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Vote in the 2004 IEEE Annual Election

The 2004 IEEE Annual Election ballots have been mailed. This is your opportunity to determine who will serve on the IEEE Board of Directors, Regional Activities Board, Technical Activities Board, IEEE-USA Board and the Standards Association Board.

In 2004, members are also being asked to vote on a Constitutional Amendment containing revisions to the wording of the IEEE Constitution.

For the first time, members may cast their ballots either by **mail or access their ballot materials electronically**. Instructions and codes to access electronically are provided in the election ballot materials that have been mailed.

In the 2003 IEEE Annual Election, only 15% of eligible voters returned a valid election ballot. ***In an attempt to increase the number of ballots returned, the Regional Activities Board will recognize two Sections (one large/one small) that have the highest percentage increase in the number of ballots returned in this years IEEE Annual Election. (A Section is considered large if it has 501 or more members.) The Oregon Section voter turnout in 2003 was 468 members or 15.66% - so send in your ballots now!***

IEEE Oregon Section October Meetings

For latest Meetings List see <http://www.ieee-or.org/events/>

• IEEE Control Systems / Instrumentation & Measurement Joint Chapter

Lecture: Non-contact 3D Measurement for Industry
Speaker: Joey Nelson, founder and president of JoeScan, Inc.,

Date: Wednesday, October 13, 2004

Time: 6:30 PM - 8:30 PM

Location: PSU Fourth Avenue Building, Room 150

Directions: http://www.ece.pdx.edu/FAB_Directions_C-Map.pdf

Agenda:

6:30 - 7:00 Networking (food and beverages will be provided)

7:00 - 7:15 Chapter Business

7:15 - 8:30 Lecture: Non-contact 3D Measurement for Industry

RSVP requested for food

• IEEE Oregon & SW Washington Communications Society & Computer Society Chapters

Topic: The Intel Mote

Speaker: Ralph Kling, Principal Engineer, Intel Research

Date: Thursday, 21st October, 2004

Time: 6:00 PM ~ 8:30 PM

Place: Oregon Graduate Institute of Science and Technology (OGI),

Wilson Clark Center, 20000 NW Walker Rd, Beaverton, OR 97006

Directions: <http://www.ogi.edu/maps/>

Cost: Free and open to the public (registration required)

Register at <http://cpd.ogi.edu/class.asp?n=05-ieee-1021/>

Pizza and refreshments sponsored by AZAD (<http://www.azad.com>)

From the Editor's Desk

by Allen G. Taylor

This month we have some interesting meetings on tap. Coming right up is the OctoberBest Trade Show on Wednesday, October 13th from Noon to 6PM. It will be held at the Hawthorn Farm Athletic Club in Hillsboro. Sponsored by the Electronics Manufacturing Association and the Electronics Representatives Association, OctoberBest is the only electronics manufacturing conference and exposition in Oregon. See the announcement in this issue and plan to attend.

After networking and browsing at OctoberBest, swing over to the PSU campus in Portland for IEEE Control Systems/Instrumentation & Measurement Joint Chapter Meeting at 6:30 PM. Joey Nelson will give insight how pervasive 3D measurement might revolutionize industry. Will the subject of Joey's talk turn out to be such a breakthrough that it constitutes disruptive technology? Come, listen, and judge for yourself.

On Friday, the popular Science, Technology, and Society lecture series will return, featuring cosmology superstar Dr. Brian Greene. Greene, author of the bestselling "The Elegant Universe," will be speaking on The Fabric of the Cosmos. A professor at Columbia University, he is one of the world's leading proponents of superstring theory.

On Thursday, October 21, The Communication Society and Computer Society will present Ralph Kling of Intel Research speaking on the Intel Mote. The Intel mote is a small, inexpensive sensor/communications device. The ultimate objective is to shrink motes to the size of a grain of sand and scatter them like seeds in an area you want to monitor. Ralph will tell us how far along we are toward reaching that goal, how it is being done, and some of the possible applications of the technology.

A little farther away, on October 28 and 29 the Conference on Ethics and the Changing energy Markets will be held at the University of Notre Dame in Notre Dame, Indiana. In the light of recent scandals in the electric utility business, this conference is particularly timely. See the announcement in this issue for full details.

