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## LBL Publications

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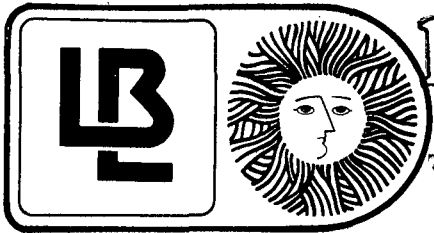
Lawrence Berkeley National Laboratory

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NEWSLETTER

November 1979

Editor: Jeffrey Kessel  
(90-3026, ext. 5297)

Lawrence Berkeley Laboratory

## Energy and Environment Division

### \* DIVISION NEWS \*

- The Scientific and Educational Advisory Committee (SEAC) advises the President of the University of California on the status of research at LBL. At its recent meeting at LBL on October 25-26, the committee heard the following presentations from the Energy & Environment Division:

Introduction - Elton Cairns

Environmental Aerosol Research - T. Novakov

Applied Physics and Laser Spectroscopy Research - N. Amer

Oil Shale Research - P. Fox

Combustion Research - F. Robben

Biomass Conversion - S. Ergun

Passive Solar Cooling - M. Martin

Energy Efficient Building Program-An Energy Efficient Light Bulb -  
S. Berman

The Committee's response to the presentations was strongly positive. Well done, speakers!

### \* HERE COME THE HOLIDAYS! \*

To some of us it seems we just had a Christmas Party -- but, it's that time of year again.

The Energy & Environment Christmas Party will be held at the Haas Clubhouse in Strawberry Canyon on Monday, December 17, from 2:00 'til 5:00 p.m. We will have a catered meal, so skip lunch and plan on spending the afternoon eating, drinking, celebrating and rubbing elbows.

Spouses and significant others are most welcome. Please reserve early by sending Dottie Bottini your check for \$6.50/person.

**For Reference**

Not to be taken from this room

- *Tica Novakov*, group leader of Atmospheric Aerosol Research, has been appointed Program Leader of the Environmental Research Program in the Energy & Environment Division. *Nancy Brown* and *Craig Hollowell* have been appointed Deputy Program Leaders, and will share with Tica the responsibilities for research ranging from trace element analysis to indoor air quality measurement, and from oil shale research to combustion research.

Tica brings to this demanding position not only the requisite patience and sense of humour, but a background which includes both Nuclear Science, in which much of Tica's research was undertaken at LBL in association with *Jack Hollander*, and research on Atmospheric Aerