



RLE

undercurrents

Volume 1, Number 1 • June 1988

A Newsletter for the RLE Community at MIT

Introduction To *undercurrents*

RLE is a large and diverse research laboratory whose research programs are, and always have been, on the leading edge of science and technology. RLE is also a tightly woven community of individuals who take considerable pride in working with one of the premier research labs at MIT. In *undercurrents*, we seek to build on RLE's strong sense of community by increasing communication among our research groups and keeping everyone abreast of important and interesting happenings in RLE. We will be looking behind the scenes at the people, places, and things that make the Lab run. *currents*, RLE's official newsletter, will continue to describe the intellectual concerns and activities of RLE investigators.

To ensure the success of *undercurrents*, we would like to solicit interesting news items from everyone in RLE and welcome your comments and suggestions with respect to future directions. We look forward to hearing from you and hope that you enjoy the first issue of *undercurrents*.

RLE COMPUTER FACILITY

April marked the one-year anniversary of the RLE IBM computer facility. The facility, which consists of a 4381 dual processor CPU and 12.5 gigabytes of on-line storage, was acquired through a grant from IBM. In the past year, the facility has provided much needed computing power to RLE researchers. Rich in software resources, it has also been used to publish the *RLE Progress Report* and other documents. In addition, it provides calendar and electronic mail capabilities to RLE staff.

Starting this June, the RLE facility will be used as a gateway to the Cornell National Supercomputer Facility (CNSF) in Ithaca, New York, when a leased line will be installed to connect the two facilities. This will allow researchers to remotely execute large CPU-bound jobs at CNSF, while retaining local editing, graphics, and compilation capabilities on the RLE system.

In addition to providing a centralized computing resource, RLE has purchased over 20 high-end IBM PS/2 personal computers. These systems are capable of a variety of applications ranging from personal publishing to real-time data collection. For the remainder of this year, RLE will continue its commitment to provide researchers with the computing power they need at a reasonable cost. Individuals who would like additional information on the RLE computer facility should contact Dave Foss at x3-2528.



(Photo by John Cook)

UPDATE ON NEW MIT TELEPHONE SYSTEM

Now that software orders for directory numbers and features on the new telephone equipment have been completed, here is an update on the new MIT telephone system, the 5ESS Digital Switch Project.

In June, 1988, MIT Telecommunications and AT&T will begin to connect new telephones to the 5ESS digital switch. Through August 15, 1988, everyone will have two telephones. The new telephone will only be used for internal MIT calls, and the old telephone will be left intact for outside MIT calls. After August 15, 1988, all calls will be handled on the new telephone, which will be fully connected to the 5ESS digital switch system.

Multiple line telephones will be removed by AT&T after the switch over to the 5ESS system. Single-line rotary dial phones will be removed on an individual basis, and can be sold to any interested faculty, staff, or students who may want extra phones at home. Income generated from these phone sales will be deposited in RLE Headquarters' general account and will be utilized for lab-wide benefit. Single-line rotary dial phones that we are unable to sell will be collected by the MIT Property Office at a later date. RLE Headquarters will oversee the sale and disposal of the telephones.

The MIT Telecommunications Office will issue a brochure that will outline the specifics about the new telephone terminals. In addition, they will offer a training program to ensure that everyone will know how to use the new terminals.

New England Telephone/NYNEX and AT&T have requested a moratorium on MIT telephone service orders from June 28, 1988 to August 26, 1988. MIT Telecommu-



Jeannie Lauricella shown coping with the phones. (Phones courtesy of the Antique Phone Collection at the MIT Historical Collections)

