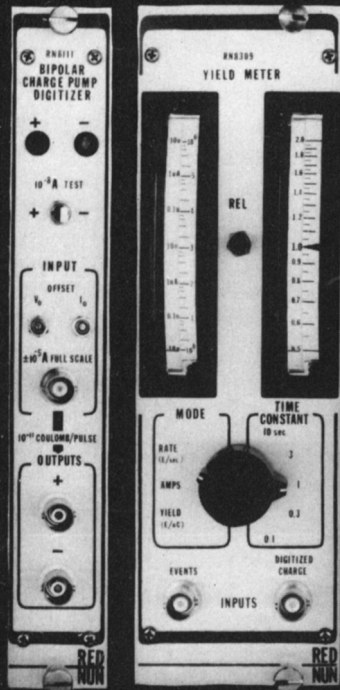


# Ion Beam Analysis Pair



**RN8111** — True bipolar response current integrator with 10 pico-Coulomb quantization spanning  $-10\mu\text{A}$  to  $+10\mu\text{A}$ . Features sensitivity and accuracy and no range switching.

**RN8309** — A rate meter designed for tuning and alignment. Displays **event rate, beam current, and yield** (events/nano-Coulomb) and on a separate scale the ratio of the rate, current or yield to the stored value.

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## Fifteen Young Scientists to Receive MRS Graduate Student Awards

The Materials Research Society Awards Committee will recognize 15 recipients of Graduate Student Awards at the 1988 MRS Fall Meeting in Boston. Awards are given in recognition of outstanding research on a topic to be addressed in one or more of the symposia being conducted as part of the Fall Meeting. Each award recipient receives a commemorative plaque, a paid meeting registration fee, and a cash prize. They will be recognized at the Awards Ceremony on Wednesday, November 30, 1988 at 6:00 p.m. in the America Ballroom of the Westin Hotel.

Students were judged on the originality, cogency, quality and impact of their work, the independence they displayed in their research, and their promise for future accomplishments in materials research. Recipients of the Graduate Student Awards are:

### L.J. Huang

Department of Materials Science and Engineering, Tsinghua University, China  
*Paper title: "Magnetic Anomaly and Icosahedral Incommensurate Phase Formation in Fe-Cu and Fe-Mo Systems" Symposium A*

### Francesco Priolo

Department of Physics, University of Catania, Italy  
*Paper title: "Epitaxial Regrowth and Polycrystalline Formation in Ion-Beam Irradiated Amorphous Si/SiO<sub>2</sub><100>Si Structures" Symposium A*

### Peter E. Price, Jr.

Department of Chemical Engineering and Materials Science, University of Minnesota, USA  
*Paper title: "Modeling of Pyrolytic Laser Direct-Writing from Thin Metalorganic Films" Symposium B*

### Martin O. Schloh

Department of Chemistry, Massachusetts Institute of Technology, USA  
*Paper title: "Microfabrication of WO<sub>3</sub>-Based Microelectrochemical Devices" Symposium E*

### Zhiqiang Ying

Department of Physics, Cornell University, USA  
*Paper title: "Photoreactions of Mo(CO)<sub>6</sub> on Potassium Precovered Silicon Surface with UV to IR Radiation" Symposium E*

### Brent A. Richert

Department of Physics, Texas A&M University, USA  
*Paper title: "Electronic and Materials Properties of High-Temperature Superconductors" Symposium F*

### Vilupanur A. Ravi

Department of Metallurgical Engineering, Ohio State University, USA  
*Paper title: "Simultaneous Chromizing-Aluminizing of Ni-base Superalloys by Halide-Activated Pack Cementation" Symposium H*

### Hao Jiang

Department of Materials Science and Engineering, Johns Hopkins University, USA  
*Paper title: "Nonlinear Elasticity of PBT Fibers" Symposium J*

### Kate E. Doan

Department of Chemistry, Northwestern University, USA  
*Paper title: "Single Ion-Conducting Polymer Electrolytes: Synthesis and Characterization" Symposium M*

### Min Yue Lin

Exxon Research and Engineering, USA  
*Paper title: "Universality of Colloid Aggregation Studied by Light Scattering" Symposium N*

### Kevin P. Trumble

Materials Department, University of California-Santa Barbara, USA  
*Paper title: "Microstructural Studies on the Ni/Al<sub>2</sub>O<sub>3</sub> Interface" Symposium Q*

