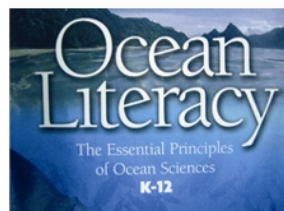
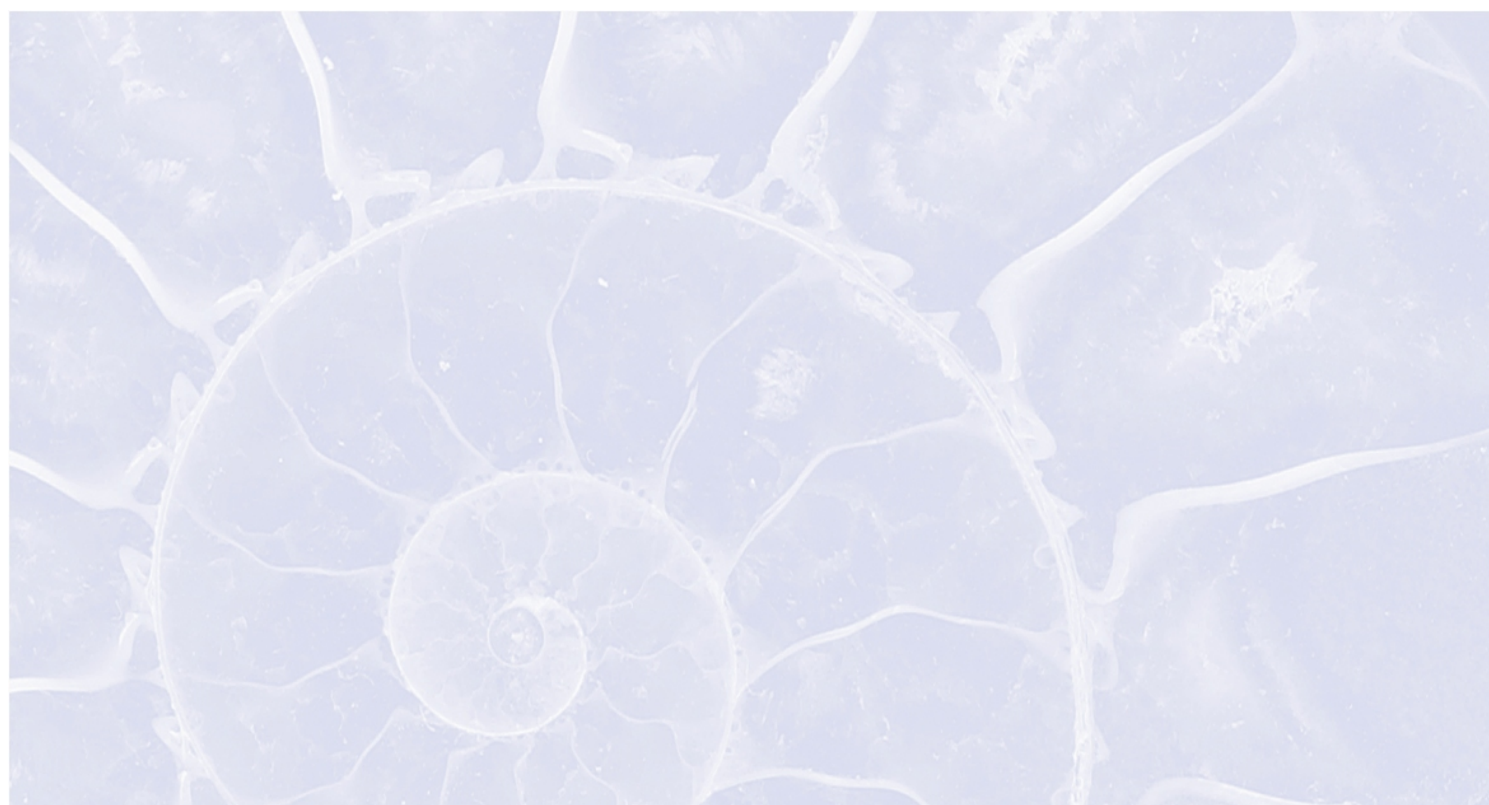




