

2011 Integrated STEM Education Conference

(ISEC 2011)

**Ewing, New Jersey, USA
2 April 2011**



**IEEE Catalog Number: CFP1142S-PRT
ISBN: 978-1-4673-2404-5**

TABLE OF CONTENTS

Project Lead The Way Engineering and Biomedical Sciences Curriculum Programs Engage Students and Improve Performance in STEM.....	1
<i>Carlyn Malstrom</i>	
Enhancing STEM Classes Using Weave: A Collaborative Web-based Visualization Environment.....	5
<i>Alexander Baumann, Safi Shams, Matthew Ross, William Mass, Georges Grinstein</i>	
The Air Force Research Laboratory Information Directorate’s STEM Activities	9
<i>Jeffrey J. Dematteis, Sarah L. Muccio, Thomas N. J. Vestal</i>	
Reenergizing and Reengaging Student Interest through CAPSULE	13
<i>Jessica Chin, Abe Zeid, Claire Duggan, Sagar Kamarthi</i>	
Project Blob: Edible Emulsions	18
<i>Amina Darwish, Mary Ann Schnieders, Andrea Burrows, Anant Kukreti, Stephen Thiel</i>	
Student Initiation to Science by Computer-Aided Teachers: A Case Study	22
<i>Predrag Filipovic, Jovica Milisavljevic, Silvija Kokalj-Filipovic, Narcisa Stankovic</i>	
Accelerated Software Development Experiences for High School Students	27
<i>Robert M. Kelly Jr.</i>	
STEM Integration with Informatics	30
<i>Stephen J. Zilora</i>	
Computer Programming – A Building Block of STEM	34
<i>Srijoy Dutta, Rohan Mathur</i>	
From Design to Prototype – Manufacturing STEM Integration in the Classroom and Laboratory.....	38
<i>Eric P. Flynn</i>	
A Project-Based Pedagogy for First Year College Students in Imaging Science.....	42
<i>Joseph J. Pow, Maria Helguera</i>	
Pequeños Científicos Program: STEM K5-K12 Education in Colombia.....	46
<i>Mauricio Duque, Jose Tiberio Hernandez, Margarita Gomez, Claudia Vasquez</i>	
A National Framework to Integrate Remote Sensing Sciences in STEM Education and Training.....	50
<i>Shakila Merchant, Reza Khanbilvardi</i>	
Integrating Engineering into Secondary Math and Science Curricula: A Course for Preparing Teachers	54
<i>Ronald L. Carr, Johannes Strobel</i>	
Drug Design as a Video Game: A Summer Program Integrating Chemical Biology and Computer Science	58
<i>Joseph P. Salisbury, Steven W. Morgan, John C. Williams Jr.</i>	
Author Index	