Much in the news of late has been the invalidating or upholding of patents, particularly software patents, such as the invalidated Eolas patent on Web browser add-ons, and Kodak's recent patent win against Sun Microsystems for technology in the Java language. Kodak's patent may possibly cover all object-oriented programming, potentially having effects far beyond Java. If Java

• IEEE PACE (PROFESSIONAL ACTIVITIES)**Topic: Influence Without Authority: A High-Integrity Approach to Organizational Politics**

Speaker: Niki Steckler, Associate Professor, Management, OGI/OHSU

Date: Tuesday, October 26, 2003

Time: 6:30 PM - 8:00 PM

Doors open 6:00PM

Location: Oregon Graduate Institute(OGI), Wilson Center Main Dining Room

Directions: <http://www.ogi.edu/maps/>

Cost: FREE and open to the public (registration required)

Registration: See www.ieee-or.org/events for registrationor go to <http://cpd.ogi.edu/class.asp?n=05-IEEE-1026/>

infringes, it would seem that Microsoft's .NET Framework does too, along with C++ and many others.

Many people are claiming that the Patent Office (USPTO) is granting patents that should never be granted. The USPTO is understaffed with overworked examiners and a big backlog. Pressure to get the work done sometimes leads to insufficient research into prior art. Part of the problem is that some of the money collected as application fees is siphoned off from the USPTO and put into the US Treasury. At a time when the USPTO is struggling to do a thorough job in a timely fashion, stealing from their only funding source is probably not a good idea. IEEE-USA has called upon Congress to end the diversion of patent application fees. This might be a good one for you to write your own Congressman on.

Take a look at the current edition of Today's Engineer, online at www.todaysengineer.org. There are good articles on topics of concern to all of us.

Congratulations to the Oregon Nanofab Center at the University of Oregon. The National Science Foundation has just awarded the Center a \$402,000 grant to purchase new electron beam lithography and nanoimprint lithography systems. This new state of the art equipment will enable Oregon's researchers to conduct cutting edge investigations of the very small.

NSF AWARDS \$402,000 TO OREGON NANOFAB CENTER

The National Science Foundation has awarded University of Oregon \$402,000 for a new electron beam lithography and nanoimprint lithography systems. UO is contributing \$172,000 of the \$574,000 price tag for the new equipment.

UO Professors Mark Lonergan and Jim Hutchison were among the co-principal investigators listed on the grant application, giving an indication of the heavy use the systems will experience. Others listed on the application represent Portland State University and Oregon State University.

The systems will be housed in CAMCOR, the university's Center for Advanced Materials Characterization of Oregon. There are four different facilities, which are physically located in sites across the UO science complex and that operate under the umbrella of the Center.

CAMCOR has acquired a comprehensive array of instruments used for characterizing new materials. The facility is available to people on and off campus, and to several large and small Oregon companies that routinely use these instruments.

One of NSF's many funding objectives is to finance state-of-the-art instrumentation for cutting-edge research, Hutchison said in a phone interview.

"What you have to do is make sure the funding agency believes it will be a good return on their investment. The NSF mission is to support basic research," he said. This grant also fits in with University of Oregon's strength in molecular nanotechnology - bottom-up assembly of materials.

The grant will affect many different scientific programs and technologies that will move toward commercialization, although this particular grant isn't expected to have an immediate impact.

"This kind of lithography capability provides us with the finest features of top down patterning," Hutchison said. "It will allow us to bridge through between the outside macro world and our nanoworld. This is a really key component of the nanofab facility that we're putting on campus here."

The Center is part of Oregon's recently inaugurated Oregon Nanoscience & Microtechnologies Institute (ONAMI), whose associated researchers at UO, Oregon

State University and the Pacific Northwest National Laboratory in Richland, Wash., are working on a number of nanotech and microtech projects.

UO is planning to build new facilities for nanofabrication research at an UO branch of ONAMI that is expected to begin construction in Spring 2005.

"This is the cornerstone of ONAMI's nanofab facility," Christine Gramer, OU technical outreach officer, said in a telephone interview. "It will follow the CAMCOR model we have used [for several years]."

The equipment "will be considered ONAMI and part of the nanofabrication facility. It will be a big part of our contribution to ONAMI," Gramer said.

The money is on hand and researchers are in the process of talking to a number of manufacturers, which include any company that makes a scanning electron microscope, Hutchison said.

Administrators of ONAMI learned in July this year that they are in the running for \$10 million in federal defense grants for 2005. They expect the additional funding for two current federal defense projects that link nanotechnology with microscale systems.

UO is taking responsibility for the process of nailing down the \$5 million awarded for a US Air Force project. The project is for the development of nanomaterials and manufacturing methods to meet the military's need to protect human health and minimize harm to the environment.

