THE NEWSLETTER

This is the first edition of a Computer Science Departmental Newsletter. We hope that the Newsletter will help the faculty, students and staff keep abreast of the happenings around the department. It should come out every couple of months. If you have anything which you think is worthy of bringing to the attention of the rest of the department (or as worthy as what has been printed to date!), please contact me and I shall see that you are immortalized in print.

Gil Fink
Extension 6031

COMPUTER SCIENCE COLLOQUIA

The computer science colloquia provide an opportunity to hear about relevant research going on in the field. Professor Srinivasan has been able to line up a number of interesting speakers this year. The first was Dr. Kenneth Kaplan who works at R.C.A. Sarnoff Labs in Princeton and is also associated with our faculty. He spoke on cache memory techniques in general and on some recent simulation results of his own.

Dr. Carl E. Helm from the City University of New York gave the second colloquium concerning computer-based instructional systems.

Dr. Jurg Nievergelt from the University of Illinois spoke next on the construction of optimal and sub-optimal binary search trees.

Dr. David Parnas from Carnegie-Mellon University presented an interesting and quite entertaining discussion concerning various methodologies for the design of operating systems.

Just before the Christmas recess Dr. Donald Michie from the University of Edinburgh visited Rutgers. Dr. Michie is spending this year at Syracuse University and is a leader in the field of Artificial Intelligence in Europe. His talk described a framework in which a problem solving system could condense its mode of operation from search into algorithmic form as it gained experience in its domain of operation.

Our most recent speaker was Dr. A.D. Friedman of Bell Telephone Laboratories at Murray Hill, who spoke on the "Diagnosis of Systems of Interconnected Modules".

(#[Editorial: In general I have felt that these talks were excellent and would urge anyone who has not been attending to do so in the future.])

The colloquia meet from 11 a.m. to noon on Wednesday mornings, at the Graduate School of Library Service. A half hour of coffee and conversation usually precedes each talk.

NITH PROPOSAL

A considerable amount of effort and thought has been spent during the past year in organizing a research proposal submitted in October to the National Institute of Health. The research plan requests support for a number of activities concerning the application of computers in the biomedical sciences. The resource would not only provide a stimulus and a focal point for research in the department, but
would provide us the opportunity to apply our techniques and skills to some real problems facing society. A crucial point in the life of the proposal will occur on January 18 when a group of persons from NIH will come to Rutgers to speak with the principal investigators and to examine our facilities.

Work on the proposal has already paid dividends. Fruitful interactions between people in our department and people in Biomedical Engineering & Psychology, Ecology, The Rutgers Medical School and the New Jersey College of Medicine and Dentistry (Newark) have developed over the past few months. If all goes well, there will be opportunities for up to 10 research assistants in Computer Science beginning in May.

SHARING WITH OTHERS

A number of faculty members have had the opportunity to give talks and papers or to participate in panels at various conferences.

Prof. Amarel presented a paper "Problems of Representation in Problem Solving: Formation Problems" at The Artificial Intelligence Seminar held at the University of Toronto in November.

In October, Prof. G. Falk gave a talk on "Interpretation of Line Drawings as a Three-Dimensional Scene" at NYU's Courant Institute.

Prof. C. Kulikowski gave a talk on "Computers in Medicine" to Rutgers first year medical students. As part of the Rutgers Biomedical Engineering Seminar he gave a talk on "Pattern Recognition Methods in Medical Diagnosis". Prof. Kulikowski has also participated in the Twenty-Sixth National Electronics Conference in Chicago and the IEEE Pittsburg Conference on System Science and Cybernetics.

Professor R. Orgass participated in the NSF Regional Conference on "Phenomena in Need of Computer Theories" held at Pennsylvania State University in September. His comments on this conference were distributed earlier in the semester.

In November Mrs. T. Droeg participated in a panel on Computer Science Education in Northern New Jersey sponsored by the A.C.M.

In the near future, Prof. M. Paul will participate in a panel on "Computers and Languages" organized by the IEEE.

Making ourselves visible in terms of papers, panels and talks is clearly valuable to the department as a whole as well as to the individuals involved.

DEPARTMENTAL TECHNICAL REPORTS

Prof. Srinivasan is in charge of a newly instituted series of departmental technical reports. Those in the series so far are:

#1 Codes For Error Correction in High Speed Memory Systems by C.V. Srinivasan;

#2 Computer Science: A Conceptual Framework for Curriculum Planning by Saul Amarel;

#3 Conditions for Simple Code Generation in Syntax Directed Translators by Marvin C. Paul;

#4 A Mechanism to Model Data Structure Design Problems by C.V. Srinivasan and

#5 Representations and Modeling in Problems of Program Formation by Saul Amarel.

LOOKING INTO THE CRYSTAL BALL

The department has recently completed a projection of enrollments in computer science at Rutgers during the next 10 years. While the future is anything but certain (as so many technical people recent learned) it appears that the demand for computer-related manpower will grow at a rate of between 10 and 18% during the seventies. Our goal is to satisfy the projected state
needs, taking into consideration the output that is currently available while improving the quality of the educational process.

At the graduate level it appears that the number of Masters students should double and the number of Doctoral students increase by an order of magnitude over the next 10 years. The largest growth, however, is expected at the undergraduate level.

NEW BUILDING

The latest word is that the new building at the University Heights Campus that is to be the permanent home of the Computer Science Department will be available for occupancy in November of 1971.

HARDWARE

The second 360/67 became available last month and with it lots more TSS. Due to lack of space at Rutgers, the machine is presently being housed in Princeton. TSS is available essential around the clock 7 days a week. A terminal is scheduled to be installed in the basement of 5 Huntington Street to make the computer facility more easily available to students.

MAKING OURSELVES KNOWN

The Department is in the process of putting together a flier describing the opportunities for graduate study in Computer Science at Rutgers. Unfortunately, there were not sufficient funds available to do one in the true "Madison Avenue" tradition with multi-color designs and eye-catching pictures. The flier does, however, give a brief but comprehensive description of our department. We hope that it will be out by the end of January.

COURSE 105-106

Prof. D. Beaucage is in the process of writing a textbook for his undergraduate course 105-106. The hope is to develop a basic mathematics course for computer science majors that covers both calculus and linear algebra in a single year. One interesting feature of Prof. Beaucage's approach is that he approaches things from the complex plane rather than the real line. For more details you will have to either attend the class or buy a copy of the book!

LIBRARY

We are currently in the process of selecting and ordering books and journals that would be appropriate reference material for undergraduate courses. This material will be acquired through The Kilmer Library. Other material that is appropriate for graduate courses or which should be included in a basic reference collection is also being selected. People with suggestions should contact Professor Falk.

COURSE DESCRIPTIONS

Descriptions of all computer science courses are now being prepared and will be available soon.

These descriptions (both graduate and undergraduate) are designed to be of a more detailed nature than those given in the various catalogues. They should not only give the student more information concerning the course content, but should also give a clear idea of what will be required in the way of prerequisites and work.

THE MEDIA HAD A MESSAGE

Back in November there were a number of local papers that carried an article on our department. Besides some general facts about us, the article contained a few of Professor Amarel's thoughts on the future uses of computers in society. In contrast to some recent recognition that Rutgers has received in the press, this was positive publicity.