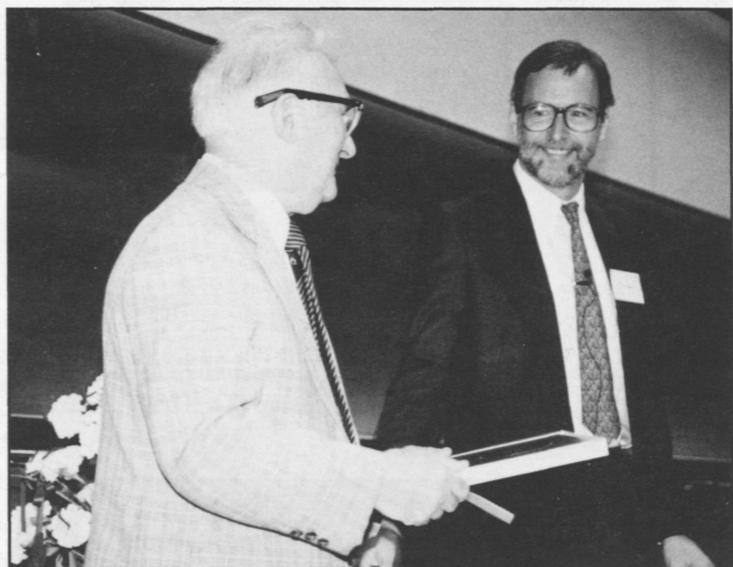


# Cornell Chemistry

The Newsletter of the  
Department of Chemistry  
at Cornell University and the  
Society of Cornell Chemists

September 1989 Issue 45

## Simon Bauer Honored for 50 Years of Service



Professor Bauer, left, with Department Chair Jon Clardy

Professor Emeritus Simon Bauer was honored during the department's 1989 commencement ceremony for his 50 years of service to the university.

Professor Bauer was born in Kaunas, Lithuania on October 12, 1911. His family emigrated to the United States in 1921 and settled in Chicago. He received his B.S. and Ph.D. degrees from the University of Chicago, and spent two years as a postdoctoral fellow at the California Institute of Technology working with Professors R.M. Badger and L. Pauling. After serving two years as an instructor in Fuel Technology at the Pennsylvania State University, he was invited to join the faculty at Cornell University in 1939 and was promoted to Full Professor in 1950. In 1977, Professor Bauer

"retired" and was appointed Professor Emeritus. Since then he has continued to work at a pace which leaves others breathless.

In March and April of this year Professor Bauer delivered a series of lectures at the University of Hiroshima, Tokyo University, Tsing-Hua University and Taipei University in Taiwan. In May he gave the Cherry L. Emerson Lecture at Emory University and in June a lecture for the Syracuse section of the American Chemical Society. He is a Fellow of the American Physical Society, American Institute of Chemistry, and of the American Association for the Advancement of Science, a member of Sigma Xi, Phi Beta Kappa, the American Chemical Society, the Federation of American Scientists and the American Academy of Political and Social Science. He is on the Editorial Board of *Combustion and Flame* and is the author or co-author of 326 publications.

We are proud to have Si Bauer as a colleague, and wish him continued good health, vitality and productivity for many years to come.

# Faculty News

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## Faculty News and Awards

**Andreas Albrecht** has been selected to receive the 1988 Ellis R. Lippincott Medal. This award sponsored by the Society for Applied Spectroscopy, The Optical Society of America and the Coblentz Society will be presented at the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) Meeting in Boston to be held October 31-November 4. The award includes a \$1000 honorarium and a medal to signify the award.

**Barry Carpenter** and **W. Donald Cooke** have been elected as Fellows of the American Association for the Advancement of Science.

**Roald Hoffmann** received honorary Doctor of Science degrees in May from Ben Gurion University of the Negev in Beersheva, Israel and in June from Lehigh University and Carleton College. He will also receive in 1990 the American Chemical Society's Priestly Medal, that organization's highest award, for his distinguished service to chemistry.

**Atsuo Kuki** has been selected as a 1989 NSF Presidential Young Investigator in recognition of his research and teaching accomplishments. Atsuo has also taken part in the Minority Youth and Students Exploring Avenues in Technology (MYSEAT) program. The program was instituted to encourage and prepare underrepresented minority high school youth for study in engineering and science.

