CHANNEL

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Melkanoff Addresses Spring Associates Meeting

The Spring 1983 meeting of the C. & I.S. Associates was held on Friday, April 8. The session featured **Professor Michel A. Melkanoff** speaking on the topic of "The CAD/CAM Revolution and the Factory of the Future." The meeting began at noon with a luncheon at the Faculty Center followed by a working session at 1:45.

Dr. Ephraim R. McLean began the working session by introducing a new member of the C. & I.S. faculty, **Dr. Martin Greenberger,** the IBM Chair in Computers and Information Systems and Professor of Public Policy and Analysis. **Dr. Jason L. Frand** then discussed his recent office automation survey and his proposed new course in this topic. Later the session shifted to a discussion of Dr. Frand's recent working paper, "Computer Literacy for General Management" *(C. & I.S. Working Paper #10-83).* This paper develops a conceptual framework of computer literacy in an attempt to define both the types and levels of knowledge about computers appropriate in an office environment.

After a short break, Dr. Melkanoff began his lecture at 3:30 p.m. He is a Professor in the UCLA Computer Science Department and Director of the Manufacturing Engineering Program in the School of Engineering and Applied Science. He holds a B.S. in aeronautical engineering and a Ph.D. in theoretical nuclear physics from UCLA. He has over thirty years experience in computers and has served as Director of the UCLA Computer Center. He helped found the Computer Science Department at UCLA and served as its first Chairman. He has been a consultant to numerous governmental and industrial organizations, and has worked in the fields of programming languages, simulation, database, data models, and the relational model of data.

For the past few years, Dr. Melkanoff has been working in CAD/CAM (computer-aided design/computer-aided manufacturing), robotics, and numerical controlled (NC) machine programming. As Director of the UCLA Manufacturing Engineering Program, he has established a major CAD/CAM facility as well as a robotics and NC machine laboratory. He is currently heading a research and teaching program in manufacturing engineering which he has developed in collaboration with several major industrial organizations.

In his talk, Dr. Melkanoff discussed the CAD/CAM revolution and his vision of the factory of the future, pointing out that industry has turned to the computer for help in an effort to regain America's waning technological leadership. The result is CAD/CAM, a new way to draw, to design, to plan, to manage, and to manufacture. Melkanoff discussed the new breed of drafting systems, first explaining two-dimensional programs in which a computer graphic system is used to facilitate the construction of the usual engineering drawings in multiple orthographic projections. He then went on to discuss three-dimensional wire frame representations and the latest three-dimensional solid modeling techniques which allow the designer to examine his design in complete detail before it has ever been built.

Finally, Melkanoff discussed the factory of the future where a hierarchical computer network will control the flow of information, the material flow, the products flow, and each individual step of the manufacturing process. The integrated manufacturing system will consist of flexible manufacturing cells which include a suitable blend of NC machines and material handling robots, all operating under computer control. Melkanoff emphasized, however, that men will still be needed to monitor, maintain, and manage the system by means of computerized data retrieval and display devices. These will detect faulty conditions, simulate various correcting alternatives, and modify operations as required through process control computers. Melkanoff concluded his presentation by pointing out that these factories of the future will be designed, run, and managed by the manufacturing engineers and managers we are training today. He predicted that these factories should begin appearing in the 1990s.

Melkanoff's lecture was followed by cocktails at the UCLA Faculty Center where the participants had an opportunity to continue discussion on a more informal basis.

Computers and Information Systems Associates Meeting

Dr. Ephraim R. McLean, *Director, C. & I.S. Research Program, opens the afternoon sessions with some general remarks before introducing the featured speaker,* **Dr. Michel Melkanoff.**

Dr. Michel Melkanoff, *Professor, Computer Science Department, and featured speaker for the session, discusses his ideas further with* **Donna S. Frohreich,** *Manager, Corporate Recruiting at IBM.*

Dr. Jason L. Frand, *Director, GSM Computing Services, greets* **Michael J. Erdei,** *Associate Director, Computing and Data Processing, Hughes Aircraft Company.*

Dr. William H. Taubert, *Vice-President of Hunt-Wesson Foods, Inc., talks with his former mentor and co-author* **Dr. Elwood S. Buffa,** *Professor, GSM. Dr. Taubert was Chairman of the C. & I.S. Associates during 1981-82.*

Winter and Spring Colloquia

Nine colloquia were held during the Winter and Spring quarters. The first colloquium was held on January 27, and featured **Rodney P. Zimmerman** from the Technology Division of the Computer Services Department of Standard Oil of California. His topic was, "Phases, Methods, and Tools — A Triad of System Development." He outlined the research at Standard Oil of California on building information processing systems, and described their Computer Applications Support Environment (CASE).

