

WHO DONE IT?

WHO DONE IT? information should be sent to the appropriate section editor (Hardware or Software - see QUERIES).

WHO-107 (March '85)

At the ACS Great Lakes and Central Regional Meeting at western Michigan University in May, 1984, the following papers were presented:

P. A. Wong (Chemistry Department, Andrews University, Berien Springs, MI 49104): use of a microcomputer to simulate differential pulse polarography.

E. Harmon, E. M. Harmon (Chemistry Department, Western Michigan University, Kalamazoo, MI 49008): computerized literature searching in undergraduate and graduate research. (K.L.)

WHO-108 (March '85)

At the ACS Midwest Regional Meeting at Southwest Missouri State University in October 1984, the following papers were presented in the area of chemical educational computing:

A. M. Watson, M. E. Sandler, P. A. Plume (Chemistry Department, Wichita State University, Wichita, KS 67208): maintenance of records of student store-room window transactions on low-cost dedicated microcomputers.

M. Condren, B. Durham (Chemistry Department, Christian Brother College, Memphis, TN 38104) and Chemistry Department, University of Arkansas, Fayetteville, AR 72701): interfacing Corning pH meters to PET microcomputers.

K. J. Lissant (Petrolite Corporation, 639 Marshall Ave., St. Louis, MO 63119): use of personal computers and X-Y plotters in displaying chemical

data.

D. J. Clevette, J. E. Bauman (Chemistry Department, University of Missouri-Columbia, Columbia, MD 65211): interfacing a Tronac solution calorimeter with an Apple Tie microcomputer. (K.L.)

WHO-109 (March '85)

At the NERCOMP Conference on Computers in Biology and Life Science Education, March 2, 1985, Wellesley College, Wellesley, MA, the following papers were presented:

M. S. Coyne (Biology Department, Wellesley College, Wellesley, MA): programs and simulations for *use* in student laboratories, in the PILOT language.

R. F. Olivo (Biology Department, Smith College, Northampton, MA): acquiring data for use in student experiments in neurophysiology and animal behavior, using low-cost techniques and video digitization. (K.L.)

WHO-110 (March '85)

At the International Chemical Congress of the Pacific Basin Societies (PAC-CHEM '84) in Honolulu, December 1984, the following papers were presented:

D. Lunney, R. C. Morrison, D. Sowell, R. T. Mills (Chemistry Department, East Carolina University, Greenville, NC 27834): transportable talking STD-BUS data-acquisition computer for visually impaired science-students.

R. C. Morrison, D. C. Sowell, D. (address above): a scheme for converting Lunney red spectra to recognizable infra-auditory patterns.

I, Singh (Department of Physical Science, Mohawk College, Hamilton, Ont. L8N 3PZ, Canada): microcomputer instrument communication using an RS-232C interface.

I. Singh (address above): computer-chemistry interfacing courses at Mohawk College.

K. Maeda, Y. Koyama, H. Rokusha (Electro-Technical Laboratory, 1-1-4 Umezono, Sakemura Ibaraki-ken, Japan): a personal mass-spectra data-base in a microcomputer system equipped with floppy Winchester and optical disk systems.

K. Kanohta, Y. Katagiri, T. Hakoda (Institute of Hygenic Sciences, 1-18-1 Setagoyaku, Tokyo, Japan): a massive proton-NMR spectra file search by a microcomputer.

H. Nakano, O. Sangen (Himeji Institute of Technology, Shosha, Himeji 671-22, Japan): drawing of molecular models with personal computers.

Y. Takahashi, T. Miyashita, H. Abe, S. I. Sasaki (Toyohashi University of Technology, Department of Material Science, 11 Hibarigaoka Tempaku, Toyohashi 440, Japan): an interactive molecular display system using computer graphics.

A. Mihkelson (School of Chemistry, Sydney University, Sydney NSW 2006, Australia): computer-assisted instruction applied to remedial teaching in first-year university chemistry. (K.L.)

WHO-111 (March '85)

Anyone interested in getting started in simulation of chemical systems should take a look at the following two bibliographies of information sources in computer-based simulation:

C. A. Pratt, "Going Further: A Compendium of Conferences, Organizations, Books and Software for Simulationists" Byte, March 1984 9(3) 204-208.

"Catalog of Simulation Software" Simulation 1984 43(4) 180-192: a

bibliography of micro-mini- and main-frame simulation languages and simulation systems. (K.L.)