**Fred McLafferty** gave a series of four lectures entitled "The Chemistry of Mass Spectrometry" at the Department of Chemistry of Memorial University of Newfoundland as part of the Job Visiting Professorship. The lectures took place May 9-12.

## New brochure describes corporate opportunities

A new publication, *Working with Cornell: University Research and the Corporate Community*, is now available.

The 32-page booklet describes multidisciplinary research centers and programs, and focuses on eight areas of collaborative research: biotechnology, materials science, microelectronics, high-energy physics, supercomputing, agriculture, ceramics, and medicine. Also included are information about technology transfer and the recruiting of graduates, and comments by corporate researchers who have interacted with Cornell.

The publication is available from the Office of External Relations, Department of Chemistry, Baker Laboratory, Ithaca, NY 14853-1301.

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## Rohm & Haas Gift Honors Alumnus

Rohm and Haas recently gave an Otto Haas Award to **Dr. David W. Whitman, Ph.D. '83**, who is employed at the research laboratories in Spring House, Pennsylvania. The award program is designed to recognize outstanding performance and research achievements of importance to Rohm and Haas. Under the terms of the award, Dr. Whitman was allowed to designate an unrestricted grant of \$6,000 to the Department of Chemistry at Cornell. Dr. Whitman won the award for developing an efficient method for rapidly characterizing the polymer residue left after hybrid electronic circuits are "fired". He was able to develop new polymer systems which burned very cleanly, allowing hybrid electronic circuits to be made of copper rather than gold or silver. He also played a key role in developing a new dielectric tape for use in hybrid circuits.

## Cornell Chemistry Facts 1988-89

Number of AB's granted 43

Number of PhD's granted 37

Number of graduate students enrolled 193

Industrial support \$1.9 Million

Government support \$10.2 Million

The Department of Chemistry has 33 full-time faculty members. Three more professors from the School of Chemical Engineering, the Department of Applied and Engineering Physics, and the Department of Materials Science and Engineering, are members of the Field of Chemistry.

## 31st National Organic Symposium

The 31st National Organic Symposium, held in Ithaca June 18 - 21, was a huge success: nine hundred registrants and their guests enjoyed the science and scenery of Cornell University, Ithaca College, and the Finger Lakes region.

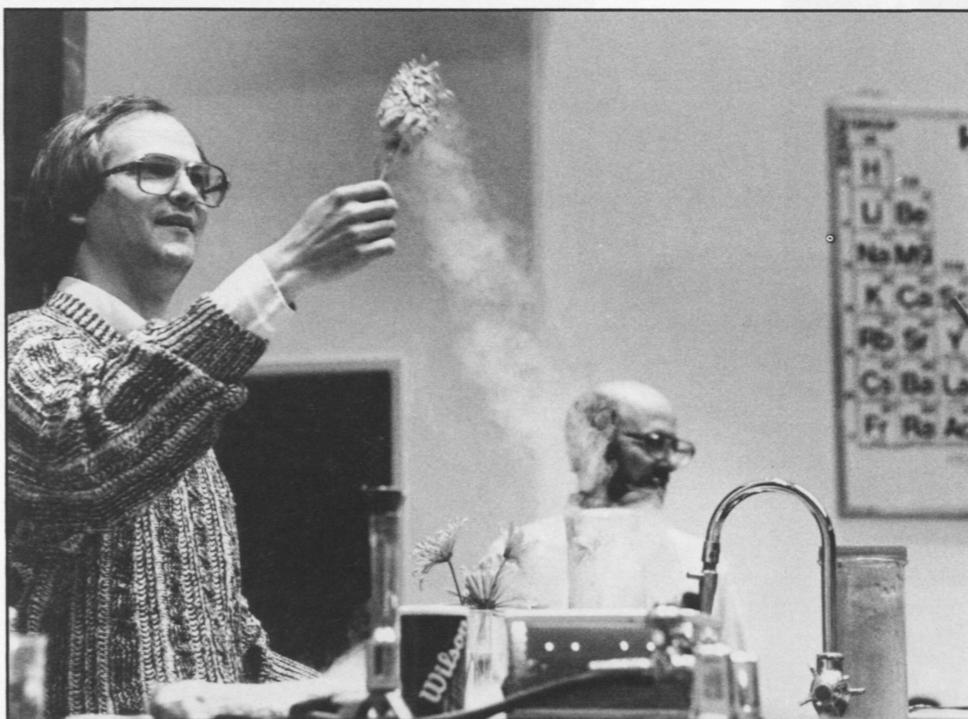
*George A. Olah (left) being congratulated by Paul Gassmann (right)*



