

Science Education at the Crossroads



2-4 October 2008
Alta, Utah

Organized and hosted by
Adam Johnston & John Settlage,
who gratefully acknowledge the support of:

The National Science Foundation
College of Science, Weber State University
Neag School of Education, University of Connecticut
First Graders of Polk Elementary School, Ogden, UT

Rosie O'Grady, Alta Lodge

David Lee, Utah Poet Laureate, 1997-2002

and

2008 *Crossroads* Participants and Facilitators

2008
Final Program

Silence

Now it is time to say what you have to say.
The room is quiet,
The whirring fan has been unplugged,
and the girl who was tapping
a pencil on her desktop has been removed.

So tell us what is on your mind.
We want to hear the sound of your foliage,
the unraveling of your tool kit,
your songs of loneliness,
your songs of hurt.

The trains are motionless on the tracks,
the ships at rest in the harbor.
The dogs are cocking their heads
and the gods are peering down from their balloons.
The town is hushed,

and everyone here has a copy.
So tell us about your parents—
your father behind the steering wheel,
your cruel mother at the sink.
Let's hear about all the clouds you saw, all the trees.

Read the poem you brought with you tonight.
The ocean has stopped sloshing around,
and even Beethoven
is sitting up in his deathbed,
his cold hearing-horn inserted in one ear.

Billy Collins
(From *Picnic, Lightning*)

TO BE BOLD

Adam Johnston & John Settlage
Science Education at the Crossroads

Welcome to Alta

Here at 8,600 feet of elevation, we're rising to new a level in both literal and metaphorical ways. *Science Education at the Crossroads* was this idea that John and I had years ago. Part dare, part frustration, and part gumption, we decided to simply try this out. We invited people we knew and encouraged them to invite those that they knew to present ideas that they were thinking about, being troubled by, or simply musing about in their heads. In short, we wanted to facilitate how new work grows legs and tries them out for the first time.

Our first conference was in Storrs, Connecticut, on the UConn campus. It was a nice place to start. Logistically, John knew the lay of the campus and had good people to help with details. We were excited and even surprised to see that people made it to the middle of Connecticut, true to their word. It was our first step at being bold and trying something new.

Our second year was hosted in Ogden, Utah. It wasn't on a campus, but only a couple of miles away from Weber State and familiar surroundings. We had a quaint downtown to take advantage of, and we hosted poetry and a reception at a children's museum down the street. At this point, just between John and myself, we realized that we were starting to escalate the standards of the conference. A college campus the first year, a familiar town the second year and . . .

. . . Amherst, Massachusetts the third year. With people sleeping in rooms years ago frequented by Robert Frost in this quaint, out of the way college town, we started to realize that we could experiment outside of our familiar surroundings. We learned new tricks, including how to get people shuttled from the airport, and it became clear that John had upped the ante with this conference venue.

So I started looking into venues that were even further "up", and that's how we find ourselves here at Alta for our fourth year. We continue to get more bold in our choice of conference venues, and we wonder where this will take us in the future. Some have suggested Athens for 2009, but we can't decide between Georgia and Greece. As we talk about this between ourselves, we wonder if we should try to make the next venue more remote or just simply higher in elevation. Or both.

At any rate, what we've found is that we've become emboldened to try new things, new places, new projects, and it isn't because we know what we're doing. Hardly. We do this because

1. we have fun*,
2. we notice others having fun, and
3. we are inspired to replicate the mood.

In particular we have become inspired by what people bring to *Crossroads*. This isn't a run-of-the-mill conference, but a place where people generate ideas, inspire one another, and try new things. It is a venue where being bold is encouraged, and the fact that these things we propose could fail is an asset. If it were a sure thing, it wouldn't be worth doing, it seems. Individuals bring career plans, retirement plans, research plans, summer plans, and teaching plans and lay them upon the table and let others tear into them. It's a bold, risky maneuver. And we think it pays off. At the very least, it has inspired us. So, thank you. And thanks to you, this inspiration continues to lead us. Maybe next year to Athens, or Antarctica, or . . .

Two additional notes:

Included with this program should be a variety of materials, including your name badges. These have been customized for you by the first grade students of Ms. Cotter and Mrs. Ferguson at Polk Elementary School of Ogden, Utah. We dearly appreciate their help! Via the personal contributions of these children, we wanted to give you a constant reminder of why we're in this business in the first place.