WHO-112 (March '85)

The June 1984 issue of Byte has a group of papers on the theme of educational computing. One paper is of especial interest "Designing a Simulated Laboratory" by N. Peterson (Learning Tools, NE 1050 Alfred Lane, Pullman, WA 99163) Byte June 1984 9(6) 287-296: discussion of an excellent CAI system with color video graphics and simulation in cardiovascular physiology. (K.L.)

WHO-113 (March '85)

The February 1985 issue of Byte has a group of papers on the theme of Computing and the Sciences. Of particular interest to chemists are the following:

K. Okamura, K. Aghai-Tabriz (Applied High-Technology Laboratory, North Dakota State University, Fargo, ND 58105): "A low-cost data-acquisition system" Byte Feb. 1985 10(2) 199-202.

E. E. Aubanel, K. B. Oldham (Chemistry Department, Trent University, Peterborough, Ont. K9J TB8, Canada) "Fourier-Smoothing without the Fast Fourier Transform", Byte Feb. 1985 10(2) 207-218.

E. J. Kirkland (School of Applied and Engineering Physics, Cornell University, Ithaca, NY 14853) "Viewing molecules with the Mackintosh", Byte Feb. 1985, 10(2) 251-259. (K.L.)

WHO-114 (March '85)

William Marling (English Department, Case Western Reserve University, Cleveland, OH 44106) has written an interesting paper on "Grading Essays on a Microcomputer", College English Dec. 1984 46(8) 797-810. While not directly chemical, it should be of value to anyone concerned with computer-based grading. His comments on the practical aspects of microcomputer use

are interesting, especially as summarized in "Marling's Rules of Computer Use, the winnowings of three years in the devil's threshing yard". (K.L.)

WHO-115 (March '85)

Consult "The Reader's Guide to Micro Computer Books" by M. Nicita and R. Petruscha (1983, Golden-Lee Books, Brooklyn, NY 11238; 409 pp) for ratings and reviews of more than 400 books on microcomputers, microprocessors, operating systems and applications software. (K.L.)

WHO-116 (March '85)

Harper and Row have announced publication of a text on the preparation of CAI software by Ruth K. Landa, "Creating Courseware: A Beginner's Guide", April 1984, Harper & Row, New York, 350 pp. (K.L.)

WHO-117 (March '85)

It's easy to get bogged down in a morass of details when implementing CAI systems, so it's helpful to stand off and think about the general issues once in a while. The following three review papers are strongly recommended as background reading for anyone interested in teaching with the computer:

J. Nievergelt (Institut fUr Informatik, Eidgen5ssische Technische Hochschule, Zurich Switzerland) "A Pragmatic Introduction to Courseware Design" Computer (IEEE) Sept. 1980, 7-21: this excellent survey of the history and present practice of CAI is chiefly memorable for its excellent balance and common sense; it deflates the excessive claims of some CAI enthusiasts, gives sound advice to authors on good (and bad) CAI practices, and presents a basic bibliography of CAI.

F. Hayes-Roth (TeknoWledge, Inc., 525 University Ave., Palo Alto, CA 94301) "The Knowledge-based Expert System: A Tutorial" Computer (IEEE), Sept. 1984, 11-28: this review explains the application of artificial-intelligence

techniques to the solution of complex problems in an interactive mode. Although it would be possible to advance the quibble that such systems are not 'educational' in the narrow sense (they are certainly not drill-and-practice systems), I believe very strongly that expert systems do very much the same thing that a teacher does in solving a student's problems by question-and-answer techniques. I think that the future of CAI lies in the application of such expert-system techniques to teaching.

B. Woolf, and D. D. McDonald (Department of Computer Science, University of Massachusetts, Amherst, MA 01003)" Building a Computer Tutor: Design Issues": this paper analyzes the structure of student-tutor dialogues and explores the applications of artificial intelligence and expert system principles to CAI. It is a natural supplement to the Hayes-Roth paper mentioned above. (K.L.)