The second of ONAMI's defense grants is \$5 million from the U.S. Army to continue development of miniaturized tactical energy systems, including portable power systems for military use in the field, and power systems for remote, autonomous sensors. OSU is taking responsibility for that grant.

http://www.smalltimes.com/document_display.cfm?document_id=8263/

IEEE-USA Urges Congress to End Patent Application Fee Diversion

Congress should not pass an increase in patent application fees without ending the diversion of fees from the United States Patent and Trademark Office (USPTO) to other government programs, IEEE-USA President-Elect Gerard A. Alphonse said in a letter to Senate Commerce-State-Justice Appropriations Committee members and Senate leaders.

Although the USPTO is funded solely by user fees, since 1990 a portion of the fees has been diverted to the U.S. Treasury. According to IEEE-USA, this diversion of fees reduces the patent office's income and hinders its ability to keep up with the growing number of patent and trademark applications it receives each year. Delays in the issuance of patent and trademark registrations could have enormous economic impact.

"The patent and trademark system serves to reduce the risks of commercial ventures and provides a business tool that helps U.S. corporations compete in the global market," Alphonse said. "The need for U.S. companies to protect intellectual property also creates an incentive for these companies to keep highly skilled technical professionals close to home, rather than shipping their jobs overseas."

A significant reason the United States has been a magnet for new technology ventures is the overall strength of the U.S. patent system. The USPTO receives far more foreign applications than foreign patent offices receive U.S. applications.

"Discontinuing fee diversion will help the U.S. patent system to remain the leader and will enhance our ability to attract new technology ventures to the United States," IEEE-USA's Alphonse added. "This will have a positive effect on capital formation for such ventures in the United States, which in turn will help create new high-paying jobs."

<http://www.ieeeusa.org/communications/releases/2004/091604pr.asp>

OCTOBERBEST – Regional High-Tech Manufacturing Conference & Expo Expects Largest Attendance Yet In Its Fourth Year

Local electronics manufacturers and suppliers gathering benefits the Oregon Food Bank.

Hillsboro, Or. – The OctoberBest tradeshow, considered the best forum for the local high-tech manufacturers community, is scheduled for October 13, 2004. Both the Electronics Manufacturing Association (EMA) and the Electronics Representatives Association (ERA) are presenting Oregon's only electronics and manufacturing conference and exposition, which will showcase local suppliers, services, and resources. In addition to this being the best opportunity to see the latest products, services, and technologies, you can attend seminars on emerging trends. All seminars cover topics critical in today's manufacturing environment such as: lead-free, lean manufacturing, ISO standards for recycleability, supply chain, and testing.

"No need to go out of state when you've got all of your best resources here locally in the Pacific Northwest," states Harvey Baron, Chair of the OctoberBest planning committee and the EMA.

OctoberBest will contribute 100% of both entrance proceeds and seminar fees to the Oregon Food Bank. Collection food barrels will be available on the day of the show, and all entrants are encouraged to donate non-perishable food items.

The OctoberBest Tradeshow will be held at Hawthorn Farm Athletic Club on Wednesday, October 13th from Noon until 6:00pm. Free parking will be available or take a ride on MAX Light Rail. Pre-registration for this event is strongly encouraged and available on-line at either: www.ema-oregon.org or www.era-pnw.org.

About Electronics Manufacturers Association:

The Electronics Manufacturers Association serves the electronic manufacturing community by offering programs and tours related to a broad range of topics that apply to the overall industry. One of the objectives is to provide a forum where people can learn to operate more effectively and become more aware of suppliers and companies in the local area that support the range of products required.

About Pacific Northwest Electronics Representatives Association:

The Pacific Northwest Electronics Representatives Association is part of the national trade organization of professional field sales companies in the electronics industries. ERA is devoted to promoting, protecting, and improving the professional field sales function. The Pacific Northwest ERA's territory consists of: Idaho, Oregon, Washington, Western Montana, Alberta, and British Columbia. Member rep. firms are responsible for over \$500 million dollars in northwest sales. Each of the

member firms has the trained personnel to represent their respective Electronics Representatives Association Marketing Groups.

About The Oregon Food Bank:

The Oregon Food Bank (The OFB) is a nonprofit, charitable organization. It is the hub of a statewide network of more than 800 hunger-relief agencies serving Oregon and Clark County, Washington. The OFB recovers food from farmers, manufacturers, wholesalers, retailers, individuals, and government sources. It then distributes that food to 20 regional food banks. Eighteen are independent charitable organizations. The OFB directly operates the two regional food banks serving the Portland metro area. Those two centers distribute food weekly to more than 300 food pantries, soup kitchens, shelters, and other programs helping low-income individuals in Multnomah, Clackamas, Clark, and Washington counties. The OFB also works to eliminate the root causes of hunger through advocacy and public education.

