

**A REPORT ON COPUS REGIONAL AND THEMATIC HUBS:
A STRATEGIC WORKSHOP TO SUPPORT
THE PUBLIC UNDERSTANDING OF SCIENCE
March 7-8, 2008, St. Petersburg, Florida**

RATIONALE

There continues to be concern among the scientific, education, and business communities that science and our participation and leadership in science are at risk. Perhaps to the science research community, the most critical aspect of this concern is a growing public disengagement from and lack of clarity about science. The 2006 Science and Engineering Indicators published by the National Science Board indicate that “most Americans do not understand the scientific process and therefore may lack a valuable tool for assessing the validity of various claims they encounter in daily life” and that belief in pseudoscience is relatively widespread.

It was these concerns that led to a “meeting of the minds” that was held in Berkeley, January 2006 on the topic of the public understanding of science (NSF Grant No. EAR-0606600). A set of interlinked needs emerged from that initial workshop – the formation of a sustained national effort, a long-term coalition or network of participants, and a coordinated national campaign or set of programs to celebrate science – all of which, in the long term, would lead to an increased public engagement in and understanding of science. These needs are now being met through the recent formation of the **Coalition on the Public Understanding of Science (COPUS)** and its **Year of Science 2009 (YoS09)**.

COPUS emerged from the science research community and now exists as a grassroots effort linking universities, scientific societies, science centers and museums, government agencies, advocacy groups, media, educators, businesses, and industry in a peer network. COPUS has as its goal a greater public engagement with and understanding of the nature and process of science and recognizes the need for commitment from all science stakeholders to work together toward achieving this goal.

While COPUS has been growing as a national initiative, energetic hubs of activity have begun to coalesce around common regional interests and concerns about science literacy and public engagement in science. These groups are now formally part of the COPUS network and registered as COPUS Hubs, which provide not only the local connection relevant to a particular regional audience, but also the potential for a higher level of sustainability for the COPUS effort. The purpose of this workshop was to bring together hub leaders to share experiences, identify common needs and challenges, and articulate recommendations for others and to lay the foundation for a sustainable COPUS network.

WORKSHOP GOALS AND PARTICIPANTS

The COPUS Regional Hub Meeting was held in March 7-8, 2008, hosted by the University of South Florida St. Petersburg, in Tampa Bay, Florida, and funded by NSF (Grant No. EAR-0814048). Members of the workshop organizing committee (see list page 10) met one day prior to and immediately following the close of the meeting. The meeting was convened by Judy

Scotchmoor, COPUS Steering Committee and UC Museum of Paleontology and Sheri Potter, COPUS Network Project Manager and American Institute of Biological Sciences (AIBS) with assistance from Holly Menninger, COPUS Action Team and AIBS.

The seventeen participants included representatives from seven regional hubs (Ann Arbor, MI; Boston, MA; Chicago, IL; Raleigh-Durham-Chapel Hill, NC; San Francisco Bay Area, CA; Seattle region, WA; Tampa Bay, FL; and Ballston, VA) and from the Association of Science and Technology Centers (ASTC), WGBH Educational Foundation, Sigma Xi, Society of Physics Students (SPS), and the State Geological Surveys. (See Participant List page 10)

The primary goals of the workshop were to:

- Examine different hub models
- Identify and articulate motivations opportunities, advantages, and challenges of developing and maintaining a regional or thematic hub
- Share successes and best practices
- Focus on critical needs for a successful hub, including those that can best be met by COPUS
- Discuss needs and strategies for long-term networking



WORKSHOP FORMAT AND DISCUSSIONS

The workshop was designed to promote a high level of discourse among COPUS participants to inform the COPUS efforts, develop guidelines for the expansion of the hub system within the COPUS network, discuss plans for the Year of Science 2009, and prioritize activities and support

services to be provided by COPUS. The original agenda was modified slightly during the course of the meeting. A copy is provided within the Attachments (see page 12).

Following brief introductions and an overview of the goals of the meeting, representatives from each of the regions provided information about their hubs, focusing on motivations for forming a hub; the current hub structure, goals, and achievements thus far; funding sources; target audiences; and needs and challenges. Written summaries of these were provided in advance of the meeting and are included in the Attachments (see pages 14-24). This was followed by presentations about participation in COPUS from the perspectives of ASTC, SPS, WGBH and its PBS affiliates, Sigma Xi, the State Surveys, and AIBS.

These exchanges prompted a discussion on what COPUS is, what it is not, and what it can and should be. The following four points summarize these discussions:

- *COPUS is all about facilitating and networking scientists and science advocates to share resources and ideas – to learn from one another.*
- *COPUS is a “one for all and all for one” coalition. Its member organizations leverage resources and support each other to help the public understand the role of science in society – to convey to the public why science is critical to the economy, the environment, and their health and everyday lives.*
- *The purpose of COPUS is to help the general public – of all ages and levels of education – understand more about what’s happening in science, how it works, why science matters, and who scientists are.*
- *COPUS connects the science research and education communities with other stakeholders to enable them to communicate clearly, effectively, and with a common voice about the fundamental nature and value of science – and to draw broad national attention to the effort through a coordinated series of communications and events.*

Dialogue continued, focusing on the goals of the meeting, identifying key components for the proposed Hub Toolkit, and prioritizing activities and services to support the hub structure. These took place in both large and small group settings over the course of two days. Ultimately the depth and breadth of discussions of the meeting enabled the group to better describe characteristics and responsibilities of regional and thematic hubs, identify “key ingredients” for establishing a successful hub, articulate the benefits of participating in COPUS, and focus on common needs and challenges and strategies for addressing these. Additionally, participants previewed tools and resources that will be available to them through COPUS Commons, an online communications tool supported by COPUS Central, and through the Understanding Science website under development at the University of California Berkeley (www.understandingscience.org). The group also discussed the Year of Science 2009 initiative and the opportunities it provides. These discussions are summarized below.

1. Characteristics of Regional and Thematic Hubs

COPUS Hubs remain independent, with self-determined membership, structure, focus, and activities, but whether regional or thematic, they focus on the public understanding of and engagement in science and share common goals with COPUS:

- To develop a shared appreciation of science and its contributions to the quality of life
- To inform and engage the public in and about science, its process and nature

- To make science more accessible to everyone

COPUS Hubs interact with the national Coalition by encouraging their members to register with COPUS and by sharing national resources and services with its members.

COPUS regional hubs are locally-based communities of COPUS participants and science stakeholders that work together within a designated geographic region to promote the public understanding of science. **COPUS thematic hubs** represent nationally distributed peer communities that are interested in building bridges between their members, the national Coalition, and the regional hubs to increase the public understanding of and engagement in science. These hubs cross geographic boundaries and enlist members to offer support to COPUS activities at the national and regional levels.

2. Hub responsibilities:

- To identify and recruit others to participate in the hub and to facilitate networking among its members
- To encourage/facilitate its participants to develop collaborative activities that promote the public understanding of and engagement in science with a current focus toward participation in the Year of Science 2009 (YoS09)
- To coordinate promotion, national registration, and branding of YoS09 activities of the hub membership
- To identify a hub representative to interact with COPUS Central in order to share ideas, resources, and best practices

3. Key Ingredients for a Successful Hub

Though each registered COPUS Hub remains unique in structure and operation, participants emphasized several recommendations for developing a successful and sustainable COPUS Regional Hub, many of which are applicable to the development of new Thematic Hubs.

