

Cosmos in the Classroom 2007

Program Overview

As of July 31, 2007

Thursday, August 2		
9:45 am – 5 pm	Tour of Mount Wilson Observatory	
11:45 am – 5:30 pm	Tour of Jet Propulsion Labs	
7:30 – 9:30 pm	Reception for Meeting Registrants Hosted by the Dean of Pomona College	Edmunds Ballroom
Friday, August 3		
An informal “Share-a-thon” of teaching materials is in Hahn 101. Posters are in Bryant Hall.		
8:30 – 8:55 am	Introduction to the Conference; Instructions for Participants — <i>Andrew Fraknoi (Foothill Coll. & ASP); Bryan Penprase (Pomona Coll.) & James Manning (ASP)</i>	Lyman Theater, Thatcher Music Building
8:55 – 9:55	Plenary Talk: Teaching is Not Telling and the Plural of Anecdote is Not Data: How Research into the Teaching and Learning of Astronomy Can Guide Our Instructional Practice — <i>Ed Prather (University of Arizona)</i>	Lyman Theater, Thatcher Music Building
9:55 – 10:40	Rapid-fire Session of One-minute Oral Summaries of the Poster Papers — <i>Andrew Fraknoi, moderator</i>	Lyman Theater, Thatcher Music Building
10:40 – 11:00	Break	
Friday, August 3 • 11:00 am – 12:00 pm: Workshops Session A		
Session	Title	Location
A1. [repeats in session E]	Engaging Students with Think-Pair-Share: Conceptual Questions to Increase Learning Beyond Lecture — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
A2. [repeats in session F]	“Universal” Education: Using Modern Cosmology to Increase Student Interest and Learning — <i>Bruce Partridge (Haverford Coll.)</i>	Hahn 107
A3. [repeats in session F]	Effective Use of “Clickers” — <i>Douglas Duncan (U. of Colorado)</i>	Hahn 108
A4.	How to Design Course Components for Improving Students’ Intuitive Understanding of the Mathematics in Astronomy — <i>Michael Stage (U. of Massachusetts, Amherst)</i>	Carnegie 109
A5.	Making “Pretty Pictures” from Astronomical Data — <i>Travis Rector (U. of Alaska Anchorage) & Robert Hurt (Spitzer/IPAC)</i>	Hahn 204
A6. [repeats in session E]	Teaching Interactively with Simulations — <i>Kevin Lee (U. of Nebraska) and Timothy Slater (U. of Arizona)</i>	Computer Lab
A7. [repeats in session H]	Collaborative Beginnings: Activities for the First Day — <i>Donna Gifford (Pima Coll.)</i>	Hahn 215
12:00 – 1:10 pm	Lunch	
1:10 – 2:00	Poster Papers (Authors stand by their posters)	
		Bryant Hall

Friday, August 3 • 2:00 – 3:00 pm: Workshops Session B

Session	Title	Location
B1. [repeats in session F]	Engaging Students with Lecture-Tutorials: Conceptual Activities to Increase Learning Beyond Lecture — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
B2.	Tools for Teaching Astrobiology — <i>Chris Impey (U. of Arizona)</i>	Hahn 107
B3.	Teaching Problem Solving for the Astronomy Classroom — <i>Thomas Foster and Georgia Bracey (Southern Illinois U., Edwardsville)</i>	Hahn 108
B4.	Teaching Pre-service Education Students to Address Space Science Standards — <i>Matthew Bobrowsky (Authentic Learning & Teaching) and Kelly Haught (Tyler Consolidated Middle School)</i>	Carnegie 109
B5.	ClassAction: Interactive Materials for Student Discussion and Voting — <i>Kevin Lee (U. of Nebraska) and Timothy Slater (U. of Arizona)</i>	Hahn 204
B6.	Mastering Astronomy: A New Paradigm in Homework for Courses Large and Small — <i>Jeffrey Bennett (U. of Colorado)</i>	Computer Lab
B7.	Cosmic Demonstrations for Teaching Physics and Astronomy — <i>Bryan Penprase and David Haley (Pomona Coll.)</i>	Physics/Astronomy Auditorium
3:00 – 3:20	Break	