WHO-118 (March '85)

The Software Catalog is published twice each year by Elsevier Science Publishing Company, Inc. (77-Vnderbilt Avenue, New York, NY 10017: 1-800-223-2115). The Microcomputers edition was published in Winter 1985 (*ISBN* 0-444-00883-7) and is about 1700 pages in length. The catalog contains information on more than 14,000 commercially available program packages for most of the major microcomputers. The directory costs \$75 and was produced from the Menu/International Software Database. A description of each program package, its source, price, application and compatibility is contained in a 909 page software section. This is the main section of the catalog. There are six indexes which refer back to this section. There is **a** computer system index which indicates which programs will run on any given computer. Also, there are operating system, programming language, microprocessor, subject and application, keyword and program name indexes. The subject and application index is divided into the following categories:

Commercial - including accounting, mailing lists, Spreadsheets, word processing, (10.7 pages) and many other sections. Educational -

administration, CAI (62.5 pages), CMI (9 pages), counseling, library management and miscellaneous.

Industrial; Personal; Scientific - including chemistry; Professions/Industries including chemical industry; and Systems.

This catalog could be useful in helping to identify packages for your computer. In introductory sections the catalog contains some information on commercially available data bases, local area networks, and a quick reference guide to LOTUS 1-2-3. (D.R.)

WHO-119 (March '85)

The March issue of Communications of the ACM, 28(3) 269-279 (1984) features two articles of interest to educators. The first article contains the recommendations of a task force regarding a suggested curriculum for secondary school computer science. This article summarizes a report jointly approved by the ACM Education Board and the IEEE Computer Society Educational Activities Board in July 1984. Four courses are recommended for implementation at secondary school level:

1. Introduction to Computer Science I (a full year course),
2. Introduction to Computer Science II (a full year course),
3. Introduction to High-Level Computer Language (a half-year course),
4. Application and Implications of Computers (a half-year course).

Courses 1 and 2 are designed for students with a strong interest in computer science. Course 1 is a prerequisite for course 2. Satisfactory completion of these two courses should prepare a student for second year computer science in post-secondary educational institutions either directly or through the Advanced Placement Exam.

Course 3 is a course about programming in a high-level computer language (Pascal, LOGO, BASIC, structured BASIC and other languages are suggested as possibilities). This course is neither vocational nor a prerequisite to any other course.

Course 4 is oriented toward the student learning to use the computer

and understanding the implications of computer applications. Students will acquire a broad view of the roles computers play and an appreciation for the influence computer use can have on social organization. Programming is not included in this course.

This article and the full report describe in some detail the objectives and content of these four courses.

The second article in this issue of Communications of the ACM describes a proposed curriculum for programs leading to teacher certification in computer science. This report was prepared by a task force working through the ACM's Elementary and Secondary Schools Committee. (D.R.)

WHO-120 (March '85)

The March issue of SIAM NEWS (Volume 18 #2) contains an article entitled "Statistical Analysis on Microcomputers" by John C. Nash (p. 4) and an article entitled "Pascal for Scientific Computation" by L. B. Rall. The second article describes the Pascal-SC compiler for use with a Z80 microprocessor and CP/M. (D.R.)

WHO-121 (March '85)

The March 1985 issue (Volume 12 #6) of The Computing Teacher contains a list of sixty colleges and universities each of which are offering at least nine quarter hours of computers in education summer courses. The name, address and phone number of the person to contact, the dates of the courses, admission requirements, computer equipment, names of the courses, credit hours and tuition costs are provided. (D.R.)

WHO-122 (March '85)

The Journal of Computers in Mathematics and Science Teaching is published four times each year (fall, winter, spring and summer) by the Association for Computers in Mathematics and Science Teaching (ACMST, P.

0. Box 4455, Austin, TX 78765). The membership subscription rate is \$18 for individuals and \$36 for schools. A typical issue is 60 to 80 pages in length and contains about nine feature articles, five columns and nine departments (editorial, letters, update, software reviews, book reviews, new products, new books, program listings and a calendar). The Summer 1984 issue (Volume III, No. 4) contained a cumulative subject index. Eleven items were listed under chemistry. The Fall 1984 issue (Volume IV, 41) features an article by Michael H. Powers entitled "A Computer Assisted Problem Solving Method for Beginning Chemistry Students' (p. 13-19). Other articles included "A Computer Literacy Program for Prospective Elementary School Teachers", "Numerical Integration on a Microcomputer", "Using the Microcomputer to Teach About Nuclear Energy", "School Uses of Microcomputers: . Report 5 from a National Survey", and some conference abstracts. The Journal contains material which is of interest to elementary and secondary school teachers as well as college teachers. (D.R.)