

**One Dozen Roses  
\$15<sup>00</sup> Delivered**

**Call us! 344-9998**

One dozen roses with greens, wrapped  
Delivered with your personal message  
Orders received by 1:00pm  
delivered the same day

**Rhythm  
& Blooms**

U of O's Outdoor Flower Market—  
13th & Kincaid

**NOVEMBER SPECIAL**

**Delica Beads  
25% Off**



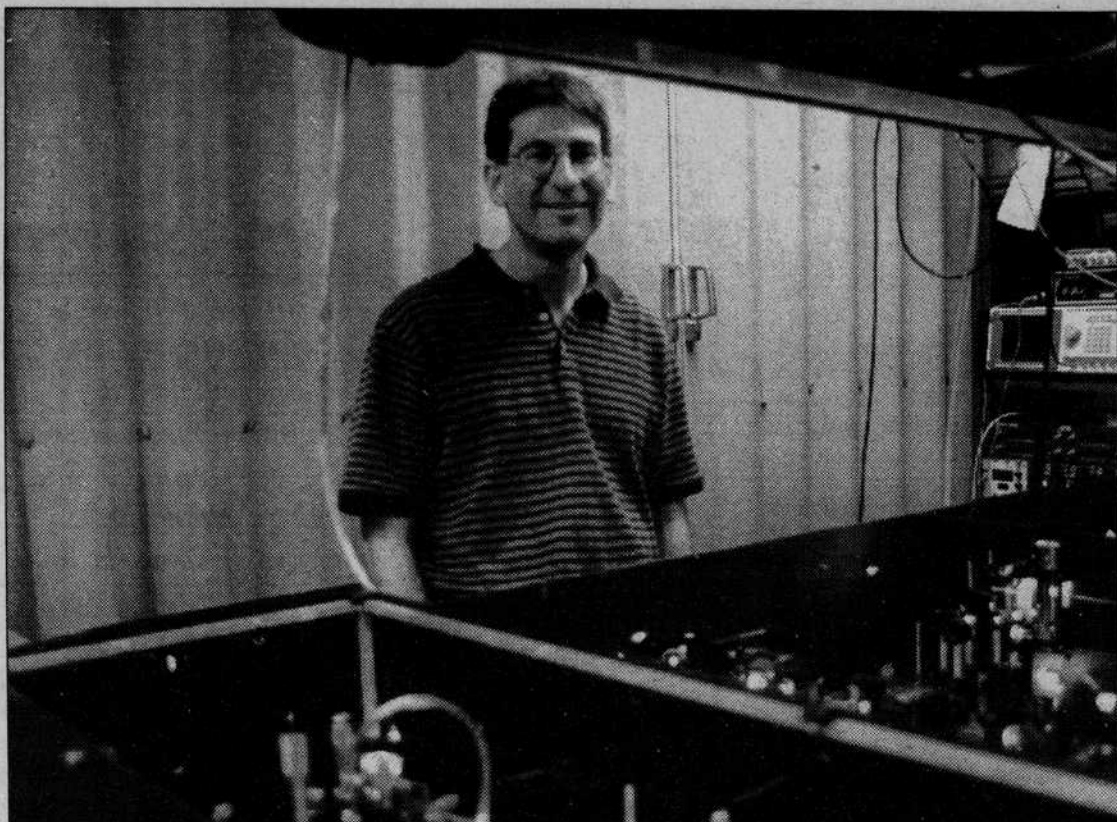
Japanese Delica beads are  
extremely uniform in  
shape & size—ideal for  
amulet bags, peyote  
stitching and loomwork.

**Harlequin**

Beads & Jewelry

**10% Off with Student I.D.  
1016 Willamette ♦ 683-5903**

**ODE Serving 10,000 Daily**



Tom Patterson Emerald

University Assistant Professor of chemistry Andrew Marcus has created a new way to examine a cell's behavior using a laser array and quickly pulsing light, named Fourier Imaging Correlation Spectroscopy.

**Voted Best Breakfast in Town!**  
*By Eugene Weekly*

**Open Daily  
7am-3pm**  
Breakfast Served  
7am-3pm  
Lunch Served Monday-Friday  
11am-3pm

**KEYSTONE  
CAFE**

♦ Redeem for a FREE BEVERAGE of your choice ♦  
West 5th at Lawrence • 342-2075

**"37 years of Quality Service"**

Mercedes • BMW • Volkswagen • Audi

**German Auto Service**

● MERCEDES ● BMW ● VOLKSWAGEN ●



**342-2912 • 2025 Franklin Blvd.  
Eugene, Oregon, 97402**

# Cellular science progresses

■ A UO Professor of chemistry has developed a new, faster technique to study the molecular behavior of cells

By Brooke Ross  
Oregon Daily Emerald

University Assistant Professor of chemistry Andrew Marcus has created a new technique using light to study cellular materials in an effort to learn more about the structure and dynamics of molecular move-

ment within cells.

Marcus is using the technique, which he named Fourier Imaging Correlation Spectroscopy, to study mitochondria, which are responsible for movement within the cell membrane. Mitochondria are important to study because they have a lot of metabolic processes and can give knowledge about certain diseases such as diabetes. "We now have a faster way to study a cell's behavior, which should help push scientific technology further," Marcus said.

The process involves illuminating a cell with a pattern of light millions of times per second, and studying the noise created by molecular motion, he said. This noise helps Marcus interpret cellular behavior.

Marcus' work took three years to complete and is funded by the University, the National Science Foundation and the American Heart Association.