Recommendations included:

- Retain the grassroots nature
- Determine a suitable hub structure
- Build on what is already there
- Create a clear sense of purpose; articulate goals, objectives, and expectations of partnering organizations
- Establish communication and marketing tools
- Identify a hub facilitator or coordinator
- Develop appropriate funding strategies
- Take advantage of the initiatives, services, and resources offered at the national level

4. Benefits of Participating in COPUS

COPUS provides new opportunities to communicate and collaborate on national and local levels. Through participation in COPUS, individual organizations and hubs may:

- Increase audience participation and improve visibility of science programs and resources nationally and locally via the COPUS program and resource directory and the YoS09 website
- Enhance partnership opportunities by forming a communication network among peers with common passions and concerns, but different perspectives and areas of expertise

- Leverage existing resources by sharing best practices, tools, and content for improving public engagement in science
- Combine limited resources to expand efforts to new audiences
- Facilitate local awareness of and participation in national initiatives

5. Common Needs and Challenges

Sharing regional experiences brought a fresh perspective to the needs and challenges faced by COPUS Hubs. Participants focused on three key areas, recommending strategies and solutions:

a. How to build strong partnerships and overcome territoriality

Participants recognized the benefits and opportunities provided by COPUS and YoS09, but they also recognized that in many communities, there are already efforts in place to increase the public understanding of science. Therefore, concerns arose about territoriality, interpreting COPUS as potentially being in competition with existing organizations, or the expression of lack of need. To address these concerns, the group made the following recommendations:

- Emphasize the collaborative benefits of networking with others, stressing the potential large group impact and opportunities to build audience and leverage resources
- Retain the grassroots nature of the hub. The hub should not be identified with any single institution, but rather be guided by a core group of individuals representing multiple stakeholders. Create a rotating, distributed leadership.
- Value what groups are already doing – highlight current contributions and build on partner strengths
- Focus on bringing people from different sectors together, providing a diversity of partnerships and not just “the usual players.”
- Provide different levels of engagement for hub members
- Leverage the Year of Science 2009 as an opportunity for new collaborations and involvement in a national initiative

b. How to target the audience

Discussions focused on identifying and marketing activities toward different target audiences. Currently, it is the science-minded individuals that take advantage of community resources and engage in science. Hubs need to consider strategies for popularizing science, bringing science to the audience, and framing messages to meet the interests of each targeted audience. Science centers have marketing expertise and can support successful hub activities with those expertise. As there is already a strong emphasis on improving science education for K-12 students, participants suggested that COPUS Hubs be encouraged to examine ways to engage the adult (20+ years) and non-traditional audiences. The latter includes: rural communities, senior citizens, and at-risk populations. Science cafés are proving to be a successful strategy for reaching the adult audience and perhaps could be modified to reach other sectors of the general public.

c. How COPUS Central can support the hubs

Although each hub should determine its own structure and be responsible for its own operation, participants identified several services and resources that could best be provided by COPUS Central and made available for all COPUS Hubs and/or participants. These included:

- A “one-minute elevator speech” on the benefits of participating in COPUS

- User-friendly instructions for forming a hub
- A list of potential stakeholders along with contact information to connect regional and thematic hubs
- Assistance with hub website development
- Easy access to branding materials, logos, press releases, and other trade modular items
- A simplified form for populating the COPUS and YoS09 database. The need for duplicate entries into multiple calendars is inefficient and reduces the incentive to enter information.
- Evaluation tools to assist hubs in measuring the impact of their activities in 2009
- Suggested activities and timelines for participating in Year of Science 2009
- Assistance with communication tools, common messages, and framing

6. Year of Science 2009

The Year of Science 2009 (YoS09) is a national year-long celebration to engage the public in science and improve public understanding about the nature and processes of science. As the celebration crosses all scientific disciplines, there are ample opportunities for involvement by all COPUS participants at a variety of levels and for engaging all sectors of the public. In order to facilitate participation with effective results, the participants made several recommendations.

For COPUS Central:

- Provide a thematic framework or calendar for 2009 so that each month focuses on a particular discipline or field of study. Although only serving as a guideline, this can provide an organizational scheme around which to engage segments of the scientific community and to identify and promote public activities and events. Where possible, themes should be aligned with already occurring events, anniversaries, and national meetings.
- Expand and promote the list of ideas for celebrating YoS09 on the COPUS website, indicating how to initiate them and providing contact information for those already underway by others.
- Encourage professional organizations to focus on the public understanding of science at their national meetings in 2009.
- Provide branding and marketing tools to COPUS hubs and participants.
- Develop an engaging and interactive public website on the Year of Science 2009.
- Coordinate with professional societies and other strategic partners associated with each theme to provide resources for the community and the YoS09 website.

For COPUS Hubs:

- Hold a hub meeting focusing on activities for YoS09.
- Develop a timeline for planning and implementation of YoS09 activities. This will encourage a sense of urgency and move toward action.
- Encourage all members to list their activities on the COPUS website.
- Brand and promote all hub activities as contributing to the national initiative.



From upper left to right: Amy Harris, Holly Menninger, Kendra Rand, Wendy Pollock, Kimberly Kandros, Lee Allison, Roger Harris

From lower left to right: Ben Wiehe, Sheri Potter, Mark Terry, Kaye Breen

WORKSHOP RECOMMENDATIONS AND NEXT STEPS

The following section summarizes the discussion and resulting recommendations from the meeting in four key areas: expanding the Hub Model, services and resources from COPUS Central, the Year of Science 2009, measuring the impact.

1. Expanding the Hub Model:

It was agreed that the long term success of COPUS lies in two factors: (1) its ability to connect the science research and science education communities (both formal and informal) with other stakeholders with whom they can interact in order to more effectively communicate science and (2) on its ability to sustain efforts beyond the 2009 Year of Science. The newly developed COPUS regional and thematic hubs provide not only the local connections relevant to a particular regional audience or to a group sharing common interests, but they also provide the potential for a higher level of sustainability for the COPUS effort. The hub model should be encouraged and expanded. Strategies for effective networking among the hubs are essential.

Recommendations for COPUS Central: Based upon discussions at this meeting, COPUS Central should develop clear roles and expectations of hubs and their interactions with other members of the national coalition; expand the COPUS website to include information on hub development (e.g. the Hub Toolkit – see draft in Attachments pages 25-29); highlight different hub models and their activities on the website and in the COPUS newsletter.

Recommendations for COPUS Hubs: Hub liaisons need to share information from this meeting with current hub members; work to strengthen and expand hub memberships; encourage all hub members to register with COPUS to facilitate participation in national initiatives; share best practices with COPUS Central; encourage colleagues in other areas to initiate their own hubs.

2. Services and Resources from COPUS Central:

Participants recognized the benefits and opportunities of focusing their efforts locally while taking advantage of services and resources best offered nationally. COPUS Central can provide

important support for hubs in two key areas: (a) networking and communication and (b) marketing and promotion.

Recommendations for COPUS Central: COPUS Central is utilizing an online project management tool (COPUS Commons) for facilitating communication with and among hub liaisons. This will increase networking capabilities. In addition, COPUS Central can facilitate connections between regional and thematic hubs, provide access to marketing and promotional materials, provide recommendations for setting up a web presence for hub activities, and distribute information on common messages and framing as they are developed.

3. Year of Science 2009:

Participants agreed that the Year of Science 2009 provided an enormous opportunity for the entire science community. It is unique in that it is cross-disciplinary, inclusive, and flexible both in its potential and its participation and focuses on a single purpose: celebrate science, and a single overarching theme: how we know what we know. To facilitate involvement, participants recommended a thematic calendar approach so that each month focuses on a particular discipline, field of study, or application (e.g. astronomy, evolution, oceans, or sustainability). There should be nationally recognized events and activities as well as local and regional. YoS09 provides an excellent opportunity for corporate involvement and support. Participants also expressed a sense of urgency and the need for a planning timeline.

