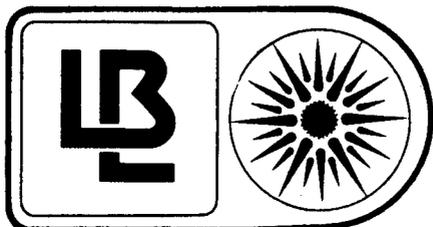


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NEWSLETTER

Lawrence Berkeley Laboratory
Applied Science Division

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****A VIEW FROM CHINA****

INTERVIEW WITH HAN JIANGUO

For Reference

Not to be taken from this room



[Han Jianguo has been living in Berkeley and working in the Applied Science Division office since May 1983.]

AS: You work as the Assistant to the Director at the Institute of Physics, Chinese Academy of Sciences (CAS), Beijing, China. Tell us something about your job at the Institute.

HAN: My job is to assist the Director in running the Institute and help him with his office work. I work with the planning division to monitor the current budget expenditures in research divisions, project the research proposals and budgets for future years, submit reports to the academic committee for approval, analyze available information and evaluate annual progress. I monitor the ongoing status of research projects of the Institute, report to the Director on progress and problems, and make suggestions concerning projects which need special attention. I also keep close contact with the personnel, administration, equipment supply, and accounting offices to see that things are done in conformance with the Academy and Institute policy. I meet with employees of the Institute to hear their suggestions or complaints and make explanations or investigations if necessary.

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AS: The Chinese Academy of Sciences (CAS) is funded by your government. How is the Academy organized and what kind of work is being done there?

HAN: The CAS consists of five divisions and a section, namely, divisions of Mathematics and Physics, Chemistry, Biological Sciences, Earth Sciences, and Technological Sciences, and a Management Science Section. The institute forms the basic unit of the CAS and is the primary organization in which research is conducted. There are now about 120 research institutes with more than 80,000 staff members, of whom about 40,000 are scientific and technical personnel. The CAS's primary task is to carry out basic as well as applied research, including the development of new technology. Funding for scientific research totals RMB 600-700 million a year (approx. \$300-350M U.S.).

AS: What is your educational background?

HAN: I went to college from 1973-1976 at the Institute of Foreign Languages in Shanghai. I studied English, Chinese, economics, history, literature, and some natural sciences. I was assigned to the planning division of the Institute of Physics in 1976 where I was in charge of the scientific exchange program with foreign countries and worked on research program planning. I was promoted to Assistant to the Director at the beginning of 1982. I have also taken courses in physics, math, and computers.

AS: How long will you be at LBL and what do you expect to learn while you are here?

HAN: LBL has a reputation as one of the most outstanding U.S. research institutions, and I feel honored to have this opportunity to visit the Laboratory. I am going to stay here for a year or so, mainly in ASD and E&TS. If possible, I would also like to visit some of the other divisions. I hope that through working with scientists and managers I can develop a good understanding of your structure, the way research is carried out, and your management procedures, and that I will be able to apply some of this knowledge when I return to the Institute of Physics. Academic contact has been established between the United States and China in the past few years. We have hosted a few LBL scientists and now you have some Chinese scientists working at the Laboratory, but we have not had many contacts between management people. I suppose I am the first one. In my opinion, exchange of views between management is just as important as academic exchange, and I believe there are many things I can learn while I am here. For example, computers are widely used here for management tasks, but in China we mainly use computers for scientific purposes. Their application in management still remains in a primitive stage in my Institute. I hope that my visit will be helpful in this area.

AS: Do you plan to visit any other research institutions in the United States or other countries before returning to China?

HAN: I haven't decided yet. If possible, I would like to visit some universities to see how they are managed and how management is taught.

AS: We are all interested in China. Can you tell us some of your impressions about the major differences between daily life in China and the U.S.?

HAN: Due to social and cultural traditions, there are many differences in the daily life between our two countries. Generally speaking, living standards here are higher. You have more space, better living facilities, more cultural activities, and more people enjoy college education. China is still a developing country. Most people live in government owned buildings and, in general, conditions are crowded. Some people own their own homes but it is not common. Because of lack of housing, the government is now building apartments on a big scale. Everywhere you go you can see construction sites. The government also allows private apartments to be built in order to solve the housing problem.