*Symposium Executive Director, Stephen F. Martin (far left), and speakers (left to right) Julius Rebek, Jr., Scott E. Denmark, Clayton H. Heathcock, George M. Whitesides, E.J. Corey, George A. Olah, Robert G. Bergman, W. Clark Still, Peter G. Schultz and Philip D. Magnus.*

## Dr. Demo

They arrived to thunderous applause, one of them wearing shades, which he put aside, with some ceremony, in favor of safety glasses. Then it was quiet. The trio, like something from Macbeth, gathered at the center of the bench, consulting. Apparatus stood ready on lab carts. Veterans of Chem 207 pointed and whispered to their neighbors as they recognized the props associated with some of the best-remembered moments of those lectures.



*Professor Wolczanski (left) and John Terry amaze the crowd*

That was the scene in Baker 200 as professors Jon Clardy and Pete Wolczanski, assisted by lecture-demonstrator John Terry, reprised student favorites during an evening of colors, noise and lots of smoke. "Dr. Demo," as the event was called, was organized by the Cornell Chemists, our undergraduate chemistry club, as a special finale to the year.

More than 500 people jammed the auditorium to watch magnets float, styrofoam change to slime, clear liquids take on color, and roman candles erupt in a brilliant array. At the end, they showed their appreciation to the three demonstrators with a standing ovation.

# The Year



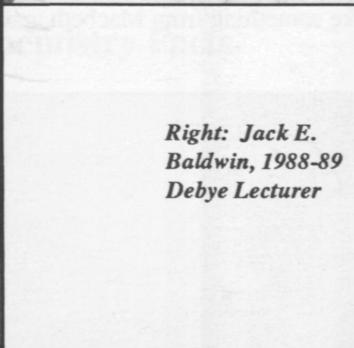
*Baker Lecturer  
Jeremy Knowles and  
his wife, Jane, at a  
reception in his  
honor*



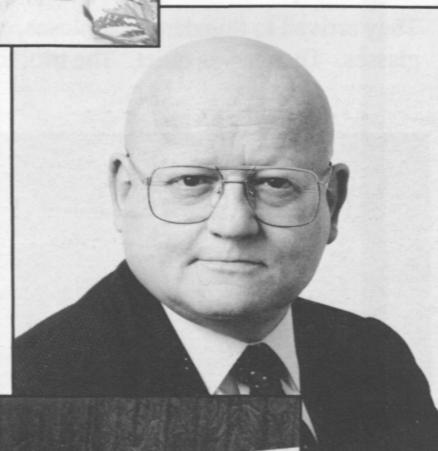
*John Backus, Mobay  
Chemical Co. (left) and  
the Bayer/Mobay lecturer,  
Dotsevi Sogah (right) at a  
dinner party for Dr.  
Sogah*



*The Borodin Ensemble, after their performance for NOS.  
From left: David Schuster, Melissa Stucky, Charlotte  
Greenspan, Frank Mallory, and Jerrold Meinwald*



*Right: Jack E.  
Baldwin, 1988-89  
Debye Lecturer*



*Professor David Lemal,  
Dartmouth University  
(left) and Professor Udo  
Brinker, SUNY  
Binghamton (right) at  
the NOS poster session*

# In Review



*Franklin M. de Beers, BChem '34 (left) and Professor Emeritus W. Donald Cooke at the Reunion Open House*



*Above: At the commencement exercises held in Baker 200, Executive Director Earl Peters presents Emily Ehrenfeld a certificate of appreciation for her involvement in starting the Cornell Chemists.*