Recommendations for COPUS Central: With approval from the participants, COPUS Central will develop the thematic calendar for 2009, publicize the themes in the April COPUS Clarion, and advertise them on the website. In order to broaden involvement, COPUS Central will provide a list of ideas for celebrating YoS09 on its website, provide branding and marketing resources, simplify the online form for registering YoS09 activities, and encourage professional societies to include YoS09 in their annual meetings. A public website on the Year of Science 2009 will debut this summer.

Recommendations for COPUS Hubs: Each hub needs to begin their YoS09 planning and encourage all members to register their activities on the COPUS website and brand them with the YoS09 logo.

4. Measuring the impact:

Although individual institutions and projects may well have evaluation tools and strategies in place to determine the effectiveness of their programs, the participants were not aware of any evaluation instruments that would be directly applicable to COPUS and the Year of Science 2009. Participants agreed that for both scalability and sustainability, a method of measuring the impact of these two initiatives would be valuable. Several potential contacts were suggested, including the Division of Research, Evaluation, and Communication at the National Science Foundation.

Recommendations for COPUS Central: COPUS Central should work with others to develop and make available online an evaluation instrument to assist hubs in measuring the impact of their activities in 2009.

CONCLUSIONS

Participants felt that this workshop helped to clarify the structure of COPUS and its interactions with regional and thematic hubs and to clarify their roles as both COPUS participants and hub liaisons. There is a need for continued encouragement and dialogue and the opportunity to share

ideas, needs, and achievements. These will be facilitated through COPUS Commons, an online communications tool supported by COPUS Central. There is a sense of urgency regarding preparation for the Year of Science 2009 and all participants need to encourage planning and action by holding Hub meetings, developing appropriate timelines, and getting involved in promotional activities.

There was strong agreement that

- The science community needs to work together to increase public engagement with and understanding of the nature and process of science
- This is a long-term commitment that is facilitated by the presence of a national network – COPUS – and regional and thematic hubs
- The Year of Science 2009 provides an extraordinary opportunity for the science community to promote and celebrate science,
- COPUS Central has a critical role to play in supporting hub efforts and facilitating communication and interactions.

The most notable outcome of the workshop was the enthusiastic dedication of those attending toward efforts of COPUS and Yos09. Each committed themselves to specific tasks to support the national coalition and to strengthening the connections between their hubs and COPUS. There was a great deal of energy and enthusiasm among those present and the participants in this workshop serve as a nucleus upon which the broader effort will be built.

PARTICIPANTS:**Organizing Committee:**

Holly Menninger, AIBS
Richard O'Grady, AIBS
Sheri Potter, AIBS
Judy Scotchmoor, UCMP

Conveners:

Judy Scotchmoor, UCMP
Sheri Potter, AIBS

Attendees:

Lee Allison, Arizona Geological Survey, Tucson, AZ
Kaye Breen, Ballston Science & Technology Alliance, Arlington, VA
Chris D'Elia, University of South Florida St. Petersburg, FL
Erin Dragotto, Chicago Council for Science and Technology (by phone)
Edward Haddad, Florida Academy of Sciences, Orlando, FL
Amy Harris, University of Michigan Exhibit Museum of Natural History, Ann Arbor, MI
Roger Harris, Sigma Xi, Research Triangle Park, NC
Kimberly Kandros, North Carolina Museum of Natural Sciences, Raleigh, NC
Maddy McNaughton, Science Center Pinellas County, St. Petersburg, FL
Wit Ostrenko, Museum of Science and Industry, Tampa, FL
Wendy Pollock, Association of Science – Technology Centers, Washington DC
Kendra Rand, Society of Physics Students, College Park, MD
Mark Terry, Northwest School, Seattle, WA
Ben Wiehe, WGBH Educational Foundation, Boston, MA

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Paleontology for providing staff time and other resources in support of this meeting

Members of the Tampa Bay Regional Hub

Our hosts, the University of South Florida St. Petersburg

ATTACHMENTS

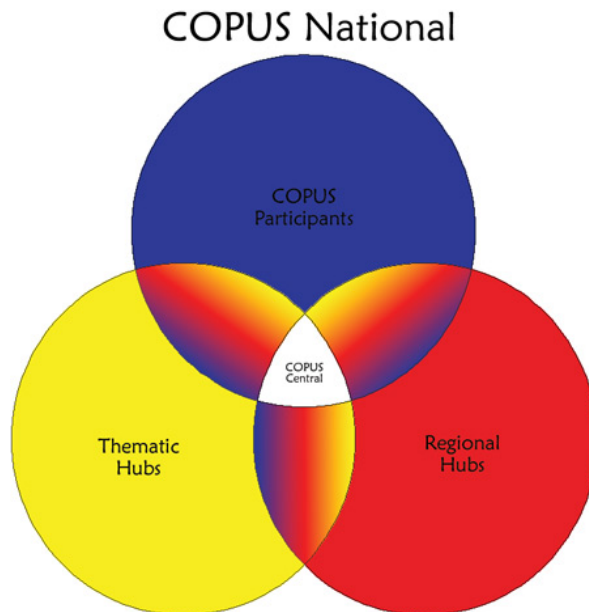
A. COPUS Structure and leadership

COPUS National is an active set of interacting networks and hubs that operate locally, regionally, and nationally. At the national level, the Coalition is represented and guided by **COPUS Central** composed of

- the **Steering Committee** that provides overall direction for COPUS, approves inductees onto the Action Team, and makes all decisions related to expenditures;
- the **Action Team** responsible for COPUS promotion and expansion; and
- a set of **Advisors** who offer guidance to the Steering Committee as relevant to their areas of expertise
- the **COPUS Network Manager**, who is responsible for COPUS communications and the daily operations of the Coalition.

COPUS Regional and Thematic hubs provide not only the local connections relevant to a particular regional audience or to a group sharing common interests, but they also provide the potential for a higher level of sustainability for the COPUS effort.

- **COPUS Regional Hubs** are locally-based communities of COPUS participants and science stakeholders that work together within a designated geographic region to promote the public understanding of science.
- **COPUS Thematic Hubs** represent nationally distributed peer communities that are interested in building bridges between their members, COPUS national, and the regional hubs to increase the public understanding of and engagement in science.





Tentative Agenda for First Hub meeting University of South Florida St. Petersburg

March 7- 8, 2008

The workshop is designed to promote a high level of discourse that will inform our efforts and to incorporate those discussions into a procedural plan and set of tools for implementing a regional and thematic hub network structure to support COPUS efforts.

March 7:

8:00 Meet at hotel, walk to meeting location.

8:15 Breakfast.

8:30	Welcome and brief introductions	Richard O'Grady
	Logistics for the meeting	Sheri Potter
	Overview and goals of meeting	Judy Scotchmoor

9:00 Hub Presentations All

Each hub will be given 10-15 minutes to provide information about their individual hubs. Information should focus on:

- Motivation for forming a hub
- Community partners – number and types of organizations
- Plans to expand?
- Achievements/meetings thus far?
- Communication strategies
- Articulation of goals/strategies?
- Description of hub structure – e.g. single point person/coordinator; loose collaboration, formal structure
- Funding sources?
- Target audience(s)
- Needs/challenges (to be discussed more fully after lunch)
- Plans for Year of Science 2009 (to be discussed in greater detail later)

11:00 Summarizing what we have learned - Group discussion – can we articulate common characteristics?

