11:** Modified natural clinoptilolite as a photo-Fenton catalyst on the inactivation of *E. coli* with visible light. **Katia Borrego Morales**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:20 – 11:40	**PO-S12:** Study of the removal of nickel (II) with Cuban natural zeolite in dynamic mode. **Cynthia de la C. Oliva Marín**, Faculty of Chemistry, University of Havana, Cuba.
11:40 – 12:00	**Coffee Break**
12:00 – 12:20	**PO-S13:** Obtaining and characterization of the biomass immobilized in Cuban zeolite from San Andrés for the removal of Pt(ll). **Laura Carmona Fernández**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:20 – 12:40	**PO-S14:** Modified Cuban Bentonites: structural and micro biologic characterization **Diana R. Osorio Enriquez**, Faculty of Chemistry, University of Havana, Cuba.
12:40 – 13:00	**PO-S15:** Evaluation of printed electrodes modified with zinc oxide nanoparticles on the quantification of free cholesterol. **Alicia M. Díaz García**, Bioinorganic Laboratory, Faculty of Chemistry, University of Havana, Cuba.
13:00 – 13:20	**PO-S16:** Past, present and perspectives of the use and development of ion and electron accelerators based analytical methods for materials characterization at the University of Havana. **Edwin Pedrero González**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:20 – 13:40	**PO-S17:** Classification of tobacco samples by means of main components analysis, lineal discriminant analysis and X rays fluorescence. **Melissa de la C. Sardiñas Castillo**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.
13:40 – 14:00	**PO-S18:** Particularities of the elemental analysis by means of Spectroscopy of emission and Atomic Absorption. **Rosmery del C. Remón Ferriol**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.

May 29th, 2025

Materials for energy conversion and storage: Oral Presentations and Posters
Chairperson: Dr. Augusto Iribarren Alfonso

10:10 – 10:40	**CI-E1:** Materials and interfaces in solid-state batteries. **Alex Rettie**, University College London, United Kingdom.
10:40 – 11:00	**PO-E1:** Dielectric and piezoelectric properties of lead-free ferroelectric ceramics produced by high-power ultrasound technique. **Aimé Peláiz Barranco**, Faculty of Physics, University of Havana, Cuba.
11:00 – 11:20	**PO-E2:** Panoramic of the gain of TiO_2 by electrolytic ways. **Adrián Sánchez Rodríguez**, Faculty of Chemistry, University of Havana, Cuba.
11:20 – 11:40	**PO-E3:** Obtention of TiO_2 nanostructured starting of recycled titanium for its application as a photoelectrode. **César A. Caballero Serrano**, Faculty of Chemistry, University of Havana, Cuba.
11:40 – 12:00	**Coffee Break**
12:00 – 12:20	**PO-E4:** Structural co-doping of the NMC111 with iron and phosphorus for batteries of lithium ion. **Roberto Domínguez Rodríguez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:20 – 12:40	**PO-E5:** Effects of the gamma radiation of Co-60 on the cathodic materials for LNMO and LMO lithium batteries. **Yoan J. Pérez Avilés**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:40 – 13:00	**PO-E6:** Preparation in aqueous medium of amorphous TiO_2 coatings on LMNO particles. **Ana L. Díaz Perera**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:00 – 13:20	**PO-E7:** Development of magnetic functionality on longlines LNMO co-doped for cathodes of magneto-assisted batteries. **Adrián Enríquez Martínez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:20 – 13:40	**PO-E8:** Structural, dielectric and energy storage behavior of the ceramic system $(Pb_{0.97}La_{0.02})(Zr_{0.80}Sn_{0.12}Ti_{0.08})O_3$ that shows two anti-iron electric phases **Yoniel Pérez Martín**, Faculty of Physics, University of Havana, Cuba.
13:40 – 13:45	**C-E1:** Magnetic study of wide-range rare earth substitution in BaM hexaferrite. **Jael C. Faloh Gandarilla**, Faculty of Physics, University of Havana, Cuba.
13:45 – 13:50	**C-E2:** Variations on the magnetic entropy in the $Bi_5Fe_{0.5}Co_{0.5}Ti_3O_{15}$ multi-ferric system doped with strange lands at low temperatures. **Yuslin González-Abreu**, Faculty of Physics, University of Havana, Cuba.

13:50 – 13:55	**C-E3:** Effect of thickness on morphological and optical properties of nanostructured ZnO thin films deposited by ultrasonic spray pyrolysis. **Javier Pérez Pérez,** Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:55 – 14:00	**C-E4:** Obtaining of nanostructured CuO layer over FTO and ITO conductive glasses through the microwave-activated bathroom chemical technique. **Bernardo González Ramírez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
14:00 – 14:05	**C-E5:** Fabrication and characterization of PbS thin film for solar cell applications. **Kissy Iznaga Pino**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.

May 29th, 2025

Nanosciences and materials sciences: Posters
Chairperson: Dr. Liliam Becherán Marón

10:10 – 10:15	**C-N1:** Study of the fluorescence of quantum dots of cadmium tellurium(QDs-CdTe) stabilized with L-cysteine under different conditions of synthesis. **Abel Fundora Cruz,** Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.
10:15 – 10:20	**C-N2:** Obtaining quantum dots of CdSe through microwave-assisted synthesis. **Leira L. Rodríguez Betancourt**, Cuban Center for Advanced Studies (CEA), Cuba.
10:20 – 10:25	**C-N3:** Study of the proofs of concepts for the functionalization of quantum dots of CdTe/ZnS on biological applications. **Amalia Lozano Navarrete**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Habana, Cuba.
10:25 – 10:30	**C-N4:** Effects of chromium incorporation on the forbidden bandgap of crystalline ZnO nanostructures. **Olimpia L. Arias de Fuentes,** Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
10:30 – 10:35	**C-N5:** The Spectroscopy of superficial photo voltage for the characterization of Nano strings of ZnO. **Daniel Fonseca Díaz**, Faculty of Physics, University of Havana, Cuba.
10:35 – 10:40	**C-N6:** Obtaining a nanostructured system based on human albumin serum for its use in cancer preventing therapy. **Liliam Becherán Marón,** Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
10:40 – 10:45	**C-N7:** Use of different methods to obtain polymeric capsules as platforms for medicine controlled releases. **Sheyla Bermúdez Pérez**, Cuban Center for Advanced Studies (CEA), Cuba.
10:45 – 10:50	**C-N8:** Cuban nanomaterials: applications in medicine and the environment. **Aramis Rivera Denis**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.

