



First Science Journalism Boot Camp in Computational Astronomy Held at UCSC

Feature

What does an Emmy Award-winning film-maker for National Geographic and Smithsonian have in common with a senior editor for the world's premier Spanish-language science magazine, a reporter for German Public Radio, and writers for *Astronomy*, *Scientific American*, *Sky & Telescope*, *CNN.com*, and the *Los Angeles Times*? They all spent four intense days with UC-HiPACC faculty at the first-ever 'boot camp' on astrocomputing

June 2012

Nearly two dozen of the world's top science and engineering journalists—whose publications and productions collectively reach more than 10 million readers and viewers worldwide—converged onto the campus of the University of California at Santa Cruz for the first “boot camp” on astronomy to be held on the West Coast.

“Computational Astronomy: From Planets to Cosmos,” was an intense three-and-a-half-day back-grounder for practicing science or engineering journalists from all media—print, online, broadcast, social media, and film—whether on staff or freelance. The boot camp was also the first ever to be offered specifically on astrocomputing.

Range of journalists

Applications to the journalism boot camp were accepted from March 1 to 30. The array of journalistic talent who responded was so impressive that the program accepted 21 applicants instead of the originally anticipated 12 to 16.

The group represented all media. It included magazine feature writers for *Air & Space*/*Smithsonian*, *Astronomy*, *Chemical & Engineering News*, *New Scientist*, *Scien-*

tific American, and *Sky & Telescope*; daily newspaper reporters for the *San Francisco Chronicle* and *Los Angeles Times*; and online writers and new media specialists for *Physics Today*, *Popular Science*, and *CNN.com*. Also included was an Emmy Award-winning documentary filmmaker for *National Geographic* and *Smithsonian*,

a reporter for German Public Radio, and senior writers for two major international periodicals: the largest science magazines in the Spanish language (*Muy Interesante*, with a worldwide circulation of more than 3 million) and in Eastern Europe (the Czech language weekly *Respekt*).

The group was rounded out by public



The 20 science/engineering journalists who attending the first UC-HiPACC boot camp on computational astronomy are shown with UC-HiPACC staff in front of an image from the Bolshoi cosmological simulation on the 128-screen Hyperwall of the Pleiades supercomputer at NASA Ames Research Center. Seated in front row from left: Bruce Lieberman, Heather Marie Goss, Rebecca Boyle, Liz Kruesi, Chad Cohen, Camille Carlisle, Lisa Grossman, Amina Khan, Martin Uhler, Pam Frost Gorder, John Matson. Standing in rear row: Joel R. Primack and his wife Nancy E. Abrams, Guido Meyer, Elizabeth Wilson, Angela Posada-Swofford, Elizabeth Landau, Katie Detwiler, Philip Downey, Earle M. Holland, Donna Hesterman, Charles Day, Nina McCurdy.

All photos by Trudy E. Bell



Boot camp mini-courses included presentations by Mike Norman (director of the San Diego Supercomputer Center at UC San Diego), Claire Max (director of the Center for Adaptive Optics at UC Santa Cruz), Brenda Dingus (Principal Investigator, High Altitude Water Cerenkov detector, Los Alamos National Laboratory), and Donald T. Gavel (director of the Laboratory for Adaptive Optics at UC Santa Cruz). Keynote banquet speaker was Sandra M. Faber, University Professor of Astronomy and Astrophysics, UC Santa Cruz. Monday's sessions also included an on-campus behind-the-scenes field trip through the famed University of California Observatory Instrument Laboratory and optical shops.