12:15 Lunch

1:00 Brief presentations (10 minutes each) from ASTC, Sigma Xi, and Society of Physics Students focusing on possible interactions with COPUS Regional Hubs



- 1:30 Focusing on the challenges and finding solutions – Group discussion
- 3:00 Break
- 3:15 Small group work: Articulate common “key ingredients for a successful hub” and a list of needs and challenges to be addressed.
- 4:00 Set goals for tomorrow Judy
Demonstration of COPUS Commons and discuss other services available Sheri
- 5:00 Whew! Put your feet up and meet us at the restaurant at 6:30!
- 6:30 Dinner at the Pier- casual outdoor dining.

March 8:

- 8:00 Meet at hotel, walk to meeting location.
- 8:15 Breakfast.
- 8:30 Review group work from yesterday
- 9:00 Discussion on the interactions between the hubs and COPUS in order to identify how to leverage local and regional energies and resources, expand and strengthen partnerships, and share best practices with others.
- 10:15 Break
- 10:30 Resume discussions and move toward greater detail regarding expectations of hubs and expectations of and services from COPUS.
- 11:00 Share ideas for Year of Science 2009
- 12:00 Working lunch to continue YoS09 discussions
- 1:00 Outline the components necessary to create a Hub Toolkit
- 1:45 Strategies for sustainability and next steps
- 2:45 Closing comments
- 3:00 Departure for airport

HUB: North Carolina *Kimberly Kandros, NC Museum of Natural Sciences*

1. Motivations for forming a regional hub:

The North Carolina Museum of Natural Sciences is building an innovative new wing, the Nature Research Center (NRC), which will showcase the latest advances in current science research. The NRC will be open in 2011 and groundbreaking is scheduled for April 22, 2008.

The mission of the NRC is to engage the public in understanding the scientific research that affects their daily lives. In order to make the public aware of the most breaking scientific research, the Museum is partnering with leaders in academia, government, private industry and non-profit organizations. These NRC partners will work with the Museum to share the latest advancements in research and also help to develop experiential programming in which the public can participate (Citizen Science projects, actual lab exercises, lecture series, etc.)

2. Community Partners: Please provide a list of participating organizations.

SEE ATTACHMENT.

3. Any plans to expand? If so, please describe.

The Museum currently welcomes 600,000 annual visitors with an additional 53,000 served through off-site outreach. When the NRC opens, the Museum expects attendance to increase by an additional 200,000 visitors. The new facility will be 80,000 square-feet.

4. Achievements/Activities/Meetings thus far?

\$22 million has been raised for this project and ground breaking for the NRC is scheduled for April 22, 2008.

5. Strategies for communication among partners.

Quarterly planning meetings are scheduled that allow project partners to interface, meet with architects and exhibit designers to collectively develop an environment that will maximize educational opportunities.

6. Goals/Strategies for your hub?

One of the most innovative features of this project is the diversity of partners. As plans for the NRC progress, the Museum will continue partnering with other institutions in order to reflect greater expertise in the NRC's offerings.

7. Description of hub structure.

8. Funding sources?

The Museum is an agency of the North Carolina Department of Environment and Natural Resources. As a state agency, it receives all of its operating support from the state. Fundraising efforts help pay for outreach, special events, traveling exhibits and the capital campaign for the NRC. These funds are received from private foundations, government agencies and private philanthropic gifts.

9. Target audience(s):

The Museum is a state agency charged with making inspiring the public to become better environmental stewards. As such, the Museum offers a continuum of programming that appeals to audiences of all ages, socioeconomic backgrounds and learning aptitudes.

10. Needs/Challenges:

The NRC will cost approximately \$53 million dollars. At this point, \$22 million has been raised.

11. Plans for Year of Science 2009:

The Museum is always interested in partnering with other organizations on projects that promote the public understanding of science. Plans for 2009 include Polarpalooza.

HUB: Chicagoland Area *Erin Dragotto, Chicago Council for Science and Technology*

1. Motivations for forming a regional hub:

Our mission: The Chicago Council for Science and Technology (C²ST) is an independent, nonprofit organization committed to promoting science and technology by sponsoring discussions, programs, and leadership dialogue among scientists, institutions and the public. We feel our mission to create dialogue within the science and technology industries are central to C²ST in the Chicagoland area thus, a perfect motivation for being the regional hub for Chicago and the COPUS network.

2. Community Partners: Please provide a list of participating organizations.

C²ST Board Organizations/Partners: Adler Planetarium, Argonne National Lab., Baxter International, Illinois Institute of Technology, University of Illinois at Chicago, University of Chicago at Illinois/Urbana Champaign, Northwestern University, Children's Memorial Research Center, The Field Museum, Chicago Community Trust, City of Chicago, Mayor Brown Rowe LLC, Fermilab, Gas Technology Institute, Michigan State, Querrey Enterprises, Chicago Biomedical Consortium, SlackBarshinger PR, Torshen Capital, Motorola, Museum of Science and Industry.

Chicago Regional Hub Members: Abbott Laboratories, Illinois Science Council, Illinois State Museum, Project Exploration, Science of Vertebrate Paleontology

3. Any plans to expand? If so, please describe. Yes, we as Chicago regional hub lead hope to continue to expand through partnerships and programs as well as other city-wide initiatives.

4. Achievements/Activities/Meetings thus far? No COPUS regional meetings thus far.

5. Strategies for communication among partners. Remain proactive about communication between local area partners on projects, programs and overall goals.

6. Goals/Strategies for your hub? No goals as of yet for regional hub. Waiting for March Meeting in FL.

However, C²ST's goals are to:

- a. Enhance and enrich Chicago's reputation as a premier region for science and technology.
 - b. Foster communication and interaction between academic research and business communities.
 - c. Foster public understanding of critical issues concerning science and technology that have societal implications, including quality of science and mathematics education.
 - d. Provide diverse perspectives on scientific and technological issues for the public and political decision-makers.
- Be an important link in the generation of a healthy climate for attracting new science and engineering based industries, companies and institutions.

7. Description of hub structure. At present there is no structure. Hope to have guidance from meeting in FL.

8. Funding sources? C(2)ST is currently funded by its board of directors.

9. Target audience(s): Science/Technology minded, general public,

10. Needs/Challenges: Challenges for C2ST in the near future relate to organizational development, program implementation, creation of a membership database.

11. Plans for Year of Science 2009: C2ST has partnered with a city-wide initiative called Science Chicago. Spearheaded by the Museum of Science and Industry, and in partnership with Chicago's leading civic, academic, scientific, corporate, and non-profit institutions, Science Chicago is a year-long collaborative regional initiative beginning in September 2008 and concluding in August 2009 to highlight science and technology achievements, increase access to science learning experiences, and promote dialogue about science and technology.

HUB: San Francisco Bay Area *Judy Scotchmoor*

1. Motivations for forming a regional hub:

There is a wealth of science resources for various audiences within the SF Bay Area. They range from large research universities (e.g. U. of California, State Universities, Stanford) to large museums and science centers, some of which are research-based (California Academy of Sciences) and others such as the Exploratorium, Lawrence Hall of Science, the Tech Museum of San Jose, and Chabot Space and Science Center. There are also numerous smaller museums and science centers, local organizations that are science focused, and the state and regional park systems. We have a tendency to collaborate on some projects or to work completely independently. COPUS and YoS09 provides an opportunity to initiate discussions on long-term collaborations, an examination of which audiences have access to what resources, and what we might do together to reach audiences that do not yet engage with any of the resources available. We also have the opportunity to promote common “messages” about science that can have a more lasting impact on our current audiences and hopefully engage other sectors of the community to support our efforts.