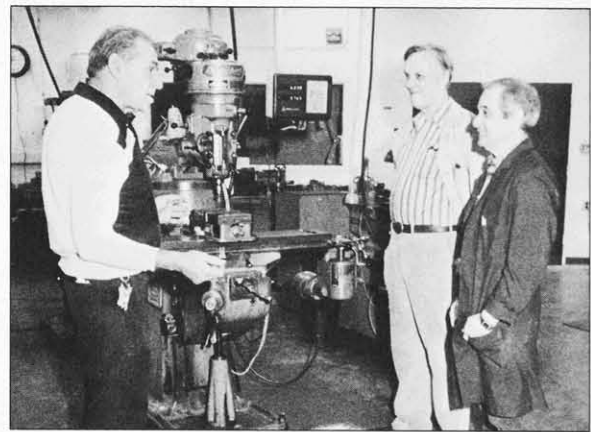
(Photo by John Cook)

nications will try to minimize any inconvenience that may result from this moratorium, and hopes that everyone can understand the need for such a moratorium since 15,000 lines are being connected to the new service.

For further information on the new telephone system, please contact Jeannie Lauricella in RLE Headquarters (x3-2515).

SHOP TALK

Knowing that the old metal saw in RLE's Machine Shop was about to run its last race, Facilities Officer Joe Sincuk, Instrument Maker Bob Aalerud, and Project Machinist Manny Cabral (left to right in photo) had to act quickly. A deal was arranged with Accurate Machinery, Inc. of Chelsea. In return for two surplus metal lathes, the Machine Shop received a new Startrite metal saw and two Wizard digital readouts for the shop's Bridgeport millers. The saw cuts metal 1/4" to 15" thick. The digital readouts on the millers measure both x and y coordinates accurately and automatically. According to shop personnel, some jobs can be done in half the time with the new readouts. Interested individuals are encouraged to visit the Machine Shop (38-031, x3-2547) to discuss their needs.



(Photo by John Cook)

BOSTON COMPUTER SOCIETY

RLE maintains an institutional membership in the Boston Computer Society (BCS), a multifaceted organization that provides a wide range of services to its members. According to the BCS, their mission is two-fold: to make personal computers understandable and accessible to everyone, and to help people get the greatest benefit from the technology.

BCS sponsors more than 1,000 meetings and educational programs annually, produces 40 publications, sponsors 47 user and special interest groups, offers eleven on-line seminars, and distributes 3,000 public-domain software programs. BCS services cover virtually every use and interest related to personal computers, ranging from easy-to-understand workshops for beginners to sophisticated technical support for advanced users.

Some BCS membership benefits include: subscriptions to *Computer Update* (bimonthly magazine), *Calendar* (monthly guide to meetings and events),

two BCS group mailings, and the semiannual *BCS Buying Guide*; free, noncommercial advertising space in BCS publications; membership in all BCS user and special interest groups; free admission to BCS general meetings, user group meetings, interest group meetings, and special programs; discounts on BCS seminars and workshops; access to public-domain software libraries, the BCS Resource Center and Library, bulletin boards and on-line magazines; discounts from nearly 500 companies; and overseas services from BCS affiliates abroad.

To find out more about the world of personal computers, we encourage you to visit the RLE Document Room (36-412) to read the monthly *BCS Calendar* and note any meetings that you might want to attend. Five BCS membership passes are available on a sign-out basis. For more information, contact Barbara Passero or Eric Watson (x3-2566).

NEW FACES . . .

RLE is pleased to welcome the following people who have joined the staff since July 1, 1987.



Margery Brothers has worked as Administrative Assistant in RLE's Electromagnetics Group under the supervision of Professor Jin Au Kong since September 8, 1987. Margery holds a B.S. degree in Psychology from Tufts University, and was employed at the Massachusetts General Hospital before coming to RLE.



Mary Ellen Butts joined RLE on July 20, 1987, as an Administrative Assistant in the Optics and Devices Group. Her supervisor is Professor Peter L. Hagelstein. Before coming to RLE, Mary Ellen worked in the MIT Mathematics Department for nine years.



Computer Operator Hassan Gharavy began working part-time with the Digital Signal Processing Group on October 19, 1987. Hassan, who earned an M.S. degree in Electrical Engineering from Tufts University, works with RLE Systems Engineer Giovanni Aliberti.