## THE COLLEGE *of* EXPLORATION



### An Introduction to The College of Exploration (TCOE)

#### MISSION

The College of Exploration's (TCOE) mission is to create a world-wide organization dedicated to:

- understanding and protecting our natural environment
- realizing individual potential
- international collaboration and cooperation
- innovative application of technology in support of learning
- transcending geographic and cultural barriers

The College of Exploration (TCOE), founded in 1991, is a 501c3 not-for-profit educational organization based in Virginia. TCOE designs, develops, delivers, and evaluates education programs, workshops, courses and collaborative learning environments for learners of all ages, with a particular emphasis on web-based courses and workshops for educators. Underlying the educational programs is a focus on leadership, the environment and technology—and their interdependence, with a solid grounding in learning principles.

#### Rational and Vision

The College of Exploration offers a new approach to global learning and was developed to capture the spirit of exploration in learning. It is widely recognized that there is a need for leaders with a more holistic view of themselves and of the challenges facing the world. A different world view is required—a world view characterized by the need for the mastery of rapid, dynamic change and the ability to harness information for the solution of global problems. The College of Exploration's programs are designed to offer intellectual challenges, international exchange, and advanced technologies.

*The College of Exploration creates opportunities for inward and outward exploration of a broad spectrum of ideas, topics and issues.*

#### The College of Exploration offers six main areas of expertise and focus:

##### Online Teacher Professional Development

Since 1995, when the World Wide Web was in its infancy, we have been increasing our abilities in bringing nationally and internationally recognized experts' research, knowledge and experience to a wide range of professional development needs of educators. For the past ten years we have offered teacher professional development programs and have developed online learning communities in science education. Through its workshops and activities, TCOE has served over 7,000 teachers—ultimately reaching students throughout the world. The programs are interdisciplinary with creative and alternative course delivery, with a systems approach to design, development and implementation.

The workshops include interactive presentations by experts, sharing of classroom applications, extensive curriculum resources and materials, and informal collegial networking. Informal and formal educators comprise the largest audience for our programs, though TCOE has also served scientists, government, NGO personnel, and students. Benefits of participation include access to a wealth of resources and instructional ideas, deepening content knowledge, networking with peers, interaction with scientists and other experts, convenience and flexibility for participation, up to date information, recent scientific discoveries and latest research, and graduate credit.

*Students and Partners  
Prospectus 2007*



**Collaborative Web-based Technologies in Support of Networked Learning, including Video, Flash, iPods, Web Design and Development**

The College of Exploration (TCOE) is a multimedia network connecting teachers, their students and schools, scientists, informal educators, government personnel, home school teachers, parents and other interested learners throughout the world. Using multimedia tools, web conferencing capabilities, video conferencing, and virtual field trips, The College of Exploration brings the excitement of scientific exploration and research direct to the learner's PC and encourages the exchange of knowledge among all participants. The College of Exploration matches the content and the needs of the program participants with the appropriate learning technology.

TCOE has developed a significant capability and competency in the design, development and implementation of digital media to include video, audio, images, interactive flash, streaming presentations and complete educational websites. It has a video studio and several portable live video web cast units that can be easily transported by air and road to produce live video broadcasts over the web. We host our own media servers and can deliver live and on demand video to small and large audiences.



**Pedagogy and Design Principals for Online Learning, with an Appreciation of Learning Through Dialogue and the Importance of Self-exploration and Lifelong Learning**

The College of Exploration employs sound pedagogical principles and the guidance of years of online learning research to design its online learning environments. These environments have included planning meetings, workshops, courses, seminars, and a virtual campus. These specialized online places incorporate areas such as keynote presentation halls, classrooms, meeting rooms for discussion, libraries and resource rooms, and social spaces.

The College of Exploration's curriculum and learning delivery processes are designed to support an individual's exploration of the topic area as well as to enhance self-exploration of stewardship and leadership in the educational arena and broader society. Our research shows us that our workshop participants prefer a learning structure that allows the individual to learn in his/her own learning pathway. Through our understanding of learning styles and preferences for online learning formats, we create a number of alternatives for accessing and working with the online learning content. We also offer various options for obtaining professional credentials, including graduate credit, continuing education credits through a number of academic institutions.