2. Community Partners

Still forming, but for now:

Several science units/departments at the U. of California and Stanford University; California Academy of Sciences; KQED and its QUEST project (which in itself is a collaborative of 12 partners); California State Parks Foundation, National Center for Science Education; Lawrence Berkeley Laboratory, Lawrence Hall of Science, Exploratorium (not yet a member of COPUS); Center for Sciences Education and Space Sciences Laboratory, Wonderfest

3. Plans for expansion

Yes – we are working on two levels to expand: (1) to coordinate efforts at UC Berkeley under a project called Science @ Cal which has the backing of the Chancellor and the Vice Chancellor for Research – this project will encourage science units on campus to register on a website how their science contributes to science AND to offer at least one public event/activity during 2009 to be registered on the web calendar AND to try at least one new activity in collaboration with another unit on campus. (2) to coordinate efforts of institutions currently part of the KQED QUEST program to identify common messages and projects to reach new audiences and then to encourage other institutions within the area to join with us in these efforts

4. Achievements/Activities/Meetings thus far?

See above. Several campus meetings and two meetings with the QUEST group.

5. Strategies for communication among partners.

Thus far, we are only using email.

6. Goals/Strategies for your hub?

See #1 – our goal is really to encourage collaboration and not competition for audiences. This is tough because so many of the institutions (in particular the larger, successful ones) rely on both gate and grants for survival and that is a very competitive arena. We are hoping that through collaboration we can continue to work as individuals, but with some common messages and to also work collaboratively to find ways to reach audiences currently “unengaged” with science.

7. Description of Hub structure

Still forming. Tends to be a single point person at Stanford, myself and a representative for coordinating things at UCB, and the QUEST group for coordinating the informal science folk in the Bay Area. We recognize that it would be best if we could hire someone for the latter position. Right now, all volunteering of time within our own jobs.

8. Funding Sources

At the moment, all in-kind services. Trying to resolve this – primarily for promotional materials and for staff position as described above.

9. Target audience(s)

General public, parents and we would like to reach out to some of our ethnic communities in some fashion. Considering a Science Café for kids at community centers.

10. Needs/challenges:

See #6 and the fact that all efforts are currently through volunteering time within our own jobs to get us started.

11. Plans for Year of Science 2009

Still in the formative stages.

HUB: Boston *Ben Wiehe*

1. Motivations for forming a regional hub:

OUR INSTITUTIONS ALREADY HAVE A ROBUST SET OF EXISTING RELATIONSHIPS WITH MANY COMMUNITIES THROUGHOUT THE BOSTON AREA. HOWEVER, THIS COULD BE AN OPPORTUNITY TO FIND NEW WAYS TO BRING THE MANY ORGANIZATIONS WE REGULARLY WORK WITH TOGETHER AROUND MORE THAN JUST A ONE-ON-ONE, OR ONE-OFF PROGRAM.

2. Community Partners: Please provide a list of participating organizations.

SO FAR WE'VE HAD ONE HUB MEETING BETWEEN ME AND NATALIE KULDELL AT MIT. WE DISCUSSED FOCUSING ON ADULT PUBLIC OUTREACH. SOME SPECIFIC PARTNERS WE ARE ALREADY WORKING WITH INCLUDE:

WGBH/NOVA

MIT

MIT MUSEUM

THE ZING (HARVARD STUDENT GROUP)

HARVARD MUSEUM OF NATURAL HISTORY

SCIENCE ON SCREEN (LECTURE AND FILM PROGRAM AT LOCAL THEATER)

3. Any plans to expand? If so, please describe.

NOWHERE TO GO BUT UP. SINCE OUR HUB IS JUST IN THE BEGINNING. THE EASIEST THING TO DO IS CO-PROMOTE AND PACKAGE OUR EXISTING OFFERINGS, AND THIS IS WHERE WE ARE STARTING.

4. Achievements/Activities/Meetings thus far?

SEE ABOVE

5. Strategies for communication among partners.

AS THE NUMBER OF PARTNERS GROWS WE WILL FIGURE OUT AN APPROPRIATE STRATEGY. AT THE MOMENT A SIMPLE EMAIL LIST SEEMS THE MOST APPROPRIATE.

6. Goals/Strategies for your hub?

THE HUB IDEA COULD BENEFIT THE REGION BY DRAWING TOGETHER PEOPLE THAT ARE ALREADY WORKING TOWARD THE SAME GOALS. NETWORKING EVENTS THAT GET THESE PEOPLE INTO THE SAME ROOM WILL BE IMPORTANT. WE MAY EMPHASIZE THE IMPORTANCE OF ATTENDING EACH OTHER'S OFFERINGS SO THAT EACH OF US IS FAMILIAR WITH THE PROGRAMS OF THE OTHERS. SOME GOALS COULD INCLUDE BUILDING AUDIENCES FOR ONGOING PROGRAMS, REACHING NEW AUDIENCES, AND LEVERAGING PARTNERSHIPS FOR GREATER MEDIA EXPOSURE.

7. Description of hub structure.

NATALIE IS THE MAIN POINT PERSON FOR THE HUB NETWORK.

8. Funding sources?

AT THE MOMENT OUR FUNDING IS DEPENDENT ON FOLDING HUB ACTIVITIES INTO EXISTING ONGOING PROJECTS

9. Target audience(s):

GENERAL PUBLIC, ADULTS

10. Needs/Challenges:

11. Plans for Year of Science 2009:

NOT YET...

HUB: Upper Midwest *Amy Harris*

1. Motivations for forming a regional hub:

The intersection of academic and informal science resources on campus provides a nexus for activities and information.

2. Community Partners: Please provide a list of participating organizations.

University of Michigan Exhibit Museum of Natural History, U-M Museum Zoology, and the Society for Biology Students.

3. Any plans to expand? If so, please describe.

Yes. A letter will go out to community partners in nearby universities and informal science museums in Southeast Michigan soliciting new or existing event plans to publicize via COPUS and to stimulate possible collaborations.

4. Achievements/Activities/Meetings thus far?

Website up. Several events have maintained focus on public interaction with scientists, e.g. science cafés, lectures, undergraduate lunch, upcoming teacher workshop.

5. Strategies for communication among partners.

Quarterly email with partner events and contacts.

6. Goals/Strategies for your hub?

As a hub we hope to be a clearinghouse for information on Public Understanding of Science events for the public, K-12 teachers, and university students.

7. Description of hub structure.

Content invited and coordinated by Exhibit Museum, Web upkeep done by Museum of Zoology. Both provide support to the Society for Biology Students' activities.

8. Funding sources?

None so far

9. Target audience(s):

General public/families, K-12 teachers, university students

10. Needs/Challenges:

Staff time -- Need some funding to hire a graduate student to help with communication/coordination.

11. Plans for Year of Science 2009:

Lecture series, Darwin Day Celebration, Reverse Science Fair, science café series, Astronomy theme semester, Museums in the Academy theme semester, collaboration with local chapter of Sigma Xi.

HUB: Greater Washington DC area (especially Northern VA) *Kaye Sloan Breen*

1. Motivations for forming a regional hub: Networking and collaboration of efforts to foster better understanding, appreciation, involvement in science and technology; develop a sense of identity, networking opportunities, collaboration and recognition of contributions of science and technology to knowledge base, economic vitality of the region and protection and security of the country.

2. Community Partners: Please provide a list of participating organizations. BSTA is still in process of formation. Board or Committee member organizations include the following:

CACI International, Inc
Monsanto Company
Virginia Tech University
NVCC
George Mason University
Arlington County Board
Potomac Institute for Policy Studies
Arlington Economic Development
Strategic Analysis, Inc.
Infosys Technologies Ltd
Systems Planning Corporation
Cisco Systems, Inc.
National Science Foundation
Georgetown University
Arlingtonians for a Clean Environment

3. Any plans to expand? If so, please describe. Yes, we plan to be an umbrella linkage organization and offer a physical venue to eat drink and talk science and showcase technology

4. Achievements/Activities/Meetings thus far? Café Scientifique on the first Tuesday of every month since April 2006.

5. Strategies for communication among partners. Lots of meetings, emails, phone calls and networking while we determine formal structure for communications and cooperation.