Faculty for the 2012 UC-HiPACC Science/Engineering Journalism Boot Camp
 "Computational Astronomy: From Planets to Cosmos":

- James S. Bullock, UC Irvine (Director, Center for Galaxy Evolution) <http://www.physics.uci.edu/~bullock/>
- Brenda Dingus, Los Alamos National Lab (PI, High Altitude Water Cerenkov detector)
- Sandra M. Faber (banquet speaker), UC Santa Cruz <http://astro.ucsc.edu/~dept/faculty/faber.html>
- George M. Fuller, UC San Diego <http://casswww.ucsd.edu/index.php/faculty:Gfuller>
- Steven Furlanetto, UC Los Angeles <http://www.astro.ucla.edu/~sfurlane/>
- Kim Griest, UC San Diego (chair, US Astronomy and Astrophysics Advisory Committee) <http://physics.ucsd.edu/~griest/>
- Manoj Kaplinghat, UC Irvine <http://physics.uci.edu/~kaplinghat/>
- Mark Krumholz, UC Santa Cruz <http://research.pbsci.ucsc.edu/astro/krumholz/>
- Gregory P. Laughlin, UC Santa Cruz <http://www.ucolick.org/~laugh/>
- Claire E. Max, UC Santa Cruz (Director, Center for Adaptive Optics) <http://www.ucolick.org/~max/max-web/Max.v2.html>
- Michael Norman, UC San Diego (director, San Diego Supercomputer Center) <http://www.sdsc.edu/about/Director.html>
- Joel R. Primack, UC Santa Cruz (director, UC-HiPACC) <http://scipp.ucsc.edu/personnel/profiles/primack.html>
- Eliot Quataert, UC Berkeley (director, Theoretical Astrophysics Center) <http://astro.berkeley.edu/~eliot/>

information officers from Ohio State University and the University of Florida.

Participants spanned the entire range of journalistic experience from blazing young talents who have been writing professionally for only two or three years (and who thus will be writing for decades to come), to mid- and late-career veterans seasoned with stories, experience, and contacts.

3.5 packed days

The boot camp opened with a welcome reception and introductions Sunday evening, June 24 at the home of UC-HiPACC director Joel R. Primack and his wife, philosopher and writer Nancy E. Abrams.

Sessions the first two full days were held on the campus of the University of California, Santa Cruz, home to UC-HiPACC, the University of California Observatories, the Center for Adaptive Optics, and the Santa Cruz Institute for Particle Physics.

Monday and Tuesday were two full days of intensive "mini-courses" focused on current pioneering investigations in planetary science, stellar astronomy, explosive and high energy astrophysics, dark matter and dark energy, and cosmology,





Plenty of time was allotted for the journalists and boot camp faculty to converse informally at length. At the reception before Monday's banquet, Robert Irion (director of the science communication program at UC Santa Cruz) talks with Lisa Grossman and Donna Hesterman (top left); Kim Griest (professor of physics, UC San Diego) listens to Elizabeth Wilson, Earle M. Holland, and Pam Frost Gordon (top right); and James S. Bullock (director, Center for Galaxy Evolution, UC Irvine) chats with Heather Marie Goss, Charles Day, and John Matson (left). All mini-course faculty members attended at least one full day of the boot camp and many were able to attend both days of formal sessions.

including discussions of instrumentation and analytical techniques. Mini-courses were given by top astrophysics faculty from across the campuses of the University of California system and from the Department of Energy National Laboratories affiliated with UC-HiPACC.

Monday also included an on-campus field trip to the famous University of California Instrument Laboratories and optical shops, plus an evening banquet. Tuesday afternoon concluded with a 90-minute round-table session devoted to discussion of journalistic challenges, such as accurately portraying complex analytical techniques and exciting science when industry pressures are toward ever shorter stories.

Wednesday featured field trips

Journalists selected for the 2012 UC-HiPACC Journalism Boot Camp "Computational Astronomy: From Planets to Cosmos"

Rebecca Boyle
Freelance writer/Contributing Editor, *Popular Science*

Camille Carlisle, M.S.
Assistant Editor, *Sky & Telescope*

Chad Cohen, M.A.
Freelance Producer/Smithsonian Channel

Charles Day, Ph.D.
Senior Editor, *Physics Today*

Katie Detwiler
Freelance filmmaker
(doctoral student, New School for Social Research)

Philip Downey, M.A.
Freelance Writer

Pam Frost Gorder, M.A.
Assistant Director, Research Communications
Ohio State University