**Fostering Interaction between the Science and Education Community, especially in the Content Areas of Oceans, the Environment and Other Sciences**

We build a collegial relationship with scientists, researchers, and graduate level instructors—experts in their fields—and help them bring their knowledge and research to educators around the world. Over the past 10 years, we have helped hundreds of these experts reach educators from every state in the USA, as well as more than 40 countries from around the world. Content focuses on the educational use of technology, classroom assessment, space science, polar science, rainforest study, geography, and history. The greatest number of programs have concentrated on marine biology and oceanography and the marine technologies used in oceanographic research.



*The greatest number of programs have concentrated on marine biology and oceanography and the marine technologies used in oceanographic research.*

The College of Exploration staff has conducted face to face workshops for Department of Defense Dependents Schools, as well as science education training programs in Bermuda.

The ocean science content has ranged from biodiversity to bioluminescence, from the wonder of coral reefs to the concerns of harmful algal blooms and aquatic nuisance species, from the history of oceanography and its technologies to a look at cutting-edge research like submersibles and tools, such as GIS and Critter Cam, as well as the future in ocean sciences. The College of Exploration has also offered a small number of onsite educational programs for teachers and students. These hands-on, face to face programs complement the online learning programs and bring teachers and schools in direct connection with scientists in the field.

**Global Heartbeat Program**

The College of Exploration's *Global Heartbeat Program*, introduced in 2001, pioneered a hands-on learning program that helped high school and middle students learn about the environment and its effect on living organisms. This incorporated a unique research methodology to monitor the heartbeat of crabs as indicators of pollution and promoted awareness of ocean health while giving students hands-on experience with living organisms.



The Global Heartbeat program was funded for three years by the University of Southern California Sea grant program and served high school and middle school students involved in the Wrigley Institute for Environment Studies summer program. It also enabled the spread of the program and the technology to a small number of schools, universities and science laboratories in Maine, Virginia, Bermuda, Maryland, Mississippi, and California where it was employed for both learning and research purposes. Global Heartbeat has brought students together with educators and scientists in cooperative research, so students could engage in scientific inquiry-based learning and learn sound scientific methodology.

Program evaluation showed it was effective in supporting student understanding of systems thinking and the scientific method and drawing connections between ocean health and human health.

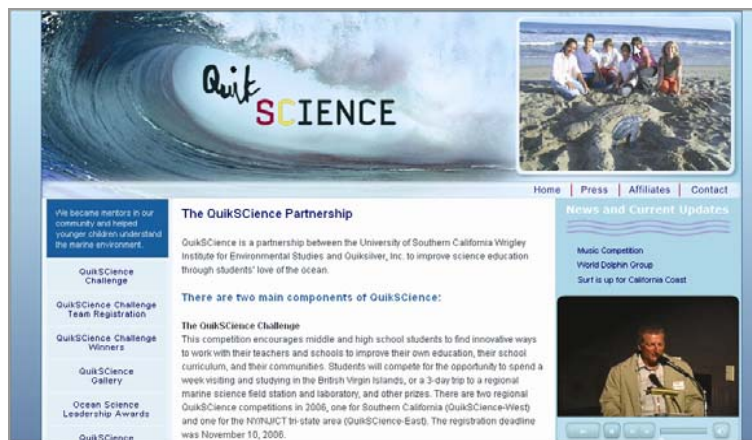
### Strategy Communication, Networking and Management Support for Educational Organizations and Programs

The College of Exploration (TCOE) staff and faculty are highly experienced in management, education, technology, organizational design, and development. They offer a unique ability to use technology to rapidly bring diverse groups together for planning and issue management purposes. Projects have included strategic planning for technology plans in DoD K-12 schools, science and ocean literacy development, geography and ocean literacy, polar literacy, and communication and technology strategies for the Consortium for Oceanographic Research and Education.



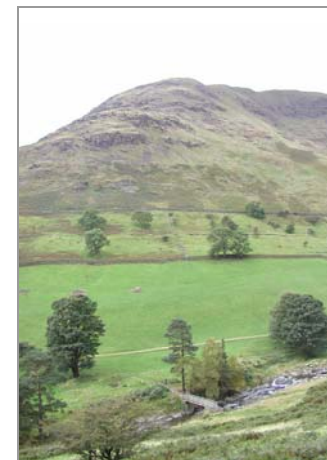
*TCOE develops educational websites in support of its programs and also with and for its partners. All online workshops require custom public websites and unique password protected learning environments.*

TCOE website developers have created websites for educational partners and projects such as QuikScience, Global Heartbeat and the Challenger project.