China has a history of more than 5000 years and the traditional concept of family is very strong. After retirement, old people prefer to live with their sons or daughters and try to do their part to help the family. They are happy that they can still be useful and, in return, they are well taken care of. In most families, both husband and wife are working and they have the same pay for the same job. They also share in the house work. I have met some old people here and most of them live separately from their children. Loneliness is a serious problem among these aged people. Also, the divorce rate is much higher in the United States than in China.

China is now a country of 1.1 billion people. The government is making a concerted effort to control our population growth and has asked that each family only have one child (excluding minority people and a few other exceptions). They use propaganda to influence people to practice birth control voluntarily, for example, "you are helping your country by complying as there will be a higher standard of living for everyone". When a family has only one child, the government will pay the child a small sum from birth to age 16, and there are other special priorities such as being seen first after the emergency patients in the medical clinics. If people do not agree voluntarily, the government has some very efficient methods to encourage parents to comply such as remarks on their performance appraisals and depriving them of their opportunity for a salary increase.

Life appears to be commercialized considerably here in the U.S. and everywhere you go you see advertising. Most of the people who live in the cities in China have TV, although in most cases the sets are black and white. We have educational programs that are broadcast all during the day, but the entertainment programs are shown only from 7:00-10:00 PM during the week (longer on Sundays) and the advertising does not interrupt the programs.

The refrigerator is beginning to be popular in China but still the standard routine is to stop at the store on the way home from work at 6:00 PM every day. The farmers bring their vegetables to market in the late afternoon and the stores stay open until 8:00 or 9:00 PM. Therefore, it is very easy to get fresh vegetables and food. We have more and more cars now, but they are not private and are used for official business only. Most people ride bicycles or take buses to work. Our bus transportation is well organized, but railway transportation is insufficient. It is often difficult to get tickets to travel around China during certain seasons and on national holidays.

AS: Where do you work and live in China?

HAN: The Institute of Physics is located near the Summer Palace (there are about 20 other institutes located in the same area), a very beautiful imperial park outside Beijing which attracts thousands of visitors from all over the world. My wife, Chih-ying, works at the Institute of Photographic Chemistry and we have an apartment in her Institute. We have one son, Lei, who is 3-1/2 years old and he attends Kinder in the Institute for all children aged 1-6. We pay a small monthly fee which mainly covers the cost of his food. When he is 6 years old, he will attend school outside the Institute. The competition becomes stiff in middle school and high school where students can apply for admission to certain key schools where the quality of teaching is better. In China, students choose their major before starting college and must take a highly competitive entrance exam for admission.

AS: I think it is safe to say that we can expect to see more and more exchanges of ideas and technology between our two countries.

HAN: Yes. Exchange of ideas and technology will benefit both countries, and I am confident that we will have increased interchange between China and the U.S. in the future. Our government is now very active in promoting contacts in science, technology, business, and other fields with foreign countries. Foreign professors are encouraged to give lectures or to work for a period of time in China, and foreign companies are encouraged to invest in large projects, for example, in offshore oil exploration and coal mining.

DIVISION NEWS

- The TENTH ANNIVERSARY CELEBRATION of the E&E/AS Division will take place on Tuesday afternoon, November 8, in the LBL Cafeteria. Refreshments will be served and everyone in the Division is invited to attend. The program will include remarks from LBL Director David Shirley and past Division Heads of E&E. More information will follow next month.
- Catalina Esquivel has replaced Judy Reyes-Ortiz in the Division Office as the person who is now responsible for the BIWEEKLY PAY-ROLL. If you have any questions or need help with timecards, please call her (x5914).

HONORS

Rudy Verderber's paper, "Electromagnetic Interference (EMI) Measurements of Fluorescent Lamps Operated with Solid-State Ballasts," published in the November/December 1982 issue of the IAS (Industry Applications Society) Transactions, Institute of Electrical and Electronics Engineers, Inc., has been selected by the Papers Selection Committee as the Third Best Paper for 1983. A special award will be presented to Rudy and his co-authors, Alan Arthur, Oliver Morse and Francis Rubinstein, at the Annual Meeting to be held in Mexico City in October.