6. Goals/Strategies for your hub? Designing a purpose-built venue that would serve as the permanent and virtual hub for the exchange of information, dialogue and programs and a showcase for technology to be seen, experienced and talked about.

7. Description of hub structure. Collaboration on programs and under development of others. BSTA is a non-profit organization.

8. Funding sources? Searching for funding

9. Target audience(s): culturally active adults, science and tech workforce, companies & organizations in science- and tech-related activities

10. Needs/Challenges: money, finding and reaching all organizations, individuals, and institutions and developing mutually beneficial cooperation

11. Plans for Year of Science 2009: Maintain, develop and expand three programs:

1. Café Scientifique, 2. Workforce programs and 3. Trendlines
- Have venue designed and funded.

HUB: Seattle (WA, OR, ID, BC) *Mark Terry*

1. Motivations for forming a regional hub: To do a better job of sharing notice of and access to existing programs that fit the COPUS goal; to use the common ground of COPUS meetings and communications to develop new, integrated programs.

2. Community Partners: Please provide a list of participating organizations. (Attached)

3. Any plans to expand? If so, please describe. A number of interested parties/organizations are not yet COPUS members. Most seem to be interested, but haven't yet taken action. Membership could easily double or triple in a short time.

4. Achievements/Activities/Meetings thus far? Only one small meeting in November, held at Northwest School, with a half dozen participants.

5. Strategies for communication among partners. So far, just by e-mail.

6. Goals/Strategies for your hub?

Walt Snyder suggests COPUS and PaleoStrat share links.

Laurie Hassell suggests provide us all with COPUS and Year of Sci 2009 logos, electronically, so we can wave the flag on all our e-mails; and streamline the website, making it easier to grasp what's going on in a region, cutting the number of steps required to get to organizations and announcements; and develop high profile HUB pages, again for easy access to what's going on in a region. (She finds the whole site cumbersome and non-intuitive...)

Karen Peterson suggests COPUS/YofS2009 join the call for a science debate as part of the presidential election campaign.

7. Description of hub structure. None, really. I drew the short straw to come to the Tampa meeting.

8. Funding sources? Northwest School was glad to host the first meeting, including providing refreshments. VERY low budget. No established budget for the HUB.

9. Target audience(s): General public, local educators K-16.

10. Needs/Challenges: We need to set up regular e-mail communication, and we need to focus on Year of Science 2009 (this is MT speaking). We could easily float YofS events, or attach YofS to already scheduled events, and create a consistent message/theme in the local community. Some of our members have contacts with the local Science on Tap group, which should be tapped.

I don't see why we shouldn't also promote in whatever venues we can the release of the Understanding Science website in fall '08, including at the Portland Western Regional NSTA conference in October.

11. Plans for Year of Science 2009: (See 10)

HUB: Tampa Bay, FL *Chris D'Elia, Ed Haddad, Maddy McNaughton, Wit Ostrenko, Sheri*

1. Motivations for forming a regional hub:

To improve the visibility of science activities in Florida; celebrate Year of Science 2009; facilitate communication and collaboration among community partners

2. Community Partners: Please provide a list of participating organizations.

Museum of Science and Industry, Tampa
 University of South Florida St Petersburg
 Mote Marine Laboratory
Registered COPUS participants in the hub:
 4Frontiers Corporation
 Camp Bayou Outdoor Learning Center
 Cephalopodcast - The Ocean Podcast
 Elementary Science Coalition
 Florida Academy of Sciences
 Florida Citizens for Science
 Florida Museum of Natural History
 Pier Aquarium, Inc.
 Pinellas County Environmental Lands Division
 Science Center of Pinellas County
 SouthWest Florida Water Management District
 The Florida Aquarium

Other Organizations that have expressed intent to join:

City of Clearwater
 City of Largo Nature Parks
 City of St. Petersburg Water Resources Department
 Clearwater Community Sailing Center
 Clearwater Marine Aquarium
 Florida Institute of Oceanography (FIO)
 Florida Fish and Wildlife Conservation Commission –
 Fish and Wildlife Research Institute
 Honeymoon Island Nature Center
 NOAA Habitat Restoration Office
 Pinellas County Extension
 Pinellas County Watershed Management
 Sierra Club Suncoast Chapter
 Tampa Bay Estuary Program
 Tampa Baywatch
 USGS Florida Integrated Science Center
 USF College of Education
 USF College of Marine Science
 USF College of Marine Science Ocean Monitoring &
 Prediction Lab
 USF Department of Geography

3. Any plans to expand? If so, please describe.

Yes, possibly to become a statewide Hub!

4. Achievements/Activities/Meetings thus far?

We have had one meeting of hub leaders in February 2008. It was determined from the meeting that the first outcome would be to set up a Web page to show community collaborators, coalesce group activities into one calendar, and to consider ways to coordinate for Year of Science 2009.

5. Strategies for communication among partners.

We have set up a communication zone on Basecamp which enables members of the groups to communicate with all or a few easily and provides a record of communications for newcomers to see.

6. Goals/Strategies for your hub?

- To promote science activities in Florida, and show that there is an abundance of resources to support science learning and engagement here.
- To change the public perception to present the state of Florida as a state where science happens
- To establish a concise and regularly issued bulletin of science events and news for distribution to media across the state development of a Support Science bumper sticker (done)

7. Description of hub structure.

Nothing clearly articulated at this time.

8. Funding sources?

None, as of yet.

9. Target audience(s):

General public at large.
 Science Teachers (K-16)

10. Needs/Challenges:

Funds!

11. Plans for Year of Science 2009:

None yet!



ORGANIZATION: Association of Science-Technology Centers *Wendy Pollock*

1. Description of your current network structure

ASTC is an international association of science centers and museums dedicated to furthering the public understanding of and engagement with science among increasingly diverse audiences.

ASTC's 447 museum members, located in 43 countries, include not only science centers and museums, but also nature centers, aquariums, planetariums, zoos, botanical gardens, space theaters, and natural history and children's museums.

ASTC holds an annual conference at a location in North America, which is attended by approximately 2,000 science center professionals and others working in the informal science education field. Among ASTC's networking tools are the bimonthly news journal *ASTC Dimensions*; ASTC's online learning center, *ASTC Connect*, which hosts discussion forums and workshops; a listserv with 1,400 subscribers; and several emailed newsletters.

ASTC is affiliated with science center networks located in other regions and participates in planning of the World Congress of Science Centres, which convenes every three years. The forthcoming World Congress will be in Toronto in June.

ASTC is also home to the Center for Advancement of Informal Science Education, founded in 2007 with support from the National Science Foundation. CAISE is devoted to advancing and improving the informal science education field, with a focus on work funded by NSF. CAISE will be organizing meetings for NSF ISE PIs and issuing a monthly newsletter.

2. Motivations for your group interacting with COPUS and its regional hubs – what are the anticipated benefits to your organization; what can you bring to the coalition and its hubs?

ASTC's goals are closely aligned with those of COPUS. Our primary contribution is likely to be through networking and communication among science centers and affiliated groups.

3. Target audience(s) that you serve

ASTC audiences are principally science center and museum professionals.

4. Plans for Year of Science 2009

ASTC does not yet have plans, but possibilities include featured speakers and sessions at the ASTC Annual Conference, Forth Worth, October 31–November 3, 2009; online forums; and articles and/or a special themed issue of *ASTC Dimensions*.