Nobel Laureate in Economics, Federal Energy Regulatory Commission Chairman to Address 28-29 October Conference on "Ethics and Changing Energy Markets: Issues for Engineers, Managers and Regulators"

Organized by University of Notre Dame and Carnegie Mellon University Sponsored by IEEE-USA, IEEE Power Engineering Society, ASCE and NSPE

On-line:

<http://www.ieeeusa.org/communications/releases/2004/070204ma.html>

WHAT: The conference will explore the interplay of ethical, market and regulatory issues arising in the shift from regulated to competitive markets in the electric and gas utility industries. News events involving energy markets, such as the California crisis and the Enron corporate disaster, have shaken public confidence in deregulated systems. Decisions of questionable ethical basis may have helped precipitate some of these calamities; adherence to high standards of ethics will be essential in restoring confidence in the markets. The origins of these problems and best practices to avoid their repetition will be explored. Participants will debate the identification and resolution of ethical problems faced by energy industry participants -- from plant engineers to CFOs and CEOs.

WHEN: Thursday-Friday, 28-29 October 2004

WHERE: University of Notre Dame, Notre Dame, Indiana

WHO: Plenary speakers on Thursday, 28 October, include: Vernon Smith, Nobel Laureate in Economics and professor of economics and law, George Mason University, who will present the keynote; William Henderson, Director Office of Market Oversight and Investigations, Federal Energy Regulatory Commission, who will discuss "Energy Market Restructuring and Its Ethical Challenges"; Caroline Whitbeck, professor in ethics, Case Western Reserve University, who will speak on "Engineering Ethics"; and James Sweeney, professor of management science and engineering, Stanford University, who will address "The California Energy Crisis." A panel discussion on case studies and breakout sessions on specific energy issues will be convened on Thursday afternoon. Bethany McLean, of Fortune magazine and author of "The Smartest Guys in the Room," will be the dinner speaker on Thursday evening.

Friday sessions will cover: "What Should Professional Societies Do?," with IEEE Power Engineering Society President Hans Puttgen; and "What Educators Should Do?" with Indira Nair, vice provost for education at Carnegie Mellon University; "Lessons from the Recent Past -- Best Practices Development," with Michehl Gent, president and CEO of the North American Reliability Council; and "Next Steps, Private and Public," with Frank Incropera, dean of engineering at Notre Dame. The Honorable Pat Wood III, chairman of Federal Energy Regulatory Commission, will be the luncheon speaker on Friday, 29 October.

CONTACT: For more information and to register, go to <http://energyethics2004.nd.edu/>, or contact Roberta White, telephone +1 574 631 8264.

***IEEE-USA Today's Engineer* October Highlights**

+ Is Your Pension Safe?

ERISA established the Pension Benefit Guaranty Corporation (PBGC) to pay benefits to defined-benefit pension plan participants when their employers cannot. While PBGC has sufficient assets to pay benefits for several years, the organization's deficit continues to grow as it pays out larger and larger claims. It behooves us to make fundamental changes to the defined benefit system now, before PBGC's deficit reaches a crisis point.

<http://www.todaysengineer.org/Oct04/pensions.asp>

+ Ethics: A Responsibility for Us All

Being aware of, understanding and adhering to IEEE's Code of Ethics is more important than ever in today's workplace. Ethics is an essential component of our continuing development as engineering professionals. It is a life-long process that must be part of our daily routines.

<http://www.todaysengineer.org/Oct04/ethics.asp>

+ How Big a Threat is Offshoring?

More and more, companies hoping to improve their bottom line are taking advantage of lower labor costs offshore. In fact, high-tech job outsourcing has become a staple in today's corporate environment. How much do they really gain, and what effect is this trend having on engineers and other high-tech professionals?

<http://www.todaysengineer.org/Oct04/offshoring.asp>

+ Software Piracy: A Cause for Concern Onshore and Off

Software piracy in this country is relatively uncomplicated; companies and consumers simply load a few more copies of programs than they paid for. And while this onshore piracy adds up to significant lost revenue, larger-scale piracy occurring overseas concerns software producers far more.

<http://www.todaysengineer.org/Oct04/piracy.asp>

+ IEEE-USA Pulse: Visa Delays

Delays in the visa process affect companies financially. IEEE-USA president John Steadman joined other organization leaders in urging the federal government to streamline the current visa application process by alleviating repetitive security checks, improving the renewal process and establishing priority processing for some applications.