Heather Marie Goss
Associate Editor, *Air & Space/Smithsonian*

Lisa Grossman
Staff Reporter, *New Scientist*

Donna Hesterman, M.S.
Science Writer, Office of Research Communications
University of Florida

Earle M. Holland
Freelance writer

Amina Khan
Science Writer, *Los Angeles Times*

Liz Kruesi
Associate Editor, *Astronomy*

Elizabeth Rosa Landau, M.A.
Writer/Producer, CNN.com

Bruce Lieberman, M.S.
Freelance Science & Environment Writer

John Matson, M.A.
Associate Editor, *Scientific American*

Guido Meyer
Wissenschaftsjournalist, German and Austrian Public Radio

David Perlman [unable to attend due to sudden illness]
Science Editor, *San Francisco Chronicle*

Angela Posada-Swofford
U.S. Correspondent/Science Writer/Producer, *Muy Interesante*

Martin Uhlir, M.S.
Journalist and Editor, *Respekt Weekly*

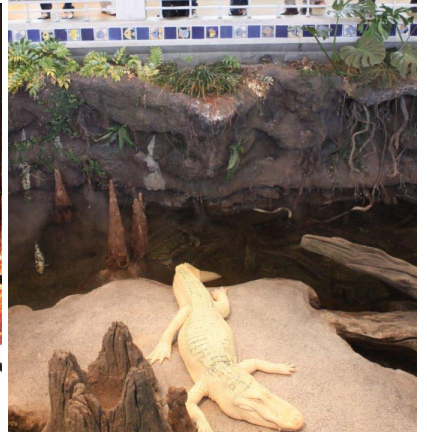
Elizabeth Wilson
Senior Editor, West Coast,
Chemical & Engineering News



At the end of the second day of the boot camp's formal sessions at UCSC, a lively 90-minute roundtable discussion among the journalists and faculty (moderated by Rob Irion) addressed current challenges in writing about complex science and technology for various audiences.



to two institutions leading in astro-computing and visualization. In the morning, the group traveled to NASA Ames Research Center, Moffett Field, Mountain View, where Christopher E. Henze demonstrated use of the 128-screen Hyperwall of the Pleiades supercomputer. The group continued to the California Academy of Sciences for lunch and a tour of the visualization laboratories, followed by a viewing of two productions in the digital Morrison Planetarium. The day ended with the dress rehearsal for a press conference by B612, a private corporation announcing its intention to build and launch a satellite into solar orbit to monitor possibly threatening near-Earth asteroids.



Expenses of both faculty and journalists were underwritten by UC-HiPACC. Full program with links to a PDF directory of the faculty speakers and participants plus talks and videos is at http://hipacc.ucsc.edu/2012CAJBC_Program.html
- Trudy E. Bell, M.A.



The third day of the boot camp consisted of two back-to-back field trips. That morning at NASA Ames Research Center, Christopher E. Henze demonstrated the analytical and visualization capabilities of the 128-screen Hyperwall of the Pleiades supercomputer. That afternoon at the California Academy of Sciences in San Francisco, a tour included the visualization labs, a peek at biological specimens collected in the nineteenth century, and two digital planetarium shows.

About the University of California High-Performance AstroComputing Center:



The University of California High-Performance AstroComputing Center (UC-HiPACC), based at the University of California at Santa Cruz, is a consortium of all the University of California campuses and three Department of Energy laboratories (Lawrence Berkeley Laboratory, Lawrence Livermore Laboratory, and Los Alamos National Laboratory). Although UC-HiPACC does not support research directly, it fosters collaborations among researchers at the various sites by offering travel and other grants. One of its missions is to strengthen and draw attention to the world-class resources for computational astronomy within the University of

California system. To that end, UC-HiPACC sponsors an annual summer school for graduate students and postdocs in computational astronomy, it organizes and sponsors two major conferences each year, and it supports collaborations across the University of California system. More information is at <http://hipacc.ucsc.edu>.
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