10:50 – 10:55	**C-N9:** Molecular dynamics simulations of clay dehydration process. **Anabel Lam Barandela**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
10:55 – 11:00	**C-N10:** First steps in cation exchange in clays: an approach from molecular dynamics simulations. **María F. Contino Ramos**, Neurosciences Center of Cuba, Cuba.
11:00 – 11:05	**C-N11:** Theory study of the interactions in the composed system Lithium-fluorohectorite-trimethoprim by molecular dynamics. **Luis E. Meireles Cruz**, Faculty of Chemistry, University of Havana, Cuba.
11:05 – 11:10	**C-N12:** 1-(2-furoyl)thioureas 3-ciclopropyl and 3,3-diethyl substituted: preliminary theoretical study on their recognition of Pb^{2+} ions. **Marcia Bustamante Sánchez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:10 – 11:15	**C-N13:** Electronic emission on cathodic surfaces of tungsten contaminated with carbon and oxygen by the program SIESTA. **Mitchel Rodríguez Silva**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.
11:15 – 11:20	**C-N14:** Preparation of thin layers and heterostructure of molybdenum oxide. **Yon L. Leibas López**, Faculty of Physics, University of Havana, Cuba.
11:20 – 11:25	**C-N15:** Crystal structure analysis of 2-(3'-nitrophenyl)-benzimidazole. **Daimí González Caballero**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
11:25 – 11:30	**C-N16:** Study of the electronic emission due to the carbon no homogeneous contamination on the surface of tungsten cathodes. **Carlos R. González Alejo,** Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.
11:30 – 11:35	**C-N17:** Influence of the gamma radiation on the optical properties of carbon points doped with nitrogen. **Janser Hernández Ojeda**, Higher Institute of Technologies and Applied Sciences (InSTEC), University of Havana, Cuba.
11:35 – 12:00	**Coffee Break**

May 29th, 2025

Materials for sustainability and environmental applications: Posters
Chairperson: Dr. Tania Farías Piñeira

12:00 – 12:05	**C-S1:** Structural stability of zeolites materials with Ni-Co as low cost catalysts for selective hydrogenation of citrate. **Arbelio Pentón Madrigal**, Faculty of Physics, University of Havana, Cuba.
12:05 – 12:10	**C-S2:** Zeolite catalysts for dye degradation in water by the use of a photo-Fenton process with visible light. **Orlando Alvarez Landa**, Faculty of Chemistry, University of Havana, Cuba.

12:10 – 12:15	**C-S3:** Evaluation of commercial halloysite and a halloysite-derived zeolite for propane/propylene separation and CO_2 capture. **Giselle I. Autié-Castro**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:15 – 12:20	**C-S4:** Synthetic zeolites obtained from rice husk ashes and their evaluation on the removal of copper ions. **Lorena Alvarez Ruiz**, Faculty of Chemistry, University of Havana, Cuba.
12:20 – 12:25	**C-S5:** Characterization of *Thalassia testudinum* as a sorbent in the solid phase extraction of Cu(II). **Harold Fernández González**, Faculty of Chemistry, University of Havana, Cuba.
12:25 – 12:30	**C-S6:** Preliminary Study of an acrylic type molecular impression polymer as a medicine receptor. **Yenisleidy Valdés Arencibia**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:30 – 12:35	**C-S7:** Characterization of oxides and deposits in accelerated assays starting from simulated ashes. **Abel Rivas Gutierrez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:35 – 12:40	**C-S8:** SEM characterization of concretes with blast furnace slag of the Cuban steel industry. **Carlos Lariot-Sánchez**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:40 – 12:45	**C-S9:** FTIR Spectroscopy as a tool in the control of quality of zeolite products NEREA®. **Esperanza Y. de la Nuez Pantoja**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:45 – 12:50	**C-S10:** Study of materials that composed the mortar of "La Fuente de la Samaritana". **Ivette Ravelo Cabrera**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:50 – 12:55	**C-S11:** Pigments identification of patrimonial artworks by X rays fluorescence. **Camila Laza López**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
12:55 – 13:00	**C-S12:** Processing of nonmetallic solid residues for the mini-generation of electric energy. **Lázaro R. López Ayllon**, Empresa de Ingeniería del Reciclaje, ISDE, Havana, Cuba.
13:00 – 13:05	**C-S13:** Chemical sieve and identification of secondary metabolites active by the *Trichoderma spp.* **Yusset Louis Guevara**, Center of Studies of Natural Products (CEPN), Faculty of Chemistry, University of Havana, Cuba.
13:05 – 13:10	**C-S14:** Recuperation of the SPECTRONIC 20 D+ UV-visible spectrophotometer. **Osmel R. Cruzata Montero**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:10 – 13:15	**C-S15:** Device recovery and automation using the Arduino platform. **Frank Remedios Almeyda**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.
13:15 – 13:20	**C-S16:** Construction of a regulable arm for an XY Plotter. **Osmel R. Cruzata Montero**, Institute of Materials Science and Technology (IMRE), University of Havana, Cuba.