Friday, August 3 • 3:20 – 4:20 pm: Workshops Session C

Session	Title	Location
C1. [repeats in session G]	Engaging Students with Ranking Tasks: Quantitative Reasoning Activities that Increase Learning — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
C2. [repeats in session G]	Addressing Questions About Intelligent Design — <i>Matt Bobrowsky (Authentic Learning & Teaching)</i>	Hahn 107
C3.	Teaching the Nature of Science in Astro 101 — <i>Stephen Shawl (U. of Kansas)</i>	Hahn 108
C4.	Science Play: Using Theater to Teach Astronomy — <i>L. Arielle Phillips (Amherst Coll.)</i>	Carnegie 109
C5.	Archaeoastronomy in the Undergraduate Astronomy Curriculum — <i>Bryan Penprase (Pomona Coll.)</i>	Hahn 204
C6.	Diffraction of Light by LITE: A Laboratory Exercise to Be Done at Home — <i>Kenneth Brecher (Boston U)</i>	Computer Lab
C7.	How to Write a Winning NASA EPO Proposal — <i>Doris Daou (NASA Headquarters)</i>	Physics/Astronomy Auditorium

Friday, August 3 • 4:30 – 5:30 pm: Special Interest Group Session 1

Session	Title	Location
1a.	What Do We Need from Astronomy Textbooks: A Roundtable with Textbook Authors and Adopters (Round 1) — <i>David Bruning (U. of Wisconsin), facilitator [Authors participating: Chris Impey, Steven Shawl, Seth Shostak]</i>	Lyman Theater, Thatcher Music Building

1b.	Doing Astronomy Education Research — <i>Tom Foster (Southern Illinois U.), facilitator</i>	Carnegie 107
1c.	Teaching Astronomy in a High School Setting — <i>Gail Chaid (Independence H.S.) and Mark Rader (Notre Dame H.S.), facilitators</i>	Hahn 107
1d.	Running an On-campus Planetarium — <i>David Falk (Los Angeles Valley Coll.), facilitator</i>	Hahn 108
1e.	Accreditation Issues for Community College Astronomy Instructors (who should be allowed to teach astronomy) — <i>Roger Freedman (University of California, Santa Barbara), facilitator</i>	Carnegie 109
1f.	Using Remote and Robotic Telescopes for Education — <i>Tim Slater (U. of Arizona), facilitator</i>	Hahn 215
8:00 pm	Evening Lecture: Lord of the Rings: The Cassini/Huygens Mission to Saturn and Titan — <i>Kevin Grazier (JPL)</i>	Lyman Theater, Thatcher Music Building
Saturday, August 4		
8:30 – 8:40 am	Announcements	Lyman Theater, Thatcher Music Building
8:40 – 9:40	Plenary Talk: Teaching Astronomy with Electrons and Waves — <i>Chris Impey (University of Arizona)</i>	Lyman Theater, Thatcher Music Building
9:40 – 10:00	Break	
10:00 – 11:00	Plenary Talk: What We Found Hiding in the Dark: The Latest Results from the Spitzer Space Telescope — <i>Michelle Thaller (Spitzer Science Center)</i>	Lyman Theater, Thatcher Music Building
Saturday, August 4 • 11:00 am – 12:00 pm: Special Interest Group Session 2		
Session	Title	Location
2a.	What Do We Need from Astronomy Textbooks: A Roundtable with Textbook Authors and Adopters (Round 2) — <i>David Bruning (U. of Wisconsin), facilitator [Authors participating: Jeffrey Bennett, Andrew Fraknoi, Roger Freedman]</i>	Lyman Theater, Thatcher Music Building
2b.	What Do You Leave Out of a One-Semester Astronomy Course? (Round 1) — <i>Bruce Partridge (Haverford Coll.), facilitator</i>	Carnegie 107
2c.	Learning/Teaching the Astronomy of Other Cultures — <i>Bryan Penprase (Pomona Coll.), facilitator</i>	Hahn 107
2d.	Teaching Your First Few Courses: Forum for New Instructors (Round 1) — <i>Gareth Wynn-Williams (U. of Hawaii), facilitator</i>	Hahn 108
2e.	Teaching or Developing a Separate Lab Course in Astronomy — <i>Steve Shawl (U. of Kansas), facilitator</i>	Carnegie 109
2f.	Doing Special Courses or Workshops for K–12 Teachers — <i>Mary Kay Hemenway (U. of Texas), facilitator</i>	Hahn 215
12:00 – 1:10 pm	Lunch	Frank Dining Hall
1:10 – 2:00	Poster Papers (Authors stand by their posters)	Bryant Hall