The second colloquium, on February 17, was presented by **Arnold J. Greenfield**, from The Wharton School, University of Pennsylvania. In his talk, "Improving the User/Model Interface for Sensitivity Analysis," he discussed the motivation behind a system for sensitivity analysis, the underlying mechanisms required to implement it, and its potential influence on decision-makers.

On February 24, **Paul Watkins**, University of Southern California, presented "Preference Mapping of Perceived Information Structure: Implications for Decision Support System Design." This presentation focused on examining the preference functions of decision-makers for information in complex decision-making scenarios.

The March 3 colloquium featured **Meichun Hsu** from the Sloan School of Management, Massachusetts Institute of Technology. Her topic was "Hierarchical Database Decomposition — A Technique for Database Concurrency Control." She discussed a new type of partial order of transactions, the activity link order, which enables the devising of a new algorithm for concurrency control which is believed to have the ability to reduce the overhead of read-access synchronization in a database system that uses a hierarchical decomposition of the database.

The final colloquium of the Winter quarter was held on March 10, and featured **Omar A. El Sawy** from Stanford University. He spoke on "Temporal Perspective and Managerial Attention: A Study of Chief Executive Strategic Behavior." This talk reviewed a study investigating possible linkages between temporal perspective and strategic attention, and emphasized implications for information systems research, for strategic information design, and for management practice.

The first Spring colloquium, on April 7, featured **George P. Huber** from the University of Wisconsin and EXECUCOM. The presentation, titled "The Nature and Design of Post-Industrial Organizations," focused on designs for making more effective three processes that will exhibit increased importance in post-industrial organizations: decision-making, innovation, and information acquisition and distribution.

The second colloquium was held on April 21 with **E. Burton Swanson**, Professor of C. & I.S., UCLA, as the speaker. Professor Swanson spoke on the topic, "Information Channel Disposition and Use," presenting a model composed of two components, the information quality and the access quality attributed to the channel.

On May 19, the colloquium featured **Jane Fedorowicz**, from the J. L. Kellogg Graduate School of Management, Northwestern University. Her presentation, "A Logic-Based Approach to Building Decision Support Systems," discussed a DSS with model selection and reasoning capabilities which will enhance the set of analytical tools normally available to the decision-maker. This logic-based DSS (LDSS) can dynamically generate a set of models to provide the user with a uniquely tailored decision aid.

The last colloquium was held on June 2, and featured **Alfonso F. Cardenas,** Professor in the Computer Science Department, UCLA School of Engineering and Applied Science. Dr. Cardenas spoke on the topic, "Heterogeneous Distributed Data Base Management," focusing on the problems of the proliferation of different generalized data base management systems (DBMS). He then outlined a research project to deal with the challenge of providing users of these systems with a view of data from the various data bases in the network, without forcing them to deal with the details of physical location and different data base accessing and processing languages particular to each DBMS.

Doctoral Admissions

Applications for admission to the C. & I.S. Doctoral Program for Fall 1983 reached a new high this year with a total of 46 applicants, nearly 20% of all GSM doctoral applications. The overall quality of the applicants was also judged to have increased significantly. Given the current constraints on the size of the C. & I.S. doctoral program, only seven students could be offered admission. This meant that a number of exceptionally well qualified applicants, unfortunately, could not be accommodated.

Of the seven students offered admission, four have accepted, and will begin their studies in the fall. They are **Vivek Choudhury,** (B. Comm., St. Xavier's College, India, 1981; M.B.A., Rensselaer Polytechnic Institute, 1983); **Thomas Gosnell** (B.S.C.E., University of Maryland, 1978; M.B.A., Virginia Polytechnic Institute, 1983); **Selena Ho** (B.S., University of Hong Kong, 1976; M.B.A., University of Washington, 1983); and **Kathryn Rea** (B.S., State University of New York, Albany, 1981; M.B.A. in progress, UCLA).

C. & I.S. Associates Award Presented

The C. & I.S. Associates Award for 1983 was presented to **Edith Parker.** This award is presented annually to the student graduating from the M.B.A. program with the highest academic achievement in the C. & I.S. area. The name of each year's winner is engraved on a plaque which remains in the Graduate School of Management, and a check for $250 given to the individual. This year's presentation was made by **Professor Bennet Lientz,** Chairman of the C. & I.S. area.

