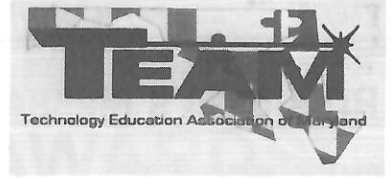


NETWORK



Volume 12, Number 3, September 2000

TECHNOLOGY EDUCATION ASSOCIATION OF MARYLAND

TECH EXPO 2000

Maryland Technology Education:
EXCEEDING THE STANDARDS



BALTIMORE MUSEUM OF INDUSTRY

OCTOBER 20, 2000

8:00 A.M.— 3:00 P.M.

President's Message: Adam Sheinhorn



It's hard to believe that another summer has come and gone, but here we are, preparing for another school year. This is the time of year when you crack out the introductory lesson plans and the "let's get acquainted" activities for the first week of class. It is also another opportunity to expose a new group of students to the excitement that is Technology Education.

As you plan your seating charts and activity schedules for the beginning of the year, remember that this is the time to make the important "first impression" with the young students in our schools. We want to excite them about Technology Education and help them to look forward to coming back to class tomorrow. Showcase your program to not only your students, but to the rest of your school community as well.

Learning about Technology is a lifelong process, for your students as well as for yourself. It's important that your knowledge of technology continue to grow along with your students'. As you plan your professional development for the year, remember that TEAM is there to help. This October, TEAM will be holding its annual Tech Expo for Technology Education professionals like yourself. Join us at the Baltimore Museum of Industry as we venture into our first full year with our new national content standards. The theme for this year's Expo is, fittingly, "Technology Education: Exceeding the Standards". This year, we will hold our annual awards banquet the evening before the Tech Expo. Celebrate the accomplishments of your fellow technology educators and spend a lovely evening at the Garrett-Jacob's Mansion in Baltimore. These two events are a wonderful way to kick off the new school year.

Have a wonderful beginning to your school year and if you are able to join us in October, stop over and say hello. I look forward to working with throughout the year.

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Maryland Engineering Challenges For 2001

The Engineering Challenges are a series of competitive activities for students in Grades 1-12. They are sponsored by the Engineering Society of Baltimore, Baltimore Museum of Industry, and the Technology Education Association of Maryland. They are designed to introduce young people to the role of engineers in today's society. Regular challenges involve four main components, a written report (submitted two weeks in advance), an oral report, the design and construction of the entry, and its performance at the Museum of Industry. Although most entries are from schools, both public and private, we welcome entries from clubs of all types, or even individual families.

Our Mission...

The Engineering Society of Baltimore and the Engineers Week Council initiated the "MARYLAND ENGINEERING CHALLENGE SERIES" in 1990, in an effort to provide Maryland elementary, middle and high school students with opportunities to participate in engineering type problem solving activities.

What's New? Parkville High Project

**An Integrated Project — Algebra I,
Technology Education and Biology.**

A group of grade nine students at Parkville High School in Baltimore County will have the opportunity to design and construct devices needed to carry out biological investigations in the technology laboratory. Students will use their knowledge of the "core technologies" and data acquisition skills to solve practical problems. Mathematics, science, and technology teachers will combine their expertise to support students as they seek to develop solutions to real world problems.

TEAM AWARDS BANQUET

THURSDAY, OCTOBER 19, 2000
AT THE
ENGINEERING SOCIETY
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TEAM TECH EXPO 2000

FRIDAY, OCTOBER 20, 2000
AT THE
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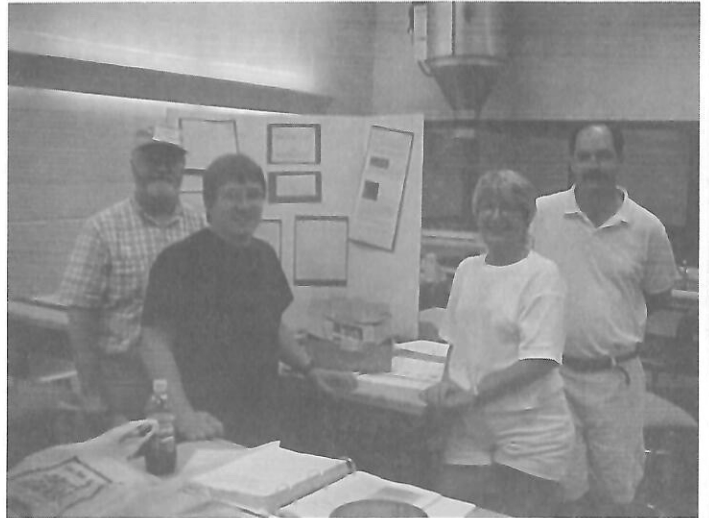
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TELP Summer Institute 2000