Saturday, August 4 • 2:00 – 3:00 pm: Workshops Session D

Session	Title	Location
D1. [repeats in session H]	How to Create Learning Sequences that Motivate Students to Learn What We Want Them to Know — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
D2. [repeats in session E]	So You Want to Teach an Astrobiology Course? — <i>Seth Shostak (SETI Inst.) & Jeffrey Bennett (U. of Colorado)</i>	Hahn 107
D3.	Understanding Astronomy Education Research — <i>Thomas Foster and Georgia Bracey (Southern Illinois U., Edwardsville)</i>	Hahn 108
D4.	Engaging Students with Writing: First Steps to Leaving Lecture — <i>Timothy Slater, Edward Prather, and Gina Brissenden (U. of Arizona)</i>	Carnegie 109
D5.	Make it Sticky with a Wiki: Making Science Come Alive through Controversy and Evidence Based Argument — <i>Becky Ericson (George Mason U.)</i>	Hahn 204
D6. [repeats in session H]	Online Education and Intellectual Property Protection — <i>Pamela Gay (Southern Illinois U. Edwardsville)</i>	Computer Lab
D7.	Science Instruction and Student Resistance to Science — <i>Brock Schroeder (Olivet Nazarene U.)</i>	Hahn 215

3:00 – 3:20 pm

Break

Saturday, August 4 • 3:20 – 4:20 pm: Workshops Session E

Session	Title	Location
E1.	Engaging Students with Think-Pair-Share: Conceptual Questions to Increase Learning Beyond Lecture — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
E2.	Inquiry-Based, Hands-on In-class Astronomy Activities — <i>Rebecca Lindell and Thomas Foster (Southern Illinois U. Edwardsville)</i>	Hahn 107
E3.	So You Want to Teach an Astrobiology Course? — <i>Seth Shostak (SETI Inst.) & Jeffrey Bennett (U. of Colorado)</i>	Hahn 108
E4.	Using Concept Inventories to Gauge Student Understanding in Astronomy — <i>Janelle Bailey (U. of Nevada, Las Vegas)</i>	Carnegie 109
E5. [repeats in session H]	Exploring and Creating Astronomy Exhibits in the Virtual World of Second Life — <i>Anthony Crider (Elon U.)</i>	Hahn 204
E6.	Teaching Interactively with Simulations — <i>Kevin Lee (U. of Nebraska) and Timothy Slater (U. of Arizona)</i>	Computer Lab
E7.	Learning to Think about Gravity I: Aristotle to Newton — <i>Claudine Kavanagh and Esther Zirbel (Tufts U.)</i>	Hahn 215

Saturday, August 4 • 4:30 – 5:30 pm: Workshops Session F

Session	Title	Location
F1.	Engaging Students with Lecture-Tutorials: Conceptual Activities to Increase Learning Beyond Lecture — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
F2.	The Flat Earth, Astrology, and Applying Occam's Razor: Differentiating Science from Pseudoscience in Introductory Astronomy — <i>Paul Robinson (Westchester Comm Coll)</i>	Hahn 107