Also, this document is the conference *Program*, and it lists the when/where/who/what of the conference. You should also have the conference *Proceedings*, sent in advance, which gives you the heart of the conference and what is presented at each Incubator session. It is also available at our website, www.sciedxroads.org, along with archives of other meetings' proceedings, keynotes, and the like.

* "Fun" is misleading. It's not only the playing-in-the-sandbox kind of fun, but the kind of fun we learned to have in graduate school, working in elementary schools, talking about theoretical foundations of research, considering policy implications, etc. As odd – or funny – as it may seem, "fun" seems like the best descriptor of all this and more.

CONFERENCE PROGRAM

2-4 October 2008, Alta, UT

Science Education at the Crossroads

Thursday, 10/2/2008		
2:00 - 7:00 PM	Conference check-in	Alta Lodge Lobby Registration Desk
7:00 - 8:00 PM	Reception, Welcome and Orientation Adam Johnston & John Settlege	Deck Room
8:00 - 9:00 PM	My Favorite Poem Readings & Social Willing volunteers	
Afterhours	Socializing and discussion	

Friday, 10/3/2008		
7:30 - 8:45 AM	Breakfast	Dining Rooms
8:45 - 9:00 AM	Re-welcome and Introduction	Our Lady of the Snows
9:00 - 10:00 AM	2008 Crossroads Keynote Address: Riding the Wave Heidi Carlone University of North Carolina at Greensboro	Our Lady of the Snows
10:15 - 10:45 AM	Break	Lobby
10:45 - Noon	Incubator Forum A: Eileen Parsons & Al Schademan (w/ Dina) Matt Smith & Michelle Brown (w/ Rob) Amy Cox-Peterson & Sharon Ohlhorst (w/ Heather) Mark Enfield & Magnia George (w/ Rachel)	Deck Room Sitzmark Room Deep Powder Room Tyrol Room
Noon - 1:00 PM	Lunch	Dining rooms / patio
1:15 - 2:30 PM	Incubator Forum B: Sharon Dotger & Malcolm Butler (w/ Sara) Steven Fletcher & Pamela Cantrell (w/ Dina) Angela Johnson & Donna Ross (w/ Rob) Jim Kisiel & Adam Johnston (w/ Heather)	Deck Room Sitzmark Room Deep Powder Room Tyrol Room

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2:30 – 3:00 PM	Break	Lobby
3:00 – 4:30 PM	Incubator Forum C: Julie Luft & Kathy Manning (w/ Rachel) Juanita Jo Matkins & Kip Ault (w/ Sara) Maria Rivera Maulucci & Duane Merrell (w/ Dina) Scott McDonald & Francis Broadway (w/ Rob)	Deck Room Sitzmark Room Deep Powder Room Tyrol Room
4:30 – 7:30 PM	Free time to relax or hike Dinner on your own	Coordinate rides for dinner.
7:30 – 8:00 PM	Dessert reception	Our Lady of the Snows
8:00 – 9:00 PM	2008 Invited Poetry Reading: <i>So Quietly the Earth and other resonations</i> David Lee, Inaugural Utah Poet Laureate	Our Lady of the Snows
9:00 -- ???	Book signing, discussion, and reception	Our Lady of the Snows
Afterhours	Continued discussions . . .	

Saturday, 10/4/2008		
7:30 – 8:45 AM	Breakfast	Dining Rooms
9:00– 10:15 AM	Incubator Forum D: Cory Buxton & Andrew Gilbert (w/ Heather) Dan Bedford & Bryan Brown (w/ Rachel) Julie Kittleson & Heidi Carlone (w/ Sara) Lloyd Barrow & Eric Olson (w/ Dina)	Deck Room Sitzmark Room Deep Powder Room Tyrol Room
10:15 – 10:45 AM	Break	Lobby
10:45 AM - Noon	Incubator Forum E: Jacqueline McDonnough & Carla Zembal-Saul (w/ Rob) Lara Pacifici & April Luehmann (w/ Heather) Gill Roehrig & Larry Flick (w/ Rachel) Leigh Smith & Brian Williams (w/ Sara) John Settlage & Bhaskar Upadhyay (w/ Dina)	Deck Room Sitzmark Room Deep Powder Room Tyrol Room Our Lady of the Snows
Noon – 1:00 PM	Lunch	Dining rooms / patio