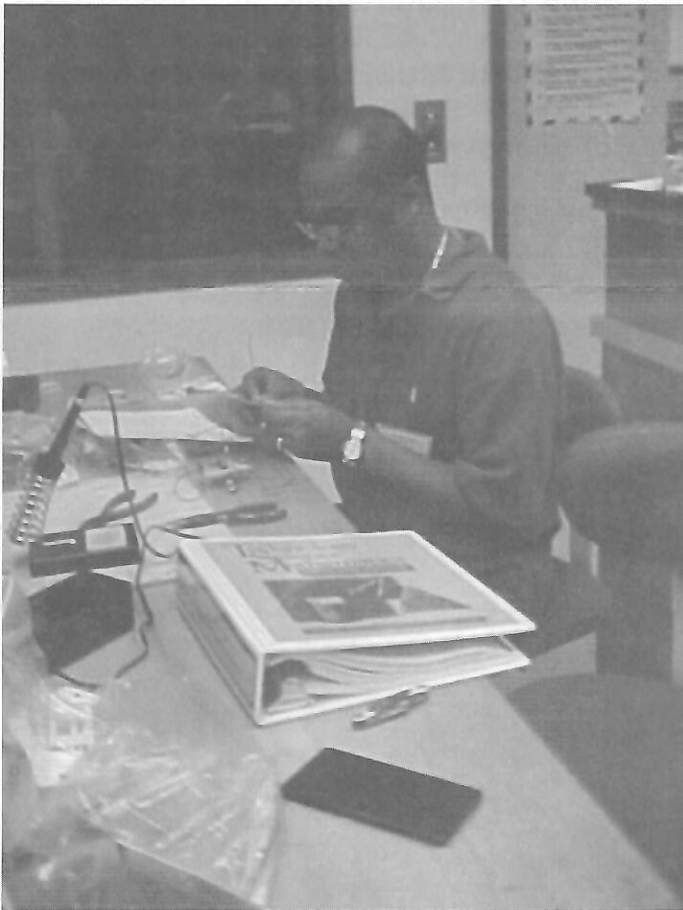
The second, and final, summer institute for the Technology Education Leadership Project was held at the University of Maryland, Eastern Shore. Over 75 participants attended one of the three two-week sessions.

The first week of the session was comprised of activities in biotechnology, optical, and thermal technology. In optical technology, each participant built a transmitter/receiver set that uses fiber optic cable to carry a signal. The thermal technology activity involved designing, building and testing an insulated panel using recycled materials. A two-day course in Biotechnology was presented by Dr. John Wells from the University of West Virginia. He and two graduate assistants directed activities from a curriculum resource guide they are developing for middle and high school.



Reflections and Commentary on the Summer Institute:

"The three presenters really help to focus my views of biotechnology toward the positive. So much so that I am excited to do that section in my Technology Ed classes." - Sam Henry, Worcester County



During the second week, instruction centered on the *Teaching/Learning Strategies for Technology Education*. Participants explored product generation while mass producing the testing boxes used in the thermal insulation activity. A maglev challenge was used to study Research and Experimentation and Engineering Design and Development.