Ms. Parker received her M.B.A. in June 1983, and is presently employed at Hewlett-Packard as a Sales Representative in their Business Computers Group. While at UCLA, she served as Teaching Assistant in the GSM Computing Laboratory. She also aided **Dr. Jason Frand** in the development of a new course in office automation and co-authored a Working Paper on the course with him. In addition, she served as Director of both MIS Careers Night and Finance Alumni Night. Before entering the M.B.A. program, Ms. Parker graduated from Stanford University, with a B.S. in International Relations, and worked as an Information Analyst for SRI International.

IBM Users Group Formed

An IBM Users Group was formed at UCLA in March of 1983. The purpose of the group is to share knowledge and information regarding the uses of the IBM Personal Computer or any IBM-compatible microcomputers such as Compaq, Columbia, Corona, etc. The group offers short classes and guest speakers, and maintains a library of public-domain software. The Users Group meets monthly in the Graduate School of Management. Officers for the group include **Hong Dang,** a first-year M.B.A. student (Founder and President), **Paul Kircher** and **Bradford Cornell** (Faculty Advisors), and **Dick Littlestone,** C. & I.S. Associate Director (Administrative Advisor).

New Associate Director for C. & I.S. Research Program

With the growth of the C. & I.S. area in general and the C. & I.S. Research Program in particular, the need for a full-time professional manager has become increasingly apparent. Therefore, **Richard Littlestone** was recruited to the newly created position of Associate Director, Computers and Information Systems Research Program. He will work closely with the C. & I.S. Associates and with other C. & I.S. constituencies, providing a liaison function and working to expand the C. & I.S. Program. He will work with faculty and students who have current research projects underway and will help in developing proposals for undertaking new research. He will also assist the C. & I.S. faculty, staff, and students in administrative tasks vis-à-vis the Graduate School of Management and the University; and he will function as a systems manager for the various word processing and microcomputer systems that the Program now has in place or hopes to obtain in the future.

Littlestone, a retired Army officer, is a recent graduate of the UCLA M.B.A. Program, concentrating in C. & I.S. and Human Resources Management. He has spent the past eleven years at UCLA as a member of the faculty, the staff, and as a student. He has worked closely with most key University administrative officers, from the Chancellor through the deans, department chairmen, and managers of the academic and service departments. He has also dealt with the other campuses of the University of California and with the California State University system, the community colleges and private institutions of the California higher education community, and with the secondary school systems.

Littlestone was previously the Chairman of the UCLA Department of Military Science, with an appointment as full professor and member of the Academic Senate. On retirement from the U.S. Army as a Colonel, he remained at UCLA in various management positions, from which he entered the M.B.A. Program after completing the required coursework in the UCLA Doctoral Program in Higher Education Administration. His previous education included his Bachelor's degree from West Point and a Master's degree in physics and nuclear engineering, followed by research, analysis, and instructing in mathematics and nuclear energy. He has held various positions in management and logistics in the Department of Defense, and was Chief of the Research and Analysis Division of the Defense Nuclear Agency, monitoring the Agency budget and contract and grant activities in its sponsorship of research by universities and federally funded R. & D. centers. Much of this work involved the development and implementation of management information systems.

Two Courses for I.S. Managers

On March 20-25, 1983, the faculty from the C. & I.S. area were joined by members of the firm of **Nolan, Norton and Company** to offer the program, *Managing the Information Resource.* Now in its fourth year, this program proved to be exceptionally well received, with nearly fifty percent of those applying for admission having to be turned away because of lack of space.

The program was co-chaired by **Professor Ephraim R. McLean** of UCLA and **Dr. Richard L. Nolan,** CEO of Nolan, Norton and Company. Others from UCLA included **Professors Eric G. Flamholtz, Bennet P. Lientz, Moshe F. Rubenstein** (from the School of Engineering and Applied Science), and **E. Burton Swanson.** From NNC, Dr. Nolan was joined by **Thomas H. Johnson** and **Bruce J. Rogow.** This course is scheduled to be offered again on November 6-11, 1983, and on March 25-30, 1984.

The other executive course offered was a brand new one for C. & I.S. On June 12-17, 1983, the program *Information Services: Meeting Your Organization's Information Needs* was launched in conjunction with the consulting firm of **Index Systems, Inc.** Aimed at a mixed audience of I.S. and user managers, it explored a number of emerging techniques and application areas such as office automation, manufacturing and marketing systems, personal computers, decision support systems, and critical success factor approaches to I.S. planning.

Representing Index Systems were **Cyrus F. Gibson, John M. Thompson, Gary K. Gulden,** and **David G. Robinson.** In addition to the UCLA faculty named above, **Dr. Jason L. Frand** from GSM and **Professor Michel A. Melkanoff** from the School of Engineering and Applied Science joined the program. It is scheduled to be offered again on June 3-8, 1984.