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1:15 – 2:30 PM	Town Hall and Evaluation Julie Kittleson	Deck Room
2:30 – 5:00 PM	Free time to relax or hike	Coordinate rides to Albion Basin, etc.
5:00 – 7:00 PM	Mountain Cookout and conference conclusion	Deck Room / Patio
Afterhours	Continued discussions . . .	
	Shuttles and carpools to SLC Airport	

Sunday, 10/5/2008		
9:30 AM – 2:00 PM	Brunch available for guests staying at Alta Lodge on Saturday night	Dining Rooms / Patio
	Shuttles and carpools to SLC Airport	

O R I E N T A T I O N T O I N C U B A T I O N

A brief guide to the 2008 meeting
Science Education at the Crossroads

During our introductions of the first evening of the conference, we try to orient you to all of the following, but we've learned that it's also useful to document things in the program.

Incubator Sessions

A distinguishing feature of the Crossroads Conference is the way in which sessions are organized. Each Incubator session lasts for 75 minutes and focuses upon the presentations by two individuals. Following brief introductions and orientation by the Facilitator, the sessions proceed according to this rather precise schedule:

Statement: 10 minutes for the presenter to describe the vexation/venture (without interruption)

Clarify: 5 minutes for the participants to ask clarifying questions of the presenter (with responses from the presenter)

Incubate: 15 minutes for the participants to discuss the venture/vexation of the presenter (without any input from the presenter), and finally

Rejoin: 5 minutes for the presenter to become un-gagged and respond, ask questions, and/or summarize what they've heard.

Keeping to this schedule is under the joint control of two very powerful forces: The Facilitator and The Clock. Efforts to violate this arrangement are undertaken at your peril.

The Facilitators

There are only a few structures in place at Crossroads. The most crucial is the existence of a Facilitator in each session. Their ultimate purpose is to create the proper environment for everyone to benefit from the Incubator sessions. They are best characterized as endearing taskmasters. These individuals hail from diverse corners of the country and bring their own spectra of science education experiences. They have been hand-selected based on several criteria, not the least of which is their good nature but high standards for good behavior. (At least a few of our facilitators have survived middle school classrooms. Don't cross them.) They are volunteering their time to assist in this event and their efforts make all the difference. Their presence allows the conference organizers to participate in their own conference. We are indebted to each of these five individuals:

Sara Byrd Rob Ceglie Dina Drits Heather Harkins Rachel Wilson

Incubator Etiquette

NONE of the presentations at Crossroads are trivial. Each presenter is offering important perspectives and inputs from others. By this measure, you will benefit by attending any Incubator within a given time slot. We have two requests regarding your attendance and participation:

1. We discourage moving between sessions during a given timeslot. While such practices are common at other conferences, it is not necessary given the nature of the sessions.
2. We encourage a uniform distribution of bodies across sessions. If you notice a crowded or sparsely populated room, consider doing your part to balance the numbers.

We accept the reality that the conversation within any Incubator session is unpredictable. To a large extent, we have found that any session benefits by have a range of views being expressed. So in the

ORIENTATION TO INCUBATION

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spirit of “Situation Recognition,” this year’s conference theme, please recognize given situations in each session and do your part to make attendance at sessions relatively equitable.

Vexation & Ventures

Typically, Crossroads papers contain two headings: “Vexation” and “Venture.” Beyond this and the space constraints of a two-page spread, we leave the writing up to the individual. After getting feedback from John and Adam, final editing decisions are left up to the authors. As a result, you will see a wide variety of concerns, writing style, additional headers, narratives, etc. While we’ve made fonts and styles as uniform as possible, we want each piece and its presentation to be as individualized as the individual.

Citing a Paper

We believe a conference can be both personally transformative and professionally legitimate. Toward the latter point, we would request that you include a citation of your Crossroads participation on your resume or vitae. (Additionally, you may be doing work where it would be appropriate to cite someone else’s Crossroads contribution.) If you wish to list this as a presentation, we suggest that you use this citation:

Your name. (2008). Title of your talk. Paper presented at the annual meeting of Science Education at the Crossroads, October 2-4, Alta, UT (sponsored by the National Science Foundation) [Available online at www.sciedxroads.org/proceedings2008.html].