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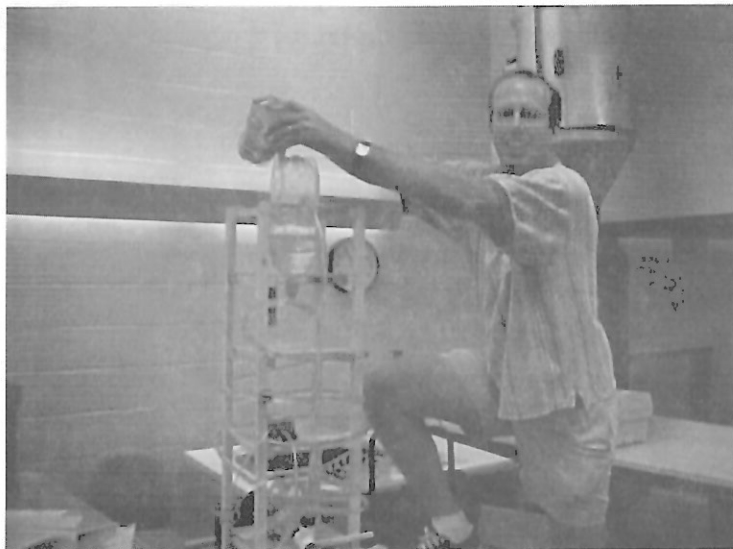
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"My favorite activity was the biotechnology challenge. The information from the West Virginia University curriculum will be most helpful." - Byron Yarbrough, Talbot Co.



"The bio-tech, although a bit much for middle school, was the most interesting. It gave me some ideas that I could use to stir the students imagination about other technological areas." - Mark Kaniski, Washington County

"I thought the Bio-Technology Activities included some of the most useful information we have received in a long time. I feel that in the Tech Ed curricula of most counties Bio-Tech is the one area that we have not focused on as closely as we could. The



information we received is something that I have waited on for quite some time. The labs offered from the different companies and suppliers are nice but getting some practical background in the area is much more valuable. I can now see ways that I can incorporate Bio-Tech into the areas that I will be teaching this year and the future." - Kevin Davis, Harford County

"Just like students, I think we all enjoy the activities that let us make things. My favorite activity was making the fiber optics transmitter and receiver. The best part of participating in TELP was getting to spend time learning, working, and sharing ideas with other technology education teachers." - Chris Gray, Howard Co.

"The Biotech sessions were my favorites. There was plenty of content on topic and modeling of teaching strategies. I really enjoyed the hands-on work. I think the project work we did raises the bar for everybody's performance, because we acquired both basic skills and the refinement of techniques at the same time." - Lori Fritzsche, Baltimore County



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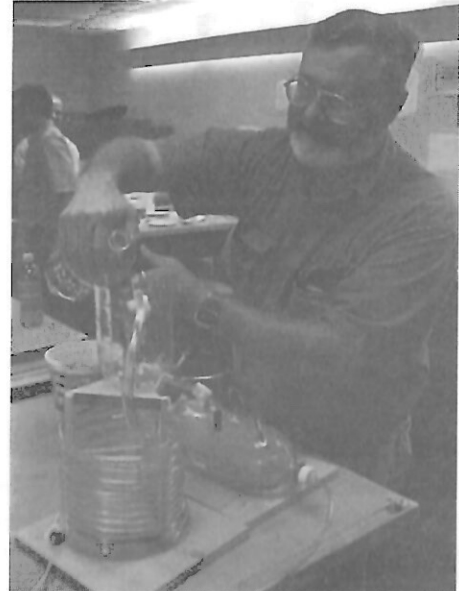
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"My favorite activity was the Maglev Train Design. It was my first time working with magnetic levitation and I was able to experience the designing and troubleshooting process." - Victoria L. Lee, Prince George's County

"The need for a biotechnology curriculum for technology education is right on time at a time when we have broken the genetic code, DNA testing, and gene altered corn. The implementation of such a curriculum to be used as an

integral component of existing Technology Education programs is of great value to our subject areas. I enjoyed the class, found it informative and I learned a great deal about a subject I knew little about. I'm excited and looking forward to teaching this new found knowledge to my students." - Quinn Patterson, Prince George's County.



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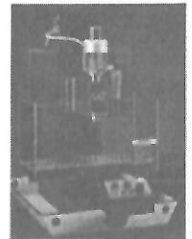


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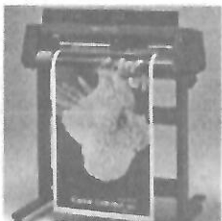
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MCCTES Welcomes Dr. Jerry Day

The Maryland Center for Career and Technology Education Studies at the Baltimore Museum of Industry is proud to announce the arrival of Dr. Jerry Day, Coordinator of Graduate Studies for the programs offered by the University of Maryland Eastern Shore's Department of Technology. Dr. Day has been an important part of the CTE community for many years. Most recently he served as Accountability Officer for the Division of Career Technology and Adult Learning at the Maryland State Department of Education. Over the years, Jerry has been an ardent promoter of Technology Education and played a critical role in the adoption of the graduation requirement in our area.