First Graduate of Joint Degree Program

A new three-year joint degree program, leading to both the M.B.A. and M.S. (Computer Science) degrees, has been initiated between the C. & I.S. area of the Graduate School of Management and the Computer Science Department of the School of Engineering and Applied Science. **Gary Katzenstein,** who helped Professors **Ephraim R. McLean** and **Michel A. Melkanoff** in establishing the double degree in 1982, graduated in June 1983, the first product of this joint degree program. After graduation, he will work for a year at Sony Electronics in Tokyo, Japan, under a $10,000 grant from the Henry Luce Foundation. (This foundation seeks to educate Americans about Asia by sending non-Asian specialists to work in Asian countries.) After his year in Tokyo, Katzenstein plans to continue work in the area of artificial intelligence, organizational behavior, and management systems.

New Doctoral Awards

The C. & I.S. Associates have initiated two doctoral awards for the academic year 1983-84. The first of these is the C. & I.S. Associates' Fellowship, offered annually to one or more outstanding applicants to the C. & I.S. doctoral program. Funded in cooperation with the GSM Doctoral Office, the fellowship provides for fees, tuition (to include nonresident tuition if needed), a quarter-time (10 hours per week) Research or Teaching Assistantship, and a stipend of $2,700 in the first year of study; and fees, tuition, and a half-time (20 hours per week) Research or Teaching Assistantship in the second and third years of study. The first recipient of the C. & I.S. Associates' Fellowship is **Vivek Choudhury,** who has accepted admission to the C. & I.S. doctoral program for the Fall 1983.

The other new award is the C. & I.S. Associates' Doctoral Award, which provides a stipend of $1,500 to one or more C. & I.S. doctoral students who have successfully completed the major field examination and/or research paper program requirements within the past year of study. This stipend is intended to offset student fees not provided from other sources. Excellence of academic achievement is the basis for the award. Receiving the first Associates' Doctoral Award is **Srikanth Chari,** who is in his third year of studies in the doctoral program.

Advanced C. & I.S. doctoral students are eligible for nomination for the IBM Fellowship in Information Systems, which provides a stipend of $10,000 in addition to tuition and fees. This award is intended to support full-time work on the doctoral dissertation. Receiving the fellowship for the year 1983-84 is **Cynthia Beath,** in her fourth year of studies in the doctoral program. Mrs. Beath becomes the seventh C. & I.S. doctoral student to receive this award since its initiation.

All three of the above awards provide for stipends. Other financial aid, funded by the C. & I.S. Research Program, consists of nonresident tuition and fee waivers, and Research or Teaching Assistantships, to other selected C. & I.S. doctoral and M.B.A. students.

Sprowls Hosts PSL/PSA User Meeting

As an affiliate of the ISDOS Project at the University of Michigan under the direction of former UCLA faculty member **Professor Daniel Teichroew,** C. & I.S. **Professor Clay Sprowls** hosted two West Coast PSL/PSA User Meetings in December 1982 and April 1983 at the UCLA Faculty Center. Representatives from General Dynamics, Hughes Aircraft, IBM, Informatics General, Interstate Electronics, Jet Propulsion Laboratory, NCR, and Southern California Edison, as well as the members of the ISDOS Project itself, discussed their uses of PSL (Problem Statement Language) and PSA (Problem Statement Analyzer) in various aspects of system development.

At the annual User Conference held in Ann Arbor in August, Sprowls was the Chairman of the session on "Software Development Environments." Papers included in this session were "Tools for the Factory of the Future: The Role of the Integrated System Development System" from the ICAM Project Office of the U.S. Air Force; "CASDE: Computer-Aided Software Development Environment" from the U.S.A.F. Data Systems Design Center; "The BYRON Program Development in the ADA Integrated Environment" from Intermetrics; and "The Usage of the System Encyclopedia Manager (SEM) with the Systems Analysis and Design Language for ADA (SALA)" from the ISDOS Project. Other sessions in the program were organized under the topics of Systems Development Methodology, Simulation and Prototyping, Data Administration and Database Design, and Interfaces to PSL/PSA.

Newspaper Computer Study by Greenberger

Professor Martin Greenberger, the newly appointed IBM Chair in Computers and Information Systems, will direct a study of "Newspapers of Tomorrow" under a grant by the John and Mary R. Markle Foundation of New York. Over the years, he has been investigating the impact of microcomputers and telecommunications in various organizational settings. This newspaper study is part of that continuing interest.

The newspaper industry, despite its technologically rather taciturn history, is today in the vanguard of advanced computer/communications applications. Impelled by economic pressures and aided by a dynamic technology, newspaper organizations have become show-cases in the automation of their back-end (production) operations as well as their front-end (news-editing) systems. These front-end systems are at the head of the burgeoning computer field known as office automation.

