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### Cooperative International Science and Engineering Internships

Cooperative International Science and Engineering Internships(CISEI)  
 Winter 2008 - Student Projects

Student/School	Mentor	Faculty Sponsor	Department	Student Project
<a href="#">Gabriela Sandoval</a> Chemistry/ University of Chile, Santiago, Chile	Bharat Jalan	Susanne Stemmer	MRL	Optical Transmission Study of Reduced Strontium Titanate
<a href="#">Ivana Sabaj</a> Chemistry / Chemical Engineering, University of Chile, Santiago	Daniel Shoemaker and Brent Melot	Ram Seshadri	MRL	Magnetic Ordering Of The System $Zn_xMn_{3-x}O_4$

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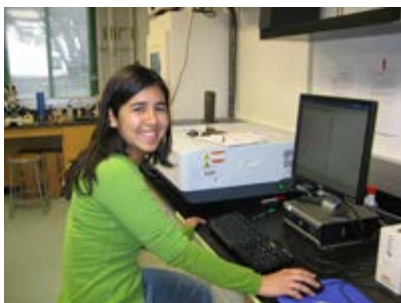
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**Sandoval's Project Page - CISEI Winter 2008**Intern: Gabriela Sandoval, University of Chile,  
Santiago

Mentor: Bharat Jalan

Faculty Supervisor: Susanne Stemmer

Department: MRL

**Optical Transmission Study of Reduced Strontium Titanate**

The interpretation of the transport properties of  $\text{SrTiO}_3$  is often complicated by the presence of unintentional impurities such as iron. In this project, optical transmission studies of strontium titanate single crystals in the UV-Vis-NIR range (350 nm to 2600 nm) were combined with four-probe conductivity measurements. A strong decrease in mid-IR transmittance was observed for samples that were highly reduced in forming gas anneals. The influence of electrode, such as indium, was also studied.

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### Sabaj's Project Page - CISEI Winter 2008



Intern: Ivana Sabaj, Chemical Engineering, University of Chile, Santiago

Mentors: Daniel Shoemaker and Brent Melot

Faculty Supervisor: Ram Seshadri

Department: MRL

Magnetic Ordering of the System  $Zn_{(x)}Mn_{(3-x)}O_{(4)}$

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