<http://www.todaysengineer.org/Oct04/pulse.asp/>

Also in this issue:

- + Engineering in Pop Culture: Straphanger Centennial Part III
- + Capitol Shavings: The Hubble is in Trouble
- + World Bytes: My Personal Everest
- + Book Review: Leonardo's Laptop
- + Reader Poll: Is Innovation the Answer?
- + Reader Feedback

To read TE, go to:

<http://www.todaysengineer.org>

**Science, Technology and Society Series
2004-2005 Linus Pauling Memorial Lectures**

The Fabric of the Cosmos

with Dr. Brian Greene, Professor of Physics and Mathematics, Columbia University

Friday, October 15th, 2004, Arlene Schnitzer

Concert Hall, starts at 7:00 pm

For Season Tickets call PCPA at 503-432-2917

For single tickets visit

<<http://www.ticketmaster.com/promo/7796>>

Paralleling his best selling book of the same title, Professor Greene revisits Isaac Newton's famous 'thought experiment' – concerning the shape of the surface of water in spinning bucket isolated in space. Dr. Greene brings us deep inside modern physics by pointing at the twin, unsolved problems: the arrow of time and the extremely uniform (preferred?) frame of reference in space.

Says Greene: "*Space and time form the very fabric of the cosmos. Yet they remain among the most mysterious of concepts. Is space an entity? Why does time have a direction? Could the universe exist without space and time? Can we travel to the past?*"

Brian Greene's lectures are "insightful and inspiring, and even offer a kind of enlightenment." His best-selling book, *The Elegant Universe*, – also the basis of the recent three-part NOVA on OPB – recounts how the theories of general relativity and quantum mechanics transformed our understanding of the universe.

Brian Greene received his undergraduate degree from Harvard University and his doctorate from Oxford University, where he was a Rhodes Scholar. He joined the physics faculty of Cornell University in 1990, was appointed to a full professorship in 1995, and in 1996 joined Columbia University where he is professor of physics and mathematics. He has lectured at both a general and technical level in more than twenty-five countries and is widely regarded for a number of groundbreaking discoveries in superstring theory. He lives in Andes, New York, and New York City.

Greene's communication skills come naturally. The son of a voice coach and former vaudeville performer, Greene was a prodigy who at age five could multiply 30 digit numbers by other 30 digit numbers. An occasional actor in community theater productions, Greene also "punches

up” scientific dialogue for John Lithgow on Third Rock from the Sun. “I consider lecturing,” he says, “a form of performance.”

OGI SEMINARS

(in evening unless noted otherwise)

Follow links for details

Oct 12

[8 Most Common Presentation Mistakes and How to Remedy Them](#)

Howard Baker Jr., Speakers' Forum
free

Oct 12

[SPIN Seminar: Agile and Traditional Development: A Creative Synergy?](#)

Jean Richardson, Ward Cunningham, Sean DeMartino, Wayne Allen, Susan Muse, Fei Xie
free

Oct 14 (Thursday, 12:00pm-1:30pm)

[PMF Presents: Build an Effective Project Team in a Challenging Organizational Culture](#)

Shelley Gaddie
\$20 includes buffet lunch and seminar

Oct 19 (Tuesday)

[High Tech and Health Care: CAD--Computer Aided Diagnosis](#)

Jim Moon
free

Oct 19 (Tuesday)

[Information Session for Prospective Students: OGI's Management in Science & Technology Program](#)

free

Oct 21 (Thursday, 12:00pm-1:30pm)

[HR & OD Forum: Controlling Benefits Costs in an "Uncontrollable" Environment](#)

Debbie Burke, Dir. Human Resources, Merix Corporation
\$15 includes lunch buffet and seminar

Oct 21 (Thursday)

[IEEE Seminar: The Intel Mote](#)

Ralph Kling, Intel
free

Oct 26 (Tuesday)

[IEEE PACE Seminar: Influence Without Authority: A High-Integrity Approach to Organizational Politics](#)

Niki Steckler, OHSU/OGI
free

Oct 28 (Thursday, 7:30am-10:30am)

[PMF Learning Breakfast: Plain Talk About Portfolio Management](#)

Russ Martinelli and Jose Campos
\$45 includes breakfast, learning session and handouts

Nov 18 (Thursday, 12:00pm-1:30pm)

[HR & OD Forum: Succession Planning and the Tektronix Leadership Pipeline Model](#)

Rebecca Lynch-Wilmot, Dir. Organizational Development and Staffing at Tektronix
\$15 includes lunch buffet and seminar