A native of Barbados, Maureen Howard began her position as Administrative Assistant in RLE Headquarters on October 26, 1987. Maureen, whose supervisor is RLE Administrative Officer Donna M. Ticchi, brings five years of experience in the MIT Personnel Office to RLE. Maureen is currently working towards a degree in Business Administration at Roxbury Community College.



In January, 1988, Senior Secretary Cindy LeBlanc began working in the Digital Signal Processing Group under the supervision of Professor Jae S. Lim. Cindy, who has an Associate's Degree from Marian Court Junior College, was employed by the Department of Health and Human Services/Social Security Administration before coming to RLE.



Timothy McClure, who joined RLE on July 13, 1987, works as Technician B under the supervision of Jimmy Carter in the Submicron Structures Laboratory of the Materials and Fabrication Group. Tim is currently taking courses in electronics at the Wentworth Institute of Technology. Prior to MIT, Tim was employed as a technician at Microwave Associates.

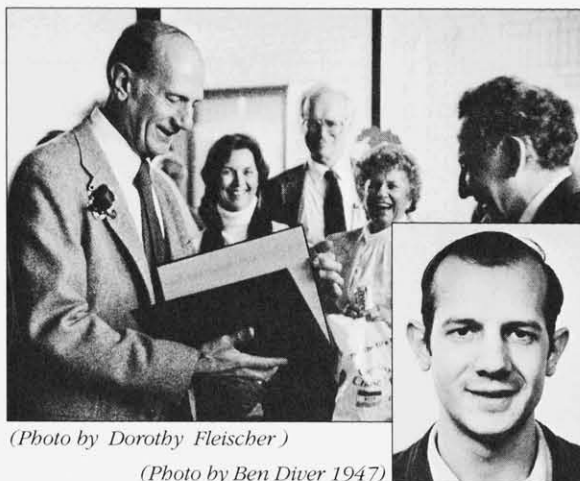


(Photos by John Cook)

Christine T. Mendelsohn joined RLE on September 28, 1987, as Senior Technical Illustrator. Her supervisor is Barbara Passero. Chris provides technical illustration services to RLE faculty and staff through the RLE Drafting Room (36-429B). Her office hours are 9:00 a.m. - 2:00 p.m., Monday through Friday. Chris earned her B.F.A. degree from Denison University, and was employed by the U. S. Fish and Wildlife Service as a cartographic technician before joining RLE.

A FOND FAREWELL TO . . .

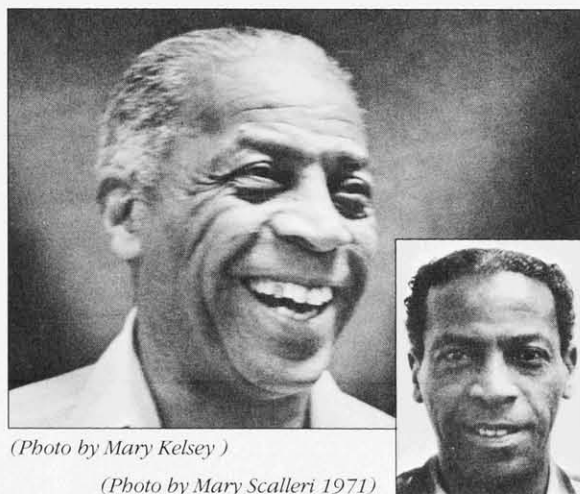
After 41 years of service with RLE, Sponsored Research Technical Staff John D. Kierstead formally retired in 1987. Not one to remain idle, John is currently employed at Hanscom Air Force Base, and as an MIT Research Affiliate, continues his work with Professor Shaoul Ezekiel of the Atomic, Molecular and Optical Physics Group. John (at left in the photograph) is presented with a custom-made "honorary degree" by Professor Ezekiel (right) on the occasion of John's retirement from MIT.