ORGANIZATION: Sigma Xi, The Scientific Research Society Roger Harris

1. Description of your current network structure

Sigma Xi has circa 60K dues paying members, mostly based in the US. 50K are affiliated with chapters that vary in size from 20 members to 1500. Most chapters are based at R&D universities, while others are at colleges, industrial or government labs or based around geographic areas.

Chapters connect directly with members and to some extent with the central office. Each chapter has one to four chapter officers responsible for chapter management. Little networking occurs between chapters.

Members themselves are networked depending on their chapter, prior or present institutional affiliation and specific discipline.

The central office communicates with members through email newsletters, our website and through our flagship magazine, American Scientist.

The central office is beginning to experiment with social networking functions, initially through commercial platforms such as Facebook and LinkedIn. We plan to transition to a custom social networking platform.

2. Motivations for your group interacting with COPUS and its regional hubs – what are the anticipated benefits to your organization; what can you bring to the coalition and its hubs?

COPUS's mission overlaps with Sigma Xi's in the desire to communicate science to the public. In doing so, we raise our visibility to the public, thereby helping to achieve one of our primary strategic goals. Also, by increasing visibility, we add value to membership since the organization is perceived as influential and viable.

The hub concept is of interest because our regional model for chapter organization has met with limited success. We believe that the hubs could provide an alternative model for chapters to engage in multi-chapter activities that would offer synergistic outcomes unlikely with the present structure.

3. Target audience(s) that you serve

We primarily serve our members, who are mostly mid- to late-career scientific researchers. However, our audience for public outreach includes anyone interested in science, and even those not interested!

To focus our communication efforts, our primary non-member audience comprises health professionals, publishers, postdocs, graduate, undergraduate and high-school students, science educators, science librarians, science writers/journalists and science bloggers/readers.

4. Plans for Year of Science 2009

We plan to have a theme for the year (TBD). For 2008 our theme is water. Right now we have not made firm plans. However, we are planning on encouraging our 500+ chapters to become members of COPUS. My hope is that the COPUS hubs will help bring us to some focus on where we want to go with this.



ORGANIZATION: Society of Physics Students Kendra Rand

1. Description of your current network structure

SPS is the Society of Physics Students, the professional society for physics students and their mentors. With over 4000 members in over 700 chapters on college campuses, SPS provides opportunities for physics students across the nation, including research awards, regional physics meeting support, outreach programs, scholarships, and travel awards. The SPS website (at www.spsnational.org) provides information and applications for these opportunities, as well as other physics contacts, society news, hot science, physics career information, and the lighter side of physics. Undergraduate members have the opportunity to become part of one of 10 other physics professional societies through the joint membership program, as well. About 500 of the 700 SPS chapters also have a chapter of Sigma Pi Sigma, the physics honor society, on campus (www.sigmapisigma.org).

These two organizations are housed within, and supported by, the American Institute of Physics (AIP), within the Education Division, as a service to physics students and to the 10 member societies of AIP. AIP is a 501(c)(3) membership corporation chartered in New York State in 1931 for the purpose of promoting the advancement and diffusion of the knowledge of physics and its application to human welfare.

SPS and Sigma Pi Sigma are governed by a National Council made of one student and one faculty representative from each of 18 regional zones. Each representative is elected by his or her zone. The Council meets every fall for a kick-off meeting to discuss plans for the year and SPS and Sigma Pi Sigma business. This year the Council will meet in conjunction with the Sigma Pi Sigma Quadrennial meeting at Fermilab Nov. 6-8th.

2. Motivations for your group interacting with COPUS and its regional hubs – what are the anticipated benefits to your organization; what can you bring to the coalition and its hubs?

SPS is engaged in activities and events ranging from regional student meetings to national conferences. Many of our chapters host events for their local communities as well, such as pumpkin drops, observing nights, and Saturday science days. The COPUS program and resource directory is an effective way for us to let people interested in science but outside of our normal channels of communication know about SPS and these activities. In addition, we see COPUS as a potential rich source of information for science journalists and would like to feed many of our news stories through this channel, such as those featured on the American Institute of Physics (AIP) website, www.aip.org.

Through AIP, SPS is closely related to the 10 member societies of AIP and its partners (see www.aip.org/aip/societies.html for a complete list). We also have good relationships with the student program offices in many other science, technology, engineering and math (STEM) societies, such as the American Chemical Society, the Mathematical Association of America, and the American Society for Microbiology. In recognition of the fact that undergraduate science students are often exploring many career paths, we would like to see the creation of a list or database of societies with student programs. This database could include membership information, scholarship and awards available, and outreach materials, for example. This is a potential project that SPS could organize as a COPUS hub for post-secondary STEM majors. This project could be supported through The Nucleus, the student section of the physics digital library, similar to the summer research clearinghouse, www.the-nucleus.org/research, or perhaps through the existing COPUS site.

SPS exists to help students transform themselves into contributing members of the professional community. Course work develops only one range of skills. Other skills needed to flourish professionally include effective communication and personal interactions, leadership experience, establishing a personal network of contacts, presenting scholarly work in professional meetings and journals, and outreach services to the campus and local communities. Locally, regionally, nationally, and internationally, the SPS offers the opportunity for these important enrichments to the student's experience. We recognize that many other organizations offer similar opportunities for STEM students, and a COPUS hub might help bring them together and cross the discipline boundaries.

In addition, we are excited about the potential of the "Understanding Science" website and plan to actively distribute information about the site to our members when it comes online.

3. Target audience(s) that you serve

The Society of Physics Students is a professional association explicitly designed for undergraduate students and their mentors. Membership, through collegiate chapters, is open to anyone interested in physics. The only requirement for membership is that you be interested in physics. Besides physics majors, our members include majors in chemistry, computer science, engineering, geology, mathematics, medicine, and other fields.

4. Plans for Year of Science 2009

Every year SPS designs its materials (calendar, website, etc.) around a theme (see www.spsnational.org for evidence of the current theme, *Future Faces of Physics*). SPS plans to use the Year of Science 2009 as a thematic element for our 2009 materials. We will kick off the Year of Science theme at our upcoming 2008 Sigma Pi Sigma Quadrennial Congress, which will bring together physics students, faculty, and alumni to discuss scientific citizenship. We also plan to encourage our local chapters to enter their events into the COPUS events database. SPS was an active participant in the successful World Year of Physics 2005. To see the types of activities and collaborations that took place in the United States during the World Year, see www.physics2005.com.

YEAR **2009**
of SCIENCE
Explore. Empower. Engage...

D. Draft of Hub Toolkit for the COPUS website

THE COPUS HUB TOOLKIT: A simple guide for starting your own COPUS Hub

WHAT IS COPUS?

The **Coalition on the Public Understanding of Science** (COPUS) is a grassroots network formed in response to concerns about an apparent decline in the public understanding of and engagement in science. Composed of universities, scientific societies, science centers and museums, government agencies, advocacy groups, media, schools, educators, businesses, and industry, COPUS recognizes the need for commitment from all science stakeholders to work together to address this concern. Real change can occur if we, as the scientific community, share, teach, and communicate the science that we are so passionately committed to and demystify the process and nature of science so that the public has the opportunity to engage along with us in the joy of our discoveries.

COPUS facilitates relationships at the national and local levels to support this change. COPUS is building a communication network that allows organizations to share best practices, form new partnerships, and coordinate their efforts in increasing the public understanding of and engagement in science. Much of the current focus of this network is in preparation for the **Year of Science 2009** (YoS09). The goal of this national, year-long celebration of science is to engage the public and improve public understanding about the nature and process of science.