Marcus said there are several advantages to using the FICS technique. One benefit is that it allows for the observation of molecular systems within better time resolutions. It is now possible to study proteins, which make up how all living things work, in microsecond time scales, he said.

"A lot of biological action happens in this time scale," Marcus said.

FICS also allows scientists to study cells for longer periods of time without killing them, he said.

The finding is especially important to the medical field because using the system makes it easier to distinguish healthy cells from self-destructing cells, he said, adding

that this knowledge will give pharmaceutical companies and the health industry added information about diseases.

Graduate student Michelle Knowles is also involved in the FICS research. Knowles, who has been involved with the work for over a year, works in Marcus' lab and prepares cell slides and observes their movements.

"I hope to see this work carried out, so we can learn more about mitochondrial diseases in the future," she said.

After developing FICS, Marcus joined with University professor Roderick Capaldi, an expert on mitochondria, to study the motion of mitochondria. Marcus said the two professors have been able to learn from each other's areas of expertise.

Several graduate students are currently involved in the ongoing research, including Daciana Margineando, who studies the structure of the cell's membrane in Capaldi's lab.

"We've done the underground work, but now we want to address the biological questions," she said.

Margineando works with a more traditional imaging technique called digital video fluorescence microscopy, which allows her to see the structures and observe the position of the mitochondria. By using both techniques, the researchers are able understand not only what the mitochondria look like, but what they are doing.

She hopes to see the research become more thorough so it will be possible to study the inside of other cell elements in order to understand the dynamics of cellular structures.

Most voting age Americans do not vote. Our last six presidents were elected by less than one-third of the voting age population. This could be the year more people vote than ever before because there is finally a candidate worth voting for.

**Nader  
for President!**

Nader and LaDuke want your vote so they can work nationally for:

- Quality education for all children
- Universal health care
- An end to the failed war on drugs; help, not punishment for addicts
- Woman's right to choose
- End to radical injustice
- A living wage and worker's rights
- End to corporate welfare
- Protect family farms
- End to child poverty in the U.S.
- Public, not corporate financing of public elections.

**With your vote, RALPH can win!**  
For more information, contact Lane Victory 2000.  
(541) 681-9774 or (541) 607-8093 228 E. 11th (between High and Pearl in Eugene)  
Paid for by Lane Victory 2000 and not authorized by any candidate or candidate's committee.

**Oregon Daily Emerald**  
P.O. Box 3159, Eugene OR 97403

The Oregon Daily Emerald is published daily Monday through Friday during the school year and Tuesday and Thursday during the summer by the Oregon Daily Emerald Publishing Co. Inc., at the University of Oregon, Eugene, Oregon. A member of the Associated Press, the Emerald operates independently of the University with offices in Suite 300 of the Erb Memorial Union. The Emerald is private property. The unlawful removal or use of papers is prosecutable by law.

NEWSROOM — (541) 346-5511

**Editor in chief:** Jack Clifford  
**Managing editor:** Jessica Blanchard  
**Community:** Darren Freeman, editor.  
Lindsay Bueche, Rebecca Newell, reporters.  
**Freelance:** Serena Markstrom, editor.  
**Higher education:** Andrew Adams, editor.  
Kristy Hessman, Brooke Ross, reporters.  
**Student activities:** Jeremy Lang, editor.  
Emily Gust, Beata Mostafavi, Lisa Toth, reporters.  
**In-depth:** Ben Romano, reporter.  
**News aide:** Suzanne O'Kelley.

**Perspectives:** Michael Kleckner, editor.  
Jayna Bergerson, Bret Jacobson, Pat Payne, Eric Pfeiffer, columnists.  
**Pulse:** Monica Hande, editor.  
Josh Ryneal, Mason West, reporters.  
**Sports:** Jeff Smith, editor. Scott Pesznecker, asst. editor. Peter Hockaday, Adam Jude, Robbie McCallum, reporters.  
**Copy:** Sara Lieberth, Katie Mayer, copy chiefs.  
Jessica Davison, Lori Musicer, Tom Patterson, Jessica Richelderfer, Rebecca Wilson, copy editors.  
**Online:** Carol Rink, editor.  
Timur Insepov, webmaster.

**Design:** Katie Miller, editor.  
Azle Malinao-Alvarez, Brooke Mossefin, Russ Weller, designers.  
**Pulse:** Monica Hande, editor.  
Bryan Dixon, Giovanni Salimena, illustrators.  
**Photo:** Catharine Kendall, editor.  
Dan Brunell, Kevin Calame, Erin Swanson-Davies, photographers.  
**ADVERTISING — (541) 346-3712**  
Becky Merchant, director.  
Doug Hentges, Nicole Hubbard, Trevor Kuhn, Jesse Long, Adam Rice, Hillary Schultz, Chad Verly, Lisa Wood, sales representatives.  
Erin O'Connell, Van Nguyen, assistants.

**CLASSIFIEDS — (541) 346-4343**  
Trina Shanaman, manager. Kara Fallini, Amy Richman, Tara Rothermel, assistants.  
**BUSINESS — (541) 346-5512**  
Judy Riedl, general manager.  
Kathy Carbone, business supervisor. Sarah Goracke, receptionist. Greg Gallo, Masohiro Kojima, John Long, Gretchen Simmons, distribution.  
**PRODUCTION — (541) 346-4381**  
Michele Ross, manager.  
Tara Sloan, coordinator. Laura Chamberlain, Kara Fallini, Jillian Johnson, Melissa O'Connell, Laura Paz, Ross Ward, designers.