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Contact Information:	studyinmexico@itesm.mx

Undergraduate Research Program

Project Name	Study of nanostructured films for solar cells
Campus & Location in Mexico	Puebla
Faculty	Engineering and Sciences
Research Area	Nanostructured Materials, Solid state physics.
Research Responsible	Carolina Janani Dilliegros-Godines
Description of the Project	<p>The student will perform experimental research on the deposition of thin films for solar cells and the study of their optical, electrical, structural, and electronic properties. The deposition techniques available for this purpose are sol-gel dip-coating, spin coating and thermal evaporation.</p> <p>The students can also choose perform research of multilayered structures for solar cells by simulation of the physical properties of the structures using software like gpvdm, OpenFilters, SCAPS1D, among others.</p>
Training Provided	Training on deposition methods: sol-gel dip-coating, spin coating and/or thermal evaporation.

Offered during:

SUMMER

☒

WINTER

☐

SEMESTER

☒

Student

Tasks/Responsibilities	<p>Synthesis and characterization of materials.</p> <p>Analysis of experimental data.</p>
Required Language Proficiency	English, Spanish is not mandatory.
Required Skills and Abilities	<p>Basic knowledge of chemistry, solid state physics or materials properties of semiconductors.</p> <p>Knowledge of basic chemistry lab equipment (Laboratory Balances, ovens, micropipette, etc)</p> <p>Use of at least one data analytics tool such as: MATLAB, OriginLab, Excel, etc.</p> <p>Team work, problem solving, organization.</p>
Other Documents	<ol style="list-style-type: none"> 1) Being at least in your 2nd year of bachelor 2) Accumulative grade point average (GPA) 2.5 3) Official Transcript 4) 2 letters of recommendation of faculty members 5) Resume 6) Letter of intention explaining the reason why you would like to participate in the research program