<http://copusproject.org/leadership.php>

The long term success of COPUS lies in two factors: (1) its ability to connect the science research and science education communities (both formal and informal) with other stakeholders with whom they can interact in order to more effectively communicate science and (2) on its ability to sustain efforts beyond the 2009 Year of Science. The newly developed COPUS regional and thematic hubs provide not only the local connections relevant to a particular regional audience or to a group sharing common interests, but they also provide the potential for a higher level of sustainability for the COPUS effort.

WHAT IS A COPUS HUB?

While COPUS has been growing as a national initiative, energetic hubs of activity have begun to coalesce around common regional or professional interests and expertise. These groups provide a natural and sustainable set of associations that can interact with one another and participate effectively in the national COPUS network.

COPUS regional hubs are locally-based communities of COPUS participants and science stakeholders that work together within a designated geographic region to promote the public understanding of science. An up-to-date map of regional hub locations is available online:

http://copusproject.org/regional_hubs.php

COPUS thematic hubs represent nationally distributed peer communities that are interested in building bridges between their members, COPUS national, and the regional hubs to increase the public understanding of and engagement in science. These hubs cross geographic boundaries and enlist their membership to focus on their areas of expertise to support COPUS national and activities at the regional level. An up-to-date list of thematic hubs participating in COPUS is available online: http://copusproject.org/thematic_hubs.php

Hub Structure and Operations

COPUS Hubs remain independent, with self-determined membership, structure, focus, and activities. Whether regional or thematic, registered COPUS Hubs share certain common goals:

- To develop a shared appreciation of science and its contributions to the quality of life
- To inform and engage the public in and about science, its process and nature
- To make science more accessible to everyone

Each hub selects a representative to interact with COPUS Central in order to share ideas, resources, and best practices and to facilitate local participation in national initiatives. COPUS Hubs interact with the national Coalition by encouraging their members to register with COPUS and by sharing national resources and services with its members. In support of these efforts, COPUS Central provides an online communication tool (COPUS Commons) for its hub liaisons.

WHAT DOES A COPUS HUB DO?

Each hub determines its own action plan, but has certain responsibilities to support the COPUS network and has mutually beneficial interactions with the national Coalition.

Hub Responsibilities

Each COPUS Hub is expected to:

- Identify and recruit participants in the hub and facilitate networking among its members in support of the public understanding of science
- Encourage/facilitate its participants to develop collaborative activities that promote the public understanding of and engagement in science with a current focus toward participation in the Year of Science 2009 (YoS09)
- Encourage their organizational members to register with COPUS
- Coordinate promotion, national registration, and branding of YoS09 activities of the hub membership
- Identify a hub representative to interact with COPUS Central in order to take advantage of national resources and services and to share ideas, resources, and best practices

Interactions with COPUS Central: services and resources

Nationally, COPUS is networking scientists, business leaders, and educators to share ideas, leverage resources, and learn from each other. COPUS is able to provide resources and services to participating hubs and organizations. COPUS Central can:

- Highlight science programs and activities of participants on the COPUS website and in the monthly newsletter, the COPUS Clarion
- Provide access to others through the COPUS program and resource directory
- Provide access to marketing resources

- Facilitate communication among all COPUS Hubs and COPUS Central through COPUS Commons – an online communication tool that supports file-sharing, tracks project achievements, highlights milestones, encourages threaded conversations, and archives document development
- Assist regional hubs in developing their own online communication tools to interact with COPUS Commons
- Assist regional hubs in developing their own websites
- Connect regional hubs with local representatives of national organizations and thematic hubs
- Guide hubs in identifying and implementing activities, programs, and resources for the Year of Science 2009

WHY START A COPUS HUB?

COPUS provides new opportunities to communicate and collaborate on national and local levels. Through participation in COPUS, organizations may:

- Increase audience participation and improve visibility of science programs and resources nationally via the COPUS program and resource directory
- Enhance partnership opportunities by forming a communication network among peers with common passions, issues, and concerns
- Leverage existing resources by sharing best practices, tools, and content for improving public engagement in science
- Combine limited resources to expand efforts to new audiences
- Facilitate local awareness of and participation in national initiatives

Developing a COPUS Hub provides the opportunity to create a regional “community for science” and to build bridges between professional organizations and regional science communities. Members of a science community work together to elevate the profile of locally based resources and provide easily accessible and coordinated communication among scientists, science communicators and educators, the media, and community groups and institutions.

HOW DO YOU START A COPUS HUB?

Though each COPUS Regional Hub remains unique in character, purpose, structure, and function, there are important recommendations to consider for developing a successful and sustainable COPUS Regional Hub. These include:

1. Build on what is already there – That means identifying the stakeholders and who is doing what. There are some obvious starting points: local museums and science centers, universities, and government agencies, but be willing to look beyond the obvious.

- A quick Internet search “Science in (name of city or region) may give you some unexpected results.
- Connect with your local public broadcasting stations.
- Consider connecting with science reporters associated with local media, park systems, local libraries, state and local science teachers associations, state academies of science, the state science supervisor, Sigma Xi chapter, university and college student groups.

2. Maintain the grassroots character – Start with a face-to-face meeting of a core group of interested parties and grow naturally. Within that core group:

- Discuss how to coordinate and support current activities and resources in order to engage your local audiences in the Year of Science 2009.
- Distribute responsibilities among the core members according to interest and expertise. This shares the load and creates a sense of collaboration while the hub is evolving in character and structure.
- Invite others to join in the effort.

3. Find a champion or two – Even with distributed responsibilities, you will need a hub facilitator or coordinator. Initially, this can be a shared task, fulfilled by donated staff time or volunteers. Eventually, you may want to consider support for a part-time or full-time position.

4. Create a clear sense of purpose – Begin by focusing on preparing for the Year of Science 2009. Efforts and activities should reflect local interests and needs, targeted audiences, and the participating organizations.

- Set reasonable goals and objectives, e.g. offer one public event each month; start a science café; develop a coordinated activity calendar
- Articulate expectations of and benefits to the partnering organizations. The value gained through a coordinated effort should be greater than the investment of individuals.

5. Establish communication and marketing tools – Email and face-to-face meetings can get you started. In addition, consider these tips:

- Develop an online discussion space for your regional hub. COPUS Central will assist with this effort.
- Create a regional hub website to serve as gateway to hub activities. COPUS Central can provide some recommendations for getting started.
- Encourage all participants to use the Year of Science 2009 branding on events and activities
- Take advantage of the marketing expertise of your local museums and informal science centers for naming and publicizing your activities and events
- Develop and implement ways to measure impact and promote your success. COPUS Central will provide an evaluation instrument for your modification and use.

6. Develop appropriate funding strategies – By leveraging existing resources, hub expenses should be minimal. Identify and approach local stakeholders (business, industry, foundations, and individuals) that may want to support your efforts.

7. Stay connected with COPUS Central – Identify a Hub liaison to interact directly with the national effort; take advantage of COPUS resources; and participate in national activities that will be highlighted each month on the Year of Science 2009 website.

- Register all participants on the COPUS website in order to access additional marketing tools and strategies
- Register all Year of Science 2009 activities on the national calendar which can then be downloaded to your hub calendar

THEN WHAT?

Registering your hub with COPUS – Contact the COPUS Network Project Manager, Sheri Potter, spotter@copusproject.org to register your hub and have it listed on the COPUS website.

Expanding your hub – As your presence grows, hub members will identify others within the community who may be interested in joining you. The expansion of your hub is determined by you, but we encourage you to be inclusive of all stakeholders who share the COPUS mission of engaging the public with science and increasing their understanding of the nature and process of science. Sample invites are available and can be modified for your use.