Signs are beginning to appear of how the technological changes can affect the form, content, and style of information distribution, as well as power structures and role relationships within newspaper activities. As more consumers and suppliers acquire computer/communication links to electronic sources, the impacts will multiply. This study will assess the trends and project the shape of things to come.

Staff Update

Friends of **Bob Carmichael** will be interested to note that he has left UCLA to assume a new position this fall at California State University, Northridge. Dr. Carmichael served as a Lecturer in C. & I.S. since 1976, and was Director of GSM Computing Services, 1977-80. In his new position he will lecture for the Department of Accounting and Management Information Systems in the School of Business Administration and Economics. His future plans include establishing a home computer system, re-establishing his consulting ties, pursuing research in several areas (including data purging, glossed texts, and measures of student performance), as well as authoring a textbook or two. Dr. Carmichael also looks forward to retirement as a Major in the U.S. Air Force Reserve in September, and to driving only six non-freeway miles to CSUN from his home in Van Nuys!

Another much regretted loss from C. & I.S. this spring was **Linda Taeger** who moved north to Camino, California, to help her husband start a woodcutting business. Mrs. Taeger served as Administrative Assistant to the C. & I.S. Research Program since 1980. Among her myriad duties, she edited the **Channel** and handled much of the C. & I.S. correspondence. After a couple of months of

playing lumberjack, she is now working for a company that handles estate planning and insurance for owners of large farms and ranches. She reports that in her new job she is learning to use a Lanier word processor and will also eventually be using an IBM personal computer.

Recent Publications

Recent publications by C.& I.S. faculty include the following books and articles.

1. Greenberger, Martin, *Caught Unawares: The Energy Decade in Retrospect*, with Garry D. Brewer, William W. Hogan, and Milton Russell. Ballinger Publishing Company, 1983.

2. Greenberger, Martin, "Computers: Their Applications and Impact on Society," *Encyclopedia Americana.* Grolier, Inc., Danbury, Connecticut, 1982.

3. Greenberger, Martin, "Perspectives on World Oil: Modeling in a Context," in R. Amit and M. Avriel (Editors), *Perspectives on Resource Policy Modeling: Energy and Minerals*, Chapter 12. Ballinger, 1982.

4. Swanson, E.B., "Editorial Statement," *Office Technology and People, 1*, 1, 1982, pp. 48-49.

5. Swanson, E.B., "A View of Information System Evolution," and discussion contributions, in Hawgood, J. (Editor), *Evolutionary Information Systems.* North-Holland, 1982, pp. 55-62, 247-256.

6. Swanson, E.B., "Letter to the Editor," *MIS Quarterly, 6*, 3, September 1982, p. 73-74.

7. Swanson, E.B., "Measuring User Attitudes in MIS Research: A Review," *Omega, 10*, 2, 1982, pp. 157-165.

8. Swanson, E.B., "Rationality and Politics in Information System Design and Implementation: A Juxtaposition of Two Views," *Accounting, Organizations and Society, 8*, 2/3, 1983, pp. 219-221.

9. McLean, Ephraim R., (Editor) "Information Systems and Its Underlying Disciplines," *Data Base, 14*, 1, Fall 1982, 60 pp.

10. McLean, Ephraim R., "Decision Support Systems and Managerial Decision-Making," *Proceedings of the Conference on Education for Information Management*, Information Institute, International Academy at Santa Barbara, 1983, pp. 63-72.

11. McLean, Ephraim R., "Strategic Planning for MIS: An Update," *Proceedings of the Fourteenth Annual Conference of the Society for Information Management*, Chicago, 1983, pp. 9-15.

12. Bergquist, J. William, and McLean, Ephraim R., "Integrated Data Analysis and Management System: An APL-Based Decision Support System," *Proceedings of the Conference on Processes and Tools for Decision Support Systems*, North-Holland, 1983, pp. 189-206.

13. Gingras, Lin, and McLean, Ephraim R., "Designers and Users of Information Systems: A Study in Differing Profiles," *Proceedings of the Third International Conference on Information System*, Ann Arbor, Michigan, 1982, pp. 169-181.

14. Lientz, B.P., and Rea, K.P., "Distributed Systems Development and Maintenance," 125-130, in J. Akokal (Editor), *Management of Distributed Data Processing.* North-Holland Publishing, 1982.

15. Lientz, B.P., "Computer Economics and Acquisition," in A. Ralston (Editor), *Encyclopedia of Computer Science*, Second Edition, 1983.