*Chemistry Undergraduates on their way to Schoellkopf for graduation*

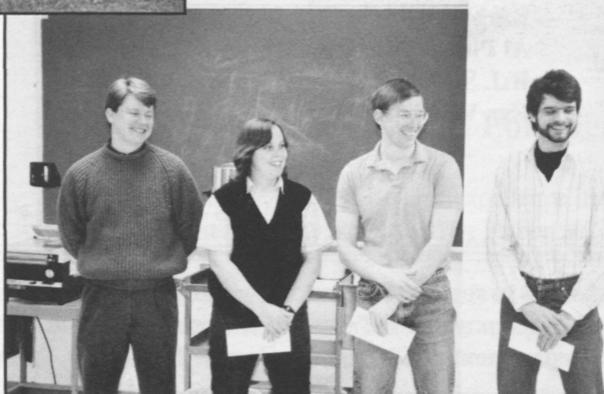


*Above: Some of the group members at the Carpenter Reunion*



*Wentink Prize winners Thomas Lectka (top left), Jing Li (bottom left) and Helen Hurrell (bottom right) with Laura A. Philips (Wentink Prize Committee Chair)*

*DuPont Teaching Prize winners (left to right) Blair Wood, Deborah Gilbert, Brad Pendley and Francis Rossi*



# Alumni News

## Reunion Open House

The 1989 Reunion Open House, held on June 9th, was well-attended in spite of threatening skies (this is still Ithaca!). Old friends **Peter Gross PhD '36** and his wife, **Mabel Rice Gross '34**, were here from New Jersey, as was classmate **Franklin M. de Beers BChem '34**, who came all the way from Glenview, Illinois. **Tom Hassett AB '40** came from Utica, **Margaret Mamet AB '59**, travelled from Montréal, **Tom PhD '35** and **Ruth AB '34 Jacobs** came cross-country from Los Angeles, and **Bob Platt AB '73** was here from Arlington, Virginia.

The Class of '64 was well represented by **Earle Marie Hanson**, a section leader at Los Alamos National Labs, **Roger Murray**, who is at the University of Delaware, **Stephen Einhorn**, president of Einhorn Associates, and **Gary Cocks**, Senior Associate Editor at the National Academy of Sciences.

A nice surprise was the visit of **Shirley Sacra**, who worked as a lab technician for Peter Debye many years ago. Shirley now lives in Wayland, Massachusetts. **Dick Hagen PhD '49**, another Debye alumnus, stopped in for a quick hello.

The youngest returnee was **Ron Wharton AB '85**, who is now a resident at Montefiore Medical Center. Another recent grad returning was **Jacqueline Tso AB '84**, who is earning her doctorate at Princeton. We even celebrated the completion of all requirements for the PhD for brand-new alumnus **Steve Baxter**, who is about to undertake a postdoctoral position at the University of North Carolina.

The afternoon went too quickly, as usual. We look forward to next year's reunion, and hope to see many of you there.

## Tunis Wentink 1920 - 1989

We were saddened to hear of the death on April 13, 1989, of our friend and benefactor, **Tunis Wentink, Jr. Ph.D. '54**.

Dr. Wentink received his undergraduate degree in chemistry at Rutgers and his Ph.D. degree in Physical Chemistry at Cornell, where he worked with Simon Bauer. After many years in industry, Professor Wentink joined the Geophysical Institute at the University of Alaska at Fairbanks, where he retired as a professor of physics in 1986.

In 1984 he funded a prize for outstanding chemistry graduate students. Each year, students who have distinguished themselves both academically and in the quality and quantity of their research receive a cash award and participate in the Symposium for Outstanding Graduate Students. In his will, Dr. Wentink provided for an additional \$10,000 to be given to the Department of Chemistry to endow the prize fund.

## Carpenter Reunion

Professor **Barry Carpenter** took advantage of the NOS being here this year by staging a research group reunion. Returning alumni joined present group members for a family-style picnic in Barry's backyard. Among the former grad students who returned were **Cynthia Burrows, Kevin Gable, Doris Kimbrough, Chris Lawrie, Frank Liotta, Barbara Lyons, Rich Newman-Evans, Al Pinhas, Jim Ray, Katy Replogle, R.J. Simon, Bill Todd, Dave Whitman, Eva Wildi and Mary Therese Zoeckler**.

## Class Notes

1912

**Frances Oliver Briggs**, widow of T.R. Briggs, died June 29, 1989.

1931

**Anthony Schwartz** passed away on February 17, 1989.

1953

**Morton Antler**, who received his Ph.D. under the direction of Professor A.W. Laubengayer, received the Henry J. Albert Award (1989) of the International Precious Metals Institute in recognition of his research contributions on precious metal electric contacts.