The role of the Coordinator of Graduate Studies will focus on program development and the recruitment of students into the UMES Masters

Degree Program in Career and Technology Education. The expansion of the graduate program is vital to the well-being of Maryland's CTE program because of its role in preparing our future leaders.

If you are interested in the graduate program or if you would like to talk with Jerry, call the MCCTES at (410)685-1648 or visit our website at www.mcctes.org.

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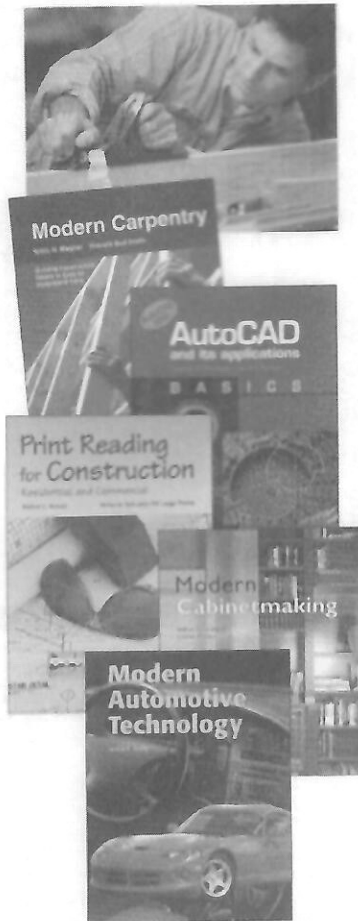
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BOOK REVIEW

Zero

The Biography of a Dangerous Idea By Charles Seife New York: Viking, 248 pp, \$24.95, 2000.

Considering the fact that the subject of this book deals with math, it could have been written in a less interesting manner. Instead, Seife shares facts and his opinions at a level of clarity not commonly found in scientific writing. The book is a skillful blend of history, mathematics and science. Most engaging is the author's way of reviewing the debates that went on throughout the centuries regarding zero. Early on, he succeeds in revealing that the concept of zero ranks high among the most fertile notions that has ever been thought up by humanity. Seife provides a wealth of information based on his expertise as a science journalist.

The author traces the history of the concept of zero from its origins as a philosophic concept in the Orient to its eventual acceptance in the West. The description of the role of Aristotle and the Roman Church in banning the use of zero for centuries in the West is easy to follow in this book. Seife's skillful manner of blending scientific developments, views of prominent scientists and philosophers, and mathematical knowledge into brief sections is enlightening.

In keeping with the theme of the book, the author starts out with 'Chapter 0' and the last chapter, rather than be labeled 'nine' is called Chapter 'Infinity'. Chapter One is a good treatment of the origin of zero. He points out that in early times, the concept of zero was a frightening idea. Since the beginnings of mathematical thought revolved around the notion of counting animals and products, the notion of zero was totally foreign. Since the time of the Babylonians, counting machines based upon the concept of the abacus, came into being. The author points out that the introduction of these machines was the Bronze Age equivalent of computer code.

The initial place of zero, which went back to the time of the Babylonians of 300 BC, was to serve as a placeholder. He pointed out that it is merely a symbol for a blank place in the abacus. In other words, it has no value. It seemed appropriate that the place to start counting is one, which is why zero appears in an unnatural place (at the end of the computer and at the bottom of the telephone). With that, Seife arouses the interest of the reader to the strange place of zero in our system. He points out that we start counting with one, but in counting back, we end up with zero following one.

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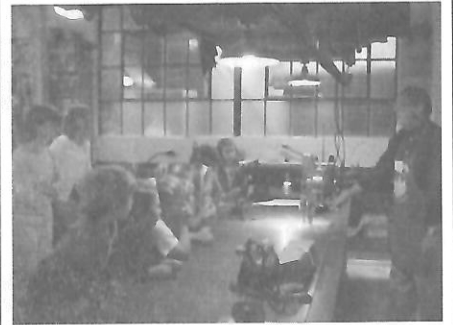
In Chapter Two, the author makes it clear that in the Greek universe of Pythagoras, Aristotle, and Ptolemy, there is no zero. As a result, it took almost two thousand years from their time for the West to accept zero. During the same period, as pointed out in Chapter Three, the notion of zero flourished. The mathematicians of India during those early times transformed the role of zero from being a mere placeholder to a number.

