NRCEN Panel IV

April 14, 2007

Lots of acronyms, alphabet soup

Tab 13 in your binder, abstract and synopsis

CDs and Pamphlets handed out, some at front, celebrating chemistry

Bob de Groot
Transitional piece, two parts, natural partnership builders, we do it well, one particular aspect – we (NRCEN) work with societies to promote research based outreach

What do these societies offer, training, materials, etc.

Eric Marshall
Mark Benthian – how can you build successful partnerships with a broad group
Bob – Volunteers and the power that these societies can bring – motivated people
Dan – transition piece – what about us, who we are, what can we offer?

How we fill a vital but unfilled niche

Questions under the abstract

Many of us have conviction that we are an emerging profession, feedback from you is vital

Eric Marshall –
Scientific Societies and Education Outreach

Provide different levels of infrastructure to support outreach and different programs
Support the efforts of their members as well as their own programs to engage with the public

Website of ASTC – organization like this has resources for Professional Development, online tutorials, conferences
Small topical meetings called wraps, individual institutions can work in these

Create or rent a traveling exhibit

Best practices to increase diversity, how to get a job, etc.

Major services: journals, print, website, exhibitions,

Tracking and analyzing trends

Representing interests before congress
Emails, etc.

Increase women, minorities and people with disabilities

Try Science – ASTC, IBM, NY Hall of Science

9 different languages, compile resources, lots of museums featured

IEEE – largest professional technical organization
Publications, conferences, prof. dev.

Organized in sophisticated ways to reach grassroots level, interest and awareness of engineering and types of engineering, just like stereotypes of scientists, they exist for engineers, as well
Relevance to the general public, TryEngineering.org, for high school students and teachers

Pre-college piece – teacher in-service programs

Teachers working with engineers in the field, $1000 award for IEEE members for outreach

AAAS – publications (Science) News Alerts, policy, support for members,
Project 2061 – promoting science literacy
With NSF funding partnership for science literacy – for parents – why science matters, how to support it in schools, how to engage with your kids in science everywhere, family guides for science, in print and on web

Can find museums and resources in your area

MRS –
Typical society stuff (pubs and conf), connecting with vendors and exhibition halls
Support for members

Increasing trend – supporting dedicated efforts in outreach – NISE (MRS key partner in this)
Check out the publications about researchers in science education outreach

Good place to compile resources and photos and ways to engage public

Strange Matter was very successful – real opportunity to engage MRS members in science centers (Like Princeton MRSEC and LSC!)

Emerging education outreach environment

Mark Benthian – USC (Bob's boss)

Developing and Sustaining Long lasting partnerships

What is it about certain partnerships that make them a success – common features?

When you have a partnership of many organizations

SCEC – we've minimized our own institutional identity for buy-in, not come join "our center", but really try to fulfill our partnerships' missions
Encourage leadership in the partners' organization

No rigid structure, no structured MOU, in supporting them, you are leading

SCEC – large group 55 institutions, over 500 scientists, on paper, it doesn't look like their getting much out of this, meetings have >400 members, 125 PIs funded each, really don't get that much funding, but really their taking a role in something greater, don't usually say USC center, but mostly focused on larger group of SCEC, now funded by USGS as well and include in logo

Core institutions – decision making entity, but everyone is empowered in the large community

Graduated STC (additional funding though), comes to USC and have a grant program to support schools across country

Not all the scientists in rigid categories, interdisciplinary – many different overlapping topics, sign of people interacting in many ways, evolved from STC that was more separate, in not categorizing people in specific research groups, participate more

Foster many partnerships – crazy diagram
How do we think of our various partnerships, education, risk management, professional societies, etc.
Categorize by E+KT, KT+O, Education, Outreach, E+O

Van Diagram type thing – overlapping partners as well

Earthquake Country Alliance – government, business, scientists, community, minimize identity – maximize impact, bring focus back to earthquakes in face of terrorism distraction

Maintains a leadership role, but really everyone participates greatly

California Earthquake Authority – State insurance organization – was going to create their own awareness booklet, but SCEC had one already, met together and shared resources, helped with funding for booklet

Increase safety in SoCal, not directly our mission, but when going through safety, can share science as well,

Booklet – first did in 1995 with Jill, most of Mark's day was spent mailing them out!