1956

**Jerry Panzer** died in October of 1987.

1987

**Gaetano Montelione**, now at Rutgers/The State University of New Jersey, has been selected as a 1989 Searle Scholar. He will receive a three-year grant of \$180,000 to help support his research in developing Nuclear Magnetic Resonance (NMR) Spectroscopy as a tool for protein molecular design.

**Robert Jenkins**, for many years manager of the machine shop in the department, died on April 30, 1989.

The Society of Cornell Chemists asks you to support the cost of printing and mailing this Newsletter with your voluntary, annual dues of \$10. Make your 1989 check payable to "Cornell Chemistry" and mail it to The Society of Cornell Chemists, G-57 Baker Laboratory, Department of Chemistry, Cornell University, Ithaca NY 14853-1301.

# Student News

## Commencement 1989

Lawrence M. Meyers and Victor K. Pan received their bachelors' degrees in January of 1989 and the following individuals received their bachelors' degrees at the commencement ceremony held in Baker 200 on Sunday, May 28.

Liore Z. Alroy, Tania M. Bandak, Melissa J. Beall, Kevin H. Becker, Stephen J. Belmonte, \*Jonathan C. Bloch, \*\*\*David L. Cherry, Chang H. Choi, \*\*\*Jennifer I. Colonell, Andrew C. Corsello, \*\*Christopher Cummins, Surjya P. Das, Maria C. Davila, \*\*Heidi E. Dittmar, Barbara I. Drugan, Emily A. Ehrenfeld, Eric D. Franz, \*Ki P. Hong, Suk-Kyu Koh, Kin C. Kong, \*\*Marisa C. Kozlowski, \*Randall W. Landsberg, David A. Laviska, Janette H. Lee, Paul S. Lee, \*Charles H. Lieu, \*Katherine E. Liu, Stacey P. Lowery, \*Dennis M. McCarty, Elias M. Michaelides, Ofir A. Moreno, \*Sherri L. Oslick, Scott A. Polo, Robert A. Salcedo, \*\*Jay S. Shumsky, Laura R. Summa, Howard Sun, William D. Tolbert, Robert S. Turner, \*\*Jonathan M. Urbach, \*\*Anne L. Weber

\*\*\* *summa cum laude*

\*\* *magna cum laude*

\* *cum laude*

## Undergraduate Prizes

### A.W. Laubengayer Prize

*Awarded to the best students in freshman chemistry (103, 207 and 215)*

**Brian Knop '92, Evan Powers '92, and Ethan Corcoran '92**

### ACS Analytical Prize

*Awarded to a student who has completed the third year of undergraduate study and displays an interest in, and aptitude for, a career in analytical chemistry*

**Katherine Liu '89**

### American Inst. of Chemists Medal

*Awarded to the outstanding graduating senior who has a demonstrated record of leadership, ability, character, and scholastic achievement*

**Jonathan Urbach '89**

### George C. Caldwell Prizes

*Awarded to two senior chemistry majors who have shown general excellence*

**David Cherry '89 and Jennifer Colonell '89**

### CRC Press Award

*Awarded for excellence in sophomore chemistry*

**Mohammad Hirmand '91 and Catherine Laughlin '91**

### Harold Adlard Lovenberg Prize

*Awarded to a member of the junior class with a major in chemistry who has shown general excellence*

**Sydney Morss '90**

### Merck Index Award

*Awarded to outstanding students of the senior class majoring in chemistry*

**Jay Shumsky '89, Marisa Kozlowski '89, and Christopher Cummins '89**

## PhD Recipients

### August 1988

Erin K. Byrne, Rong Feng, Laurence E. Fried, David Oakes, Barbara Thomas and Josef Zwanziger

### January 1989

Soo-Ik Chang, Bradley S. Davidson, Yali Fu, Angela S. Galiano-Roth, Jeffrey Gorcester, Kevin Lassila, Christophe Lawrie, Barbara Ann Lyons, Joseph S. Melinger, Thomas Neils, Feng Ni, William O'Brien, Darrin Richeson, Jeanne Sawicki, William P. Todd, Michael K. Tong and Marjanne Zonneville