### Alan Schwartzman

Department of Materials Science and Engineering, Stanford University, USA  
*Paper title: "HREM Video Imaging of Interfacial Reactions During In Situ Annealing" Symposium R*

### Mary M. Walczak

Ames Laboratory, Iowa State University, USA  
*Paper title: "The Bonding of Fluorinated and Hydrogenated Ethers to Metal Surfaces: A Surface Science Approach to Tribology" Symposium S*

### Piotr Grodzinski

Department of Materials Science and Engineering, University of Southern California, USA  
*Paper title: "Atomic Structure of Si/CoSi<sub>2</sub> Interface" Symposium W*

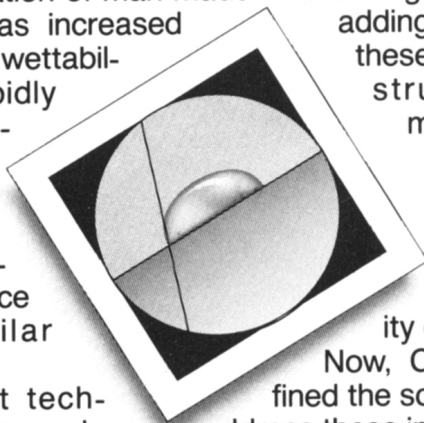
### Ratnaji R. Kola

Department of Materials Science and Engineering, North Carolina State University, USA  
*Paper title: "A Novel MOS Structure to Measure the Electrical Conductivity of Clean and Metal/Silicide Decorated Misfit Dislocations in Silicon" Symposium Y* □

## From a *Static* Art

The emerging sophistication of man-made materials and coatings has increased the importance of surface wettability, especially in the rapidly growing fields involving advanced material design. Over the years, the once "static art" of wetting analysis by visual observation of a drop on a surface has undergone a similar emergence.

Optical measurement techniques aided scientists in under-

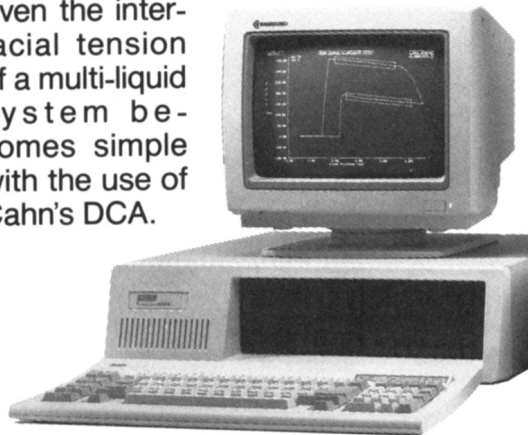


standing the principles of wetting by adding a numerical dimension to these visual observations. After struggling for years with a multitude of technical problems associated with these methods, scientists have recognized the need to enhance the operator interface, improve continuity of data, and add automation. Now, Cahn Instruments has redefined the science of the contact angle to address these imperatives.

## To a *Dynamic* Science...

Introducing the DCA Series 300 Dynamic Contact Angle Analyzers from Cahn. The only instruments you can pre-program to scan the entire surface of your material and provide accurate, useful surface wetting data...automatically. The simple "hands-off" operation of the DCA and its interface with your personal computer eliminate the eye strain and tedious work associated with optical methods, making time for other projects in your lab.

And versatile? The DCA extends its operation to include the surface tension of your scanning liquid as well. Even the interfacial tension of a multi-liquid system becomes simple with the use of Cahn's DCA.



Applications for the DCA in **ADVANCED MATERIALS RESEARCH** include:

- **COMPOSITE MATERIALS:** Evaluate substrate surface energies and adhesion of custom engineered coatings to composite, metal, or ceramic surfaces.
- **HIGH PERFORMANCE FIBERS:** Characterize fiber wettability and fiber/plastic interface bonding by work of adhesion analysis.
- **COATING FORMULATIONS:** Optimize wetting and adhesion properties by surface and interfacial tension monitoring of liquid systems.

- **SURFACE TREATMENTS:** Non-destructive scanning of a surface monolayer prior to and following treatments to ensure cleanliness and uniformity. Contact Cahn Instruments at the number or address below for complete details on how we make the dynamic field of surface analysis easy.

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