Now they have other ways of distributing, Spanish version as well

Working with USGS, allowed for a Bay Area version of the booklet, and now Spanish, Chinese, Korean, really SCEC's success that it's been disseminated by other orgs

EarthquakeCountry.info – website, science and preparedness as well
Very subtle branding

Dare to Prepare – Shift Happens - Secure your space
USGS can't use the term, but SCEC can! Shift happenings on ground, in earth, in awareness

EPD – LA's Emergency Preparedness Department –
With Allstate and Red Cross, don't mention SCEC and USC, but still a success because others are adopting it

Don't fail when your organization isn't high up on the letterhead, still a success if your ideas are implemented

Bob – Volunteers

Students, retirees, Volunteer with ACS, started in 1987, listened to Harry Grey and hooked ever since

ACS – Largest scientific society, divided into 190 local sections, membership organization, 700 staffers in DC, working with volunteers, supporting roles, but the volunteers are doing the work,

Don't underestimate the power of the volunteer

Culture of volunteerism, good resource

CD – community outreach manual, issues related to recruitment, treatment, recognition, awards,
Salutes to Excellence awarded to Bob

Committee on Community Activities – design and implement programs – Chemists Celebrate Earth Day, etc.

Designed by member volunteers,
Community activities pamphlet designed by volunteers as well

Dilemmas – shortage for good volunteers

Breakdown of numbers – different levels of involvement and 5% don't participate and criticize

What do volunteers need?
Explicit instructions and activities
Making them feel comfortable
Say thank you

Manual – plenty for free

Action!
Determine the needs of your volunteers, attempt to meet,
NRCEN, we know lots of our work will be done by volunteers and we should take all this into consideration

Dan –
Kitty Wagner does a lot of outreach work for ACS and gets a lot of volunteers through that

Drum up some conversation, think of ourselves as an emerging profession
Should think of yourself as an important professional
RAGS – Rising Against the Gathering Storm, National Academies Press
K-12 outreach is key to America's economic future, improve talent pool, etc.

Numbers – each of us teach 1 million kids, we could fix the crisis, one click away from the main page of NSF, 200,000 students and scientists funded by NSF

That means 13 scientists per district to help.

Not like any other profession, diverse group

Remarkable profession – can you work with teachers without working with school districts? Are all scientists are good speakers or appropriate for young audiences?

ASP – Not many know of the Astronomical Society of the Pacific

Andrew Fraknoi made a sea change in this organization – started a new trend – all their professional meetings are about education research

370 public outreach professionals at 2005 meeting

Astronomy – but lessons to learn from them

Paper was written by Andrew Fraknoi – Steps and Misteps towards an Emerging Profession

So many different backgrounds, so many tasks

Have to understand latest education research, the latest science content, and pedagogy, so much knowledge in this group (NRCEN)

How can we become more professional – what makes an EPO provider professional – what we can and should do

Learn the literature of science and engineering education – we may have to write it ourselves
We're doing all the research and work; we just need to write it down
Learn from others and don't reinvent the wheel
Professional view of these programs – how much work goes into these programs – as much work as regular science and engineering research?

Can't put a program together in a week

Our own evaluation – part of our research
Promoting your own center? Also promote science and engineering education in general!!
Ask your director to send you to these meeting, and encourage more education and training

What can we do to become more professional?

Standards
Awards
Advocacy
Recognition

The work that you're doing is the most important work that NSF funds. – Jeff Nesbit

Questions:

What can NRCEN do to help you in your work as a professional NSF educator?

What can you do to assist NRCEN in achieving its goals as an organization?

Groups Responses:

Ethan Allen:
We should all go back and look at NEO-Sphere, get actively involved, publications, articles, modules, contribute – NSF urging, prizes?

Small effort – Big difference

Anne Donnelly:
We think we need to do some fine tuning of the concept of the professional
Education Outreach Professional?
Education Professional, not outreach
Still getting jobs, so it is a profession
Are we Education Professional? Are we Outreach Professional?
Careful about what we decide to call ourselves.

Marco Molinaro:
What can we do to help?
Research on learning science
Post all the major reports such as Gathering Storm, etc.
Key tables extracted and available – graduation rates, etc. real data to justify programs

(Jill – two parts of NEO-Sphere for publications, statistics, links, that self-organizes , relevance factor like google)

Rate conferences – best for X
Good to share

Papers in different areas – teachers prof dev., need to learn Algebra to succeed in engineering, research data that we can use

Dave Yaron:
Introduce people to researchers on learning

Holly Pellerin:
What happens after the center expires, what happens to all that stuff? Great stuff, can't let it disappear.