### May 1989

Clifton Barry III, Cheryl B. Cleveland, Peter T. DiMauro, Michael J. Dudek, Craig Forsyth, Gerald J. Hoffman, Krzysztof P. Holzer, Lisa Kapustay Turner, Gary F. Labrecque, Helen Hurrell Petach, Gregg E. Potter, Earl W. Sod, Jeffrey A. Stafford and Karen A. Trentelman

## Graduate Prizes

### DuPont Teaching Prizes

*Awarded to outstanding teaching assistants*

**Deborah J. Gilbert, Bradford D. Pendley, Francis M. Rossi, Harold Blair Wood, and XiaoHui Zha**

### The Wentink Prize

*Awarded to outstanding graduate students*

**Helen Hurrell, Thomas C. Lectka, and Jing Li**

## New Graduate Prize in Polymer Chemistry

The "Robert W. Work Prize" for excellence in polymer chemistry research by a graduate student has been established by Robert W. Work, PhD '32, and Mrs. Louis Hoge.

Monsanto matched the \$10,000 gift to Cornell Chemistry. The income from the fund will be awarded as an annual prize to a graduate student who has done outstanding work in polymer research.

# Chairman's Column

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The academic year has its own rhythm, and graduation marks the end of year and a time for summing up. It's been a good year for chemistry at Cornell, a year in which much was accomplished.

Last year the department added three new courses to our curriculum - Chemistry 203, *The World of Chemistry*; Chemistry 222, *Molecular Messengers in Nature*; and Chemistry 211, *Chemistry for the Applied Sciences*. *The World of Chemistry* was taught by Roald Hoffmann and revealed the role of chemistry as part of world culture and a shaper of it. Roald based the course on case studies of modern chemical papers, exploring the historical and philosophical connections of the work. Jerry Meinwald taught *Molecular Messengers in Nature*, borrowing from his own seminal research on insect communication. Both Chemistry 203 and 222 were designed to appeal to students who, in the past, might not have elected to take a chemistry course. They were part of a calculated attempt to broaden the appeal of our curriculum. Chemistry 211, *Chemistry for the Applied Sciences*, was designed to offer engineering students a course that was closely aligned to their needs. This one semester course, taught in the fall by Frank

DiSalvo and in the spring by Tito Abruña, covered the important chemical principles and particulars necessary to appreciate the role of chemistry in other fields. The process of curriculum renewal is unending, and in the future we plan to emphasize the introduction of a popular (in both senses of the word) chemistry course to fulfill the physical sciences requirement. We also expect to restructure our graduate offerings in virtually every specialty.

In the last few years a number of new professors have begun their careers at Cornell: Atsuo Kuki, Tadhg Begley, Roger Loring and Laura Philips. Frank DiSalvo and Jean Fréchet joined us as full professors. Now that we have had a little time to assimilate our new members, we must start a concerted effort to add a significant number of new colleagues. Even if we add one new professor a year, we face the prospect of having a smaller department in five years than we have now. We urgently need to add new faculty in the areas of inorganic, biophysical, and analytical chemistry. Finding suitable candidates and funding the increasingly large start-up packages we need to offer will be formidable tasks in the next few years.

The current faculty has been spectacularly successful in juggling the demands of teaching, research, and research funding. Our teaching, as judged by the student evaluations, has never been better. At a recent meeting of the Arts College Advisory Council devoted to teaching, the department was singled out as being a model for the entire college. Our faculty continues to raise the large sums of money needed to carry out modern chemical research. Last year, over \$12 million dollars was raised from government and industrial sources. There are worrying signs that federal research money is leveling off while research costs continue to exceed the general rate of inflation. We will have to be increasingly effective in attracting industrial funds for our research programs.

The past year was a good year for the department. We continue to excel in spite of forbidding obstacles. It is this triumph in the face of adversity that makes the department such a wonderful place to work along with the continuing tradition of respectful and cordial relations among colleagues. I look forward optimistically to the coming year.

- Jon Clardy

*Cornell Chemistry is published by the Department of Chemistry at Cornell University.*

*Jon C. Clardy, Chairman*

*Earl Peters, Executive Director*

*Donna Middleton, Editor and Kelly Strickland, Editorial Assistant*

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