(Photo by Dorothy Fleischer)

(Photo by Ben Diver 1947)

RLE bid farewell to Senior Stock Clerk Joseph E. Mitchell (affectionately known as "Joe Mitch") at a retirement party in his honor on March 31, 1988. A native of Zebulon, North Carolina, Joe served in the U. S. Army during WWII. Joe, who will retire to his family's farm in North Carolina, had been in charge of the RLE Electronics Stock Room since 1971.



(Photo by Mary Kelsey)

(Photo by Mary Scalleri 1971)

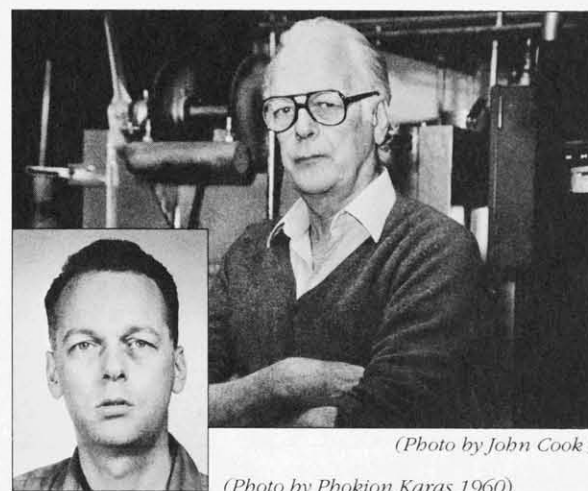
Senior Secretary Venetia Kaloyanides has worked with Professor George Bekefi and the RLE Plasma Physics Group since 1962. Before coming to MIT, Venetia worked in the Boston office of Mutual Benefit Life Insurance Company. Her retirement plans include redecorating her apartment and visiting a friend in Sedbergh, Cumbria in northern England.



(Photo by John Cook)

(Photo by Phokion Karas 1962)

Senior Technician George H. Leach retired on June 1, 1988, after 28 years with RLE. George, who attended Northeastern University, ran the RLE Tube Laboratory for many years. Although the Tube Lab closed upon George's retirement, he will be available on a part-time basis to run the hydrogen brazing furnace.



(Photo by John Cook)

(Photo by Phokion Karas 1960)

SPOTLIGHT ON CINDY KOPF

Cindy Kopf, Administrative Assistant in the Optics and Devices Group at RLE, has worked with Professor Hermann A. Haus since she came to MIT in 1973. Before MIT, Cindy worked in the advertising department of the *Warren Times Mirror Observer* in Warren, Pennsylvania.

Cindy boasts a collection of over 200 musical theater recordings. A native of Russell, Pennsylvania, Cindy graduated from Lake Erie College with a B.F.A. degree in Art. A stint with a summer theater group doing scene design probably had something to do with her being smitten with a love of musicals. Before attending a show, Cindy buys the recording to familiarize herself with the score. Occasionally, she travels to New York City, and once caught a hit in London that was too good to miss. Currently, she is on the prowl for tickets to *Phantom of the Opera*.



(Photo by John Cook)

SPANNING THE CENTURIES

Santa Claus, who dates back to about the 5th century, poses with Taylor Mendelsohn, who doesn't date yet, but probably will soon considering his charm and wardrobe. Taylor is the son of RLE's Senior Technical Illustrator Christine Mendelsohn. Santa is, of course, RLE Photographer John Cook.



The oldest and youngest at RLE's 1987 Christmas party.

(Photo by Dorothy Fleischer)

RLE undercurrents

undercurrents is a publication of the Research Laboratory of Electronics for the RLE community at MIT. The following individuals contributed their time and energy to this issue: John F. Cook, Dorothy A. Fleischer, David W. Foss, Virginia R. Lauricella, Christine T. Mendelsohn, Barbara Passero, Joseph Sincuk, Donna Maria Ticchi and Eric P. Watson.

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