### Educational Evaluation and Research

The College of Exploration has engaged in a number of educational research and evaluation projects, working with the Department of Defense Dependents' Schools, National Geographic Society, QuikScience, Consortium for Oceanographic Research and Education, and Joint Oceanographic Institutions to name a few. Research and evaluation projects have focused on evaluation of teacher professional development, research on academic competitions and evaluation of educational programs and web sites.



### Future Directions

The College of Exploration (TCOE) would like to expand its educational offerings to include more global onsite experiences, community service oriented projects, and hands-on activities. A masters degree in Science Education/or Marine Studies would be a natural extension of the currently offered TCOE online workshops for teachers. The latter would attract elementary teachers who were interested in marine topics with a core of science courses, but were interested in integration and applications in other subject areas.

The College of Exploration would like to respond to the learning needs and desires of a wider variety of adults by offering continuing education programs that support their lifelong quest for learning. Another group of interest is college students, ages 18-22 that prefer an alternative learning program on the theme of exploration. This 2-year program would incorporate global field experiences, community service and interdisciplinary coursework linked through technology.

### Potential Students

Throughout the year, The College of Exploration (TCOE) offers opportunities for learners to participate in online workshops and courses on a variety of topics. We work with partners to develop opportunities for scientists and subject matter experts to share their knowledge. Many of our students are pre- and in-service teachers in classrooms around the world. Most of the programs are offered free of charge, with fees applying when graduate credit is required or continuing education certification required. Past, current and future programs can be accessed from our website at [www.coexploration.org](http://www.coexploration.org)

### Potential Partners

We work with a broad range of partners to develop programs. We are continually expanding our partners to develop new workshops, courses, programs, and conferences. If you want to explore how we might work with you to develop collaborative and innovative learning opportunities, please call or email us.

## Partners

A number of organizations have been collaborative partners and sponsors of The College of Exploration and have been instrumental in the successful development of our educational programs and web-based services:

National Geographic Society  
National Science Foundation  
University of Southern California Sea Grant  
NASA-JPL  
Mississippi-Alabama Sea Grant  
Maryland Sea Grant  
NOAA Office of Ocean Exploration  
National Marine Sanctuary Foundation  
National Oceanography Centre, Southampton (UK)  
NASA  
Department of Defense Dependents Schools  
COSEE-West  
COSEE-Great Lakes  
COSEE-Gulf of Mexico  
QuikScience  
Consortium for Oceanographic Research and Education  
Joint Oceanographic Institutions  
Ocean Technology Foundation  
Bermuda Institute of Ocean Sciences (formerly BBSR)  
California State University-Fullerton  
Miami-Dade Community College (Human Resources and Education)  
Ashland University  
Missouri Botanical Gardens  
Earth2Ocean, Inc.  
Excellence for Kids, Inc.  
Digital Media Enterprises  
The Kalamazoo Foundation  
Annenberg Foundation  
Metasystems Design Group  
Group Jazz

## About Our Management

**Mr. Peter Tuddenham**, *Executive Director of The College of Exploration*, is co-founder and has served in this role for 15 years. He has advised educational institutions, Fortune 500 companies and DOD on organizational strategies, executive development, system design, learning and change. His diverse management experience includes roles as Strategic Issues Manager for a large nuclear electric power utility, Corporate Communications Systems Manager for Coors Brewing, Recruitment and Compensation Management in industry and for the U.S. Government and service in the British Army as an engineer troop commander. He has a BS in Business Administration from Regis University in Colorado.

**Dr. Tina O'Kane Bishop**, *Vice President and Academic Advisor of The College of Exploration*, has led the development of curriculum and of online learning environments, which have served thousands of educators over the past 15 years. She also has been project director for many educational research and evaluation projects, as well as serving as project manager for the implementation of online workshops and educational programs. She also is responsible for the organization's financial operations and marketing efforts. She has an Ed.D. and MBA from Virginia Tech, an MA in Measurement and Statistics from UMD and a BA in Psychology from Ithaca College.



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