

## STEM Connections 2014-2015

CINSAM is excited to announce our new teacher professional development program for the 2014-2015 school year. STEM Connections will be an integrated approach to providing content based sessions for P-12 teachers in the Northern Kentucky and Cincinnati area. Each night will be centered around a Disciplinary Core Idea and the sub-ideas from the Next Generation Science Standards (NGSS), which will be implemented in Kentucky schools this coming school year. Connections will be made to the Common Core Standards as well as to the Early Childhood Standards. We will start each of these six nights with a keynote speaker from the field of study and then teachers will have the opportunity to attend two break-out sessions on the sub-ideas. Our goal is to provide P-12 teachers with the opportunity to come to NKU's campus and be a part of a large professional learning community of university professors and P-12 educators centered around a common topic. This integrated approach will allow a variety of content experts and practicing teachers to share lesson ideas, activities, etc. As we all know, chemistry, physics, biology, and other areas are found in the world around us in an integrated, not isolated, manner. This new program, which replaces the previous Alliances, will reinforce this idea, as we all work together to show the crosscutting relationships between the various fields of science, technology, engineering, and mathematics. We are asking for your participation in this program as we look to continue to bring high quality, content focused, professional development to the teachers in our area.

There will no longer be individual alliance university leaders from NKU or P-12 teacher leaders. This integrated approach will allow us to work together to meet the needs of teachers based on the evenings topics, without the pressure of reserving dates, rooms, doing registration, etc. All dates for the year will be set in advance. Anyone who is interested in presenting (NKU faculty, practicing teachers, etc.) will be given the opportunity to fill out a proposal for submission to CINSAM. We encourage you to think creatively about how the various STEM disciplines fit into the integrated theme for each night. For instance, chemistry obviously fits with "matter and its interactions," but the chemistry of water fits into "earth systems" and chemical cycles are important to "ecosystems." The compensation for each 45 minute session that you lead will be \$100, with no yearlong commitment, although we hope that you find that there are more opportunities for participation, rather than less. Teacher session leaders will be paid by check and NKU Faculty will earn CINSAM bucks. We value your past participation and hope that this new program excites you as much as it excites us. If you need any assistance in determining how your ideas meet the NGSS or in generating ideas in general, please feel free to contact us at CINSAM and we will gladly work with you to help make these connections. We are working on a STEM Connections website where you can find the links for proposal submission, links to NGSS and Common Core, as well as other useful information regarding this exciting new program. We will create a unified front to improve STEM education by making connections among professional and community resources.

## 2014-2015 STEM Connections Topics

<p>September 16<sup>th</sup>  <a href="#">Earth's Systems ESS2</a></p>	<p>October 21<sup>st</sup>  <a href="#">Motion and Stability: Forces and Interactions PS2</a></p>	<p>November 19<sup>th</sup>  <a href="#">Ecosystems: Interactions, Energy, and Dynamics LS2</a></p>
<p>Guest Speaker: <i>Meteorologist from local news station</i></p>	<p>Guest Speaker: Norse Baja Club</p>	<p>Guest Speaker: Thane Maynard, Cincinnati Zoo</p>
<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-Earth Materials and Systems</li> <li>-Plate Tectonics and Large-Scale System Interactions</li> <li>- The Roles of Water in Earth's Surface Processes</li> <li>- Weather and Climate</li> <li>- Biogeology</li> </ul>	<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-Forces and Motion</li> <li>-Types of Interactions</li> <li>-Stability and Instability in Physical Systems</li> </ul>	<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-Interdependent Relationships in Ecosystems</li> <li>-Cycles of Matter and Energy Transfer in Ecosystems</li> <li>-Ecosystem Dynamics, Functioning, and Resilience</li> <li>-Social Interactions and Group Behavior</li> </ul>
<p style="text-align: center;"><a href="#">September Proposal Submission Link</a></p> <p style="background-color: red; color: black; padding: 2px;">Deadline for submission is: Tuesday, August 26th</p>	<p><u>*Coming Soon*</u></p>	<p><u>*Coming Soon*</u></p>
<p><i>Spring Session dates and finalization of the topic order are based on speaker availability are still pending</i></p>		
<p style="background-color: yellow;">February</p> <p><a href="#">Matter and Its Interactions PS1</a></p>	<p style="background-color: yellow;">March</p> <p><a href="#">Energy PS3 and Wave Properties PS4</a></p>	<p style="background-color: yellow;">April</p> <p><a href="#">Earth's Place in the Universe ES1</a></p>
<p>Guest Speaker: <i>Open for ideas??</i></p>	<p>Guest Speaker: <i>working on Kings Island (topic of Energy)</i></p>	<p>Guest Speaker: <i>currently working with NASA prof. dev. specialist</i></p>
<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-Structure and Properties of Matter</li> <li>-Chemical Reactions</li> <li>-Nuclear Processes</li> </ul>	<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-Definitions of Energy</li> <li>-Conservation of Energy and Energy Transfer</li> <li>-Relationship Between Energy and Forces</li> <li>-Energy and Chemical Processes in Everyday Life</li> <li>-Waves and Their Applications in Technologies for Information Transfer</li> <li>-Electromagnetic Radiation</li> <li>-Information Technologies and Instrumentation</li> </ul>	<p style="text-align: center;"><u>Sub-ideas</u></p> <ul style="list-style-type: none"> <li>-The Universe and Its Stars</li> <li>-Earth and the Solar System</li> <li>-The History of Planet Earth</li> </ul>

**\*\*topics are hyperlinked to NGSS standards\*\***