As a refereed paper, you could also cite your work as a publication:

Your name. (2008). Title of your talk. In A. Johnston & J. Settlage (Eds.), *Proceedings of the Science Education at the Crossroads Conference* (pp. xx-xy). Alta, UT: National Science Foundation [Available online at www.sciedxroads.org/proceedings2008.html].

Because we have seen references to Crossroads appearing in print in research journals, we offer these citation suggestions because of the practical need to connect others to our work. This allows us to trace the ripple effects of Crossroads. It also is an indication that you are an active member of our vital community.

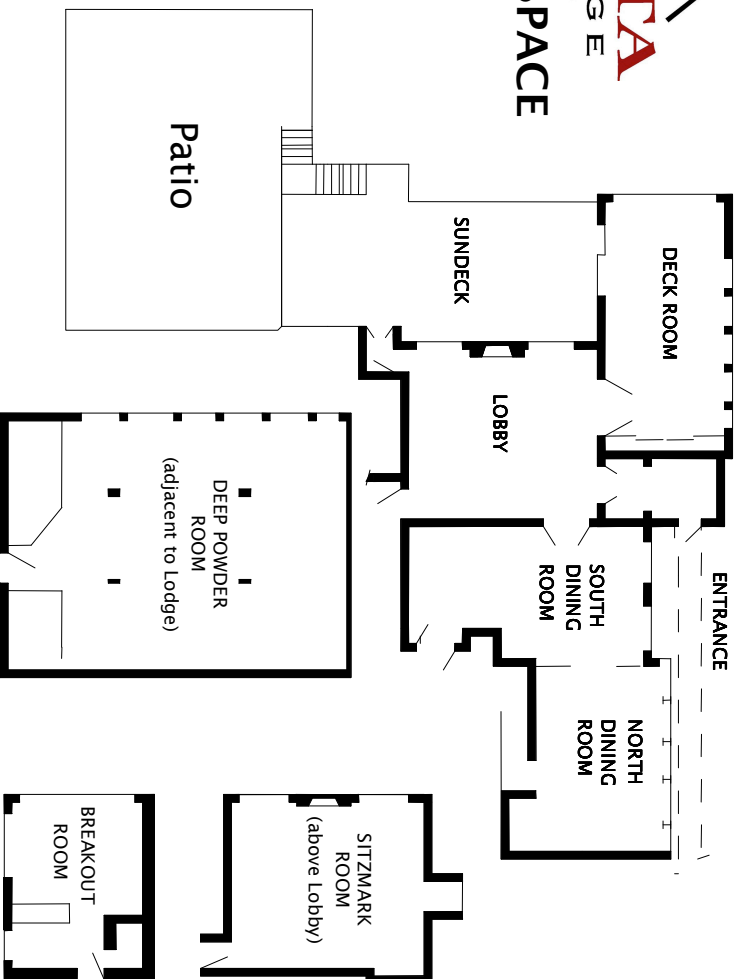
Poetry

We are also delighted to have scheduled **David Lee**, Utah's first Poet Laureate, for our annual poetry reading on the Friday evening of our conference. Lee's work ranges from pig farming to desert landscape, but in all of it he brings a unique voice and disarming perspective. His most recent book, *So Quietly the Earth*, delivers odes to the environment of southern Utah's desert landscape. He is excited to read new, unpublished work as well, specially selected for our group.

Poetry has become a tradition at Crossroads, as a poet has been specially selected for each of our four years of running the conference. At first, this was done because it struck our fancy; yet, this quickly became an example of yet another way we can discover new voices, different perspectives, and new means of describing our worlds. We are excited to have David continue this tradition, and we are grateful to the College of Science at Weber State University for supporting his visit.

Our first night’s social includes a “My Favorite Poem” reading for the second year in a row. This, we admit, is purely because it strikes us as fun, entertaining, and a good way to begin introductions of one another. We hope you enjoy the continuation of this brief tradition.

ALTA
LOGGE
Since 1939
GROUP SPACE



Notes:

- “Our Lady of the Snows” is the community center across the road from Alta Lodge.
- The Tyrol Room is the Breakout Room below the Lobby.