F3.	Effective Use of “Clickers” — <i>Douglas Duncan (U. of Colorado)</i>	Hahn 108
F4.	“Universal” Education: Using Modern Cosmology to Increase Student Interest and Learning — <i>Bruce Partridge (Haverford Coll.)</i>	Carnegie 109
F5.	Doing Real Scientific Research with Your Students in the Classroom — <i>Travis Rector (U. of Alaska Anchorage)</i>	Hahn 204
F6.	The Astronomy Center: An On-line Collection of Digital Resources for Instructors of Introductory Astronomy Courses — <i>Susana Deustua and Chris Irwin (American Astronomical Soc.)</i>	Computer Lab
F7.	Learning to Think about Gravity II: Aristotle to Einstein — <i>Esther Zirbel & Claudine Kavanagh (Tufts U.)</i>	Hahn 215
6:30 pm on	Barbecue Banquet, with After Dinner Talk by Seth Shostak (SETI Institute): ET’s on the Line! Now What? — The Long-term Consequences of Contact	Sontag Greek Theater Lawn/ Lyman Theater, Thatcher Music Building
Sunday, August 5:		
8:30 – 8:40 am	Announcements	Lyman Theater, Thatcher Music Building
8:40 – 9:40	Plenary Talk: How I Demoted Pluto and Why It Had It Coming — <i>Michael Brown (Caltech)</i>	Lyman Theater, Thatcher Music Building
9:40 – 10:00	Break	
Sunday, August 5 • 10:00 – 11:00 am: Workshops Session G		
Session	Title	Location
G1.	Engaging Students with Ranking Tasks: Quantitative Reasoning Activities that Increase Learning — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
G2.	Addressing Questions About Intelligent Design — <i>Matt Bobrowsky (Authentic Learning & Teaching)</i>	Hahn 107
G3.	Developing Astronomy-based Learning Communities — <i>Kristine Larsen (Central Connecticut State U.)</i>	Hahn 108
G4.	Scale in the Solar System: Identifying and Addressing Naïve Conceptions — <i>Mary Urquhart (U. of Texas at Dallas)</i>	Carnegie 109
G5.	A Java-based Educational Tool for Modeling the Content of the Universe through Observations of High-Redshift Supernovae — <i>Milan Mijic, Derek Wells, Rone-Kwei Lim, Zhenghui Hu, Dallim Park, Frank Wong, Sonia Levitin, Michael Rios, EunYong, Elaine Kang, Tony Longson (California State U. Los Angeles)</i>	Hahn 204
G6.	Art and Astronomy: Building a Sundial as a Cloudy-night Astronomy Lab Activity — <i>John Beaver (U. of Wisconsin – Fox Valley)</i>	Computer Lab
G7.	Using Planetarium Software in Your Classroom to Promote Inquiry-based Instruction — <i>William Alexander (James Madison U.)</i>	Hahn 215

Sunday, August 5 • 11:10 am – 12:10 pm: Special Interest Group Session 3

Session	Title	Location
3a.	What Do You Leave Out of a One-Semester Astronomy Course? (Round 2) — <i>Bruce Partridge (Haverford Coll), facilitator</i>	Lyman Theater, Thatcher Music Building
3b.	Teaching Astronomy On Line — <i>Scott Hildreth (Chabot Coll.), facilitator</i>	Carnegie 107
3c.	The Use of Clickers and the Development of Good Clicker Questions — <i>Douglas Duncan (U. of Colorado), facilitator</i>	Hahn 107
3d.	Teaching Your First Few Courses: Forum for New Instructors (Round 2) — <i>Gareth Wynn-Williams (U. of Hawaii) and David Bruning (U. of Wisconsin), facilitators</i>	Hahn 108
3e.	Special Challenges of Being a Part-time Astronomy Instructor — <i>Danny Martino (Santiago Canyon Coll.), facilitator</i>	Carnegie 109
3f.	Building or Reviving a Campus Observatory — <i>Mark Rader (Notre Dame H.S.), facilitator</i>	Hahn 215
12:10 – 1:15 pm	Lunch	Frank Dining Hall
1:15 – 2:00	Poster Papers (Authors stand by their posters; then take posters down)	Bryant Hall

Sunday, August 5 • 2:00 – 3:00 pm: Workshops Session H

Session	Title	Location
H1.	How to Create Learning Sequences that Motivate Students to Learn What We Want Them to Know — <i>Edward Prather, Gina Brissenden, and Timothy Slater (U. of Arizona)</i>	Carnegie 107
H2.	Hands-On Lab Exercises to Develop Student Conceptual Understanding of Introductory Astronomy — <i>Nate McCrady and Emily Rice (UCLA)</i>	Hahn 107
H3.	Formative, Summative, and Cooperative Clicker Instruction in Astronomy — <i>Patrick Len (Cuesta Coll.)</i>	Hahn 108
H4.	So You Want an Observatory: How to Fund, Build, and Operate an On-Campus Observatory in One Easy Lesson — <i>Mark Rader (Notre Dame H.S.)</i>	Carnegie 109
H5.	Exploring and Creating Astronomy Exhibits in the Virtual World of Second Life — <i>Anthony Crider (Elon U.)</i>	Hahn 204
H6.	Online Education and Intellectual Property Protection — <i>Pamela Gay (Southern Illinois U. Edwardsville)</i>	Computer Lab
H7.	Collaborative Beginnings: Activities for the First Day — <i>Donna Gifford (Pima Coll.)</i>	Hahn 215
3:00 – 3:15 pm	Break	
3:15 – 4:15	Informal Discussions (and take down of Share-a-Thon room)	Hahn 101