



**COVER** Atomic force microscope images reveal the atomic arrangement of the first monolayer of copper atoms (top layer) electrodeposited on a gold crystal (bottom layer). The atomic spacing of this first copper layer differs from that of the bulk when the reaction is carried out in sulfate electrolyte. See page 183. [Images by S. A. C. Gould and S. Manne *et al.*]

- 183 Atomic-Resolution Electrochemistry with the Atomic Force Microscope: Copper Deposition on Gold: S. MANNE, P. K. HANSMA, J. MASSIE, V. B. ELINGS, A. A. GEWIRTH
- 186 Methylation-Sensitive Sequence-Specific DNA Binding by the c-Myc Basic Region: G. C. PRENDERGAST AND E. B. ZIFF
- 189 Distinct Protein Targets for Signals Acting at the *c-fos* Serum Response Element: R. GRAHAM AND M. GILMAN
- 192 Association of B Cell Antigen Receptor with Protein Tyrosine Kinase Lyn: Y. YAMANASHI, T. KAKIUCHI, J. MIZUGUCHI, T. YAMAMOTO, K. TOYOSHIMA
- 195 Vaccination for Disease: S. OEHEN, H. HENGARTNER, R. M. ZINKERNAGEL
- 198 Altered Synaptic Plasticity in *Drosophila* Memory Mutants with a Defective Cyclic AMP Cascade: Y. ZHONG AND C.-F. WU
- 201 Coordinate Regulation of  $\beta$ -Lactamase Induction and Peptidoglycan Composition by the *amp* Operon: E. TUOMANEN, S. LINDQUIST, S. SANDE, M. GALENI, K. LIGHT, D. GAGE, S. NORMARK
- 204 Signal Transduction by Interferon- $\alpha$  Through Arachidonic Acid Metabolism: G. E. HANNIGAN AND B. R. G. WILLIAMS

## Book Reviews

- 210 Science—The Endless Frontier AND American Science Policy Since World War II, reviewed by D. A. WILSON ■ The Fifth Branch, S. B. FOOTE ■ Peerless Science, S. S. BLUME ■ Books Received

## Products & Materials

- 214 Ultramicrotome for Electron Microscopy ■ Kit to Determine Optimal Buffer ■ Symbolic Computation for the Macintosh ■ Manual Slide Stainer ■ Precast Gels for PCR ■ Random Primed DNA Labeling Kit ■ Dissolved Organic Carbon Measurement ■ Literature

### Board of Directors

Richard C. Atkinson  
*Retiring President,  
Chairman*

Donald N. Langenberg  
*President*

Leon M. Lederman  
*President-elect*

Mary Ellen Avery  
Francisco J. Ayala  
Eugene H. Cota-Robles  
Robert A. Frosch  
Joseph G. Gavin, Jr.  
John H. Gibbons  
Beatrice A. Hamburg  
Florence P. Haseltine

William T. Golden  
*Treasurer*

Richard S. Nicholson  
*Executive Officer*

### Editorial Board

Charles J. Amtzen  
Elizabeth E. Bailey  
David Baltimore  
William F. Brinkman  
E. Margaret Burbidge  
Pierre-Gilles de Gennes  
Joseph L. Goldstein  
Mary L. Good  
Harry B. Gray  
F. Clark Howell  
Paul A. Marks  
Yasutomi Nishizuka  
Helen M. Ranney  
Howard A. Schneiderman  
Robert M. Solow  
Edward C. Stone  
James D. Watson

### Board of Reviewing Editors

John Abelson  
Frederick W. Alt  
Don L. Anderson  
Stephen J. Benkovic  
Gunter K-J Blobel  
Floyd E. Bloom  
Henry R. Bourne  
James J. Bull  
Kathryn Calame  
Charles R. Cantor  
Ralph J. Cicerone  
John M. Coffin  
Robert Dorfman  
Bruce F. Eldridge  
Paul T. Englund  
Fredric S. Fay

Harry A. Fozzard  
Theodore H. Geballe  
Roger I. M. Glass  
Stephen P. Goff  
Corey S. Goodman  
Stephen J. Gould  
Eric F. Johnson  
Stephen M. Kosslyn  
Konrad B. Krauskopf  
Charles S. Levings III  
Richard Losick  
John C. McGiff  
Anthony R. Means  
Mortimer Mishkin  
Roger A. Nicoll  
William H. Orme-Johnson III  
Carl O. Pabo  
Yeshayau Pocker

Dennis A. Powers  
Erkki Ruoslahti  
Thomas W. Schoener  
Ronald H. Schwartz  
Terrence J. Sejnowski  
Thomas A. Steitz  
Robert T. N. Tjian  
Emil R. Unanue  
Geerat J. Vermeij  
Bert Vogelstein  
Harold Weintraub  
Zena Werb  
George M. Whitesides  
Owen N. Witte  
William B. Wood  
Keith Yamamoto