Chapter Four is where infinity, an equally puzzling idea, is well discussed. He quoted Blaise Pascal: 'What is man in nature? Nothing in relation to the infinite, everything in relation to nothing, a mean between nothing and everything.' It is about this point in the book where a number of complicated topics are treated, often in ways that require some knowledge of higher math on the part of the reader to fully comprehend them. Even so, he frequently injects clever comments that bring the reader back. For example, in Chapter Five he makes a statement that makes one think: 'Natural laws are described with equations, and equations, in a sense, are simply tools where you plug in numbers and get another number out.' The fascinating relationship between zero and infinity is nicely touched on in several of the latter chapters, but sometimes difficult to fully understand.

Five appendices are provided for the more mathematically inclined. A thorough Bibliography appears in the back of the book, which should be highly useful for those desiring more resources related to the subtopics. The Index provides names of important persons mentioned in the main text, thereby making it easier for the reader to relocate a given person. The book is a challenge to read for the less mathematically inclined, but even for them, there are some fascinating sections relating to history and philosophy.

Lynne M. Gilli
Angelo C. Gilli

Visit the Baltimore Museum of Industry



TEAM's newsletter is edited by
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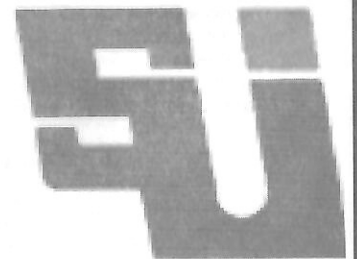
Calendar of Events

October 19, 2000	Thursday	TEAM Awards Dinner at Engineering Society of Baltimore (ESB)
October 20, 2000	Friday	TEAM's TECH EXPO 2000 at Baltimore Museum of Industry
October 28, 2000	Saturday	TELP Weekend Institutes (Regional)
December 2, 2000	Saturday	TELP Weekend Institute at Baltimore Museum of Industry
January 27, 2001	Saturday	TELP Weekend Institutes (Regional) Maryland Engineering Challenges Workshop at BMI
February 17, 2001	Saturday	Maryland Engineering Challenges—Elementary Level at BMI
February 19, 2001	Monday	Maryland Engineering Challenges—Tractor Pull at ESB
February 20, 2001	Tuesday	Maryland Engineers and Educators Dinner at ESB
February 24, 2001	Saturday	Maryland Engineering Challenges—H.S. Wood Bridge at BMI
March 22-24, 2001		Annual ITEA Conference and Exhibition — Atlanta
March 24, 2001	Saturday	Howard County Tech Challenges
March 31, 2001	Saturday	Maryland Engineering Challenges—High Sch. and Mid Sch. at BMI
April 7, 2001	Saturday	TELP Weekend Institutes (Regional)
May 10, 2001	Friday	Montgomery County Awards Program

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Nu Chapter Mission

Iota Lambda Sigma, Nu Chapter is an organization which provides professional men and women opportunities to share common interests regarding the continuing growth of innovative educational programming which ensures the development of a technologically literate citizenry.

Nu Chapter Historical Sketch

Nu Chapter was established fifty years ago at the University of Maryland, College Park, Department of Industrial and Occupational Education. The chapter was initiated as a college based chapter of the fraternal organization. During the chapter's forty year history as a college chapter, 1941 to the present, 946 members have been initiated. Many of Nu Chapter's members have served in leadership positions in Maryland's business and educational communities. In 1993 the dissolution of the University of Maryland, College Park, Department of Industrial and Occupational Education resulted in the last formal activities of Nu Chapter. In 1998, the Grand Chapter contacted a group of former Nu Chapter members and invited

them to assist in the re-activation of the chapter as the Maryland Field Chapter. As a result of the assistance of the Grand Chapter, a series of events have been planned to reactive the Nu Chapter as a Field Chapter. Keep an eye out for a schedule of events.

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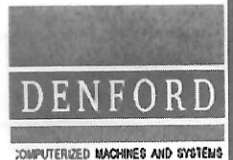
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