VISITORS

Robert Ketcham, the General counsel to the House Science & Technology Committee, visited the Lab on August 25. He toured the lighting research labs in Building 46 and met with Sam Berman and Don Grether.

Robert Kripowitz, the Staff Director of the Energy Development & Applications Subcommittee of the House Science & Technology Committee, visited the Lab on August 31. Kripowitz is Martha Krebs' replacement. He met with various scientists in the Division and toured the combustion labs and aerogel lab in Building 70, and MoWitt in Blackberry Canyon.

Jack Vanderryn, Director for Energy and Natural Resources at the Agency for International Development (AID) in Washington, met with Mike Rothkopf and other members of the Energy Analysis Program at LBL on September 1.

INVITED TALKS AND FOREIGN TRAVEL

- Tony Nero is travelling to Brussels, Stockholm, Salzburg, Capri and Rome. He will be participating in research discussions and while in Stockholm he will attend a planning/organization meeting for the 3rd International Conference on Indoor Air Quality and Climate. He has been invited to present a lecture at the International Seminar on Indoor Exposure to Natural Radiation and Related Risk Assessment in Capri October 3-5.
- Hal Rosen and Tony Hansen will travel to Munich as invited speakers at the Arctic Haze Workshop. Hal's talk is entitled "Vertical and Horizontal Distributions of Graphitic Carbon in Arctic Haze" and Tony will give a talk entitled "The Aethalometer - An Instrument for the Real-Time Measurement of Optical Absorption by Aerosol Particles."
- Tica Novakov is the Co-Chairman of the 2nd International Conference on Carbonaceous Particles in the Atmosphere being held in Linz, Austria. He is also an invited speaker at the conference along with LBL scientists Hal Rosen, Tony Hansen, Henry Benner, Lara Gundel and Ray Dod.

GOVERNMENT RELATIONS

Tony Nero (with Dave Grimsrud as co-author) presented Congressional testimony entitled "The Dependence of Indoor Pollutant Concentrations on Sources, Ventilation Rates, and Other Removal Factors" before two subcommittees of the House Science and Technology Committee. The subcommittees, Energy Development and Applications and Natural Resources, Agriculture Research and Environment, held a joint hearing on August 2 on the subject of INDOOR AIR QUALITY RESEARCH: CURRENT STATUS AND FUTURE NEEDS.

CONGRATULATIONS!

- To Nancy and Brent Morrison on the birth of their son, Brian Charles Motley Morrison, who weighed in at 7 lb. 12 oz. on July 24. He was born at Alta Bates Hospital in Berkeley.
- To Jim and Barbara McMahon on the birth of a daughter. Her name is Katherine Elizabeth (her parents call her Kate) and she was born at Alta Bates Hospital in Berkeley on August 13, 1983. Her birth weight was 8 lb. 13 oz. Kate's brother Nathan, 11, attended the delivery.
- To Sally and Paul Nasman on the birth of their son, Carl Phillip. He charged into the world on September 14 at Alta Bates Hospital in Berkeley weighing 8 lbs. 12 oz.

COULD SWEDISH HOUSES SELL LIKE VOLVOS?

Hoping to speed the spread of energy-efficient housing in the U.S., scientists from the Applied Science Division hosted Swedish Energy Secretary Birgitta Dahl at LBL for a one-day conference on Swedish home designs. The conference was officially opened by LBL Director David Shirley and featured presentations by Birgitta Dahl, Charles Imbrecht, Chairman of the California Energy Commission, scientists from the Applied Science Division who have been working on conservation for years, and representatives of Swedish energy and building industries who accompanied Dahl on her 3-week visit to the U.S.

Dahl said, "People in Sweden keep their houses around 70 degrees, they use more hot water than anyone else in the world, yet they use far less energy than an American home. We have to live with temperatures of 40 degrees below zero in midwinter, with the sun not even peeping over the horizon. We couldn't afford not to be energy-efficient." The trick, apparently, is prefabricated houses featuring thickly insulated, plastic-lined walls and triple-pane windows. Because the buildings are really airtight, ventilation systems are meticulously designed to draw in clean air slowly from outdoors and exhaust it through a kitchen vent.

ASD scientist Lee Schipper, who was sent to Sweden to evaluate the country's energy conservation measures and their international potential, is convinced that the only sensible approach for the Swedes is to export entire systems. He says, "Individual Swedish products such as triple-pane windows, multi-fuel boilers and heat pumps are effective only in houses that don't leak - hence the necessity of a tight shell." At the moment, Swedish house-exports to America are negligible, but Schipper claims there is a growing interest here for the kind of homes the Swedes produce, not least because such houses cut costs both in warm and cold weather. The Swedish units are not without their drawbacks. Not all of the futuristic building techniques conform to American building codes, and the homes tend to be too small and boxy to suit American tastes.

Edward Dean, an architect who has been working with Lee Schipper in the evaluation of Swedish energy conservation measures, has examined the prerequisites for exporting Swedish housing technology to the United States. He finds that the most important question is marketing, irrespective of whether it concerns on-site speculative development, a U.S. factory venture, or direct import. This involves architectural and design considerations as well as the type of sales and promotional approaches appropriate to this kind of product. For example, in the United States certain regional plan and facade treatments are traditionally appealing and may be essential for the targeted buyers. Thus, the question is whether, from a marketing point of view, there now exists in the United States a niche for Swedish quality housing where high performance can be a strong enough selling feature to overcome a slightly higher first cost. In other words: Is what Volvo discovered in the United States auto market also true in the housing sector?

****CRAIG HOLLOWELL LECTURE SERIES****

Dr. Jan Stolwijk, noted Professor of Epidemiology at Yale University School of Medicine, will present the first of the Craig Hollowell Lectures here at LBL. The event has been scheduled for the afternoon of October 25. There will be a separate announcement with information as to time and place mailed out in early October.

RECENT REFEREED JOURNAL ARTICLES

"A New Probe of the Optical Properties of Surfaces," Marjorie A. Olmstead and Nabil M. Amer, J. Vac. Sci. Technol., B 1(3), pp. 751-755 (1983).

"Organometallic Geochemistry, Isolation and Identification of Organoarsenic Compounds from Green River Formation Oil Shale," Richard H. Fish, Raja S. Tannous, Wayman Walker, Carl S. Weiss, and Frederick E. Brinckman, Journal of The Chemical Society, pp. 490-492 (1983)

"A Survey of Radionuclide Contents and Radon Emanation Rates in Building Materials Used in the U.S.," John Ingersoll, Health Physics, Vol. 45, No. 2, pp. 363-368 (1983).

"Indoor Radiation Exposures From ²²²Rn and its Daughters: A View of the Issue," Anthony V. Nero, Health Physics, Vol. 45, No. 2, pp. 277-288 (1983).

"Building Energy Use Compilation and Analysis (BECA). Part B: Retrofit of Existing North American Residential Buildings," Leonard W. Wall, Charles A. Goldman and Arthur H. Rosenfeld, Energy and Buildings, 5, pp. 151-170 (1983).

"Airborne Radionuclides and Radiation in Buildings: A Review," Anthony V. Nero, Health Physics, Vol. 45, No. 2, pp. 303-322 (1983).

"Automated System for Measuring Air-Exchange Rate and Radon Concentration in Houses," W.W. Nazaroff, F.J. Offermann and A.W. Robb, Health Physics, Vol. 45, No. 2, pp. 525-537 (1983).

"Radon Concentrations and Infiltration Rates Measured in Conventional and Energy-Efficient Houses," A.V. Nero, M.L. Boegel, C.D. Hollowell, J.G. Ingersoll and W.W. Nazaroff, Health Physics, Vol. 45, No. 2, pp. 401-405 (1983).

"A Fast and Accurate Method for Measuring Radon Exhalation Rates from Building Materials," J.G. Ingersoll, B.D. Stitt and G.H. Zapalac, Health Physics, Vol. 45, No. 2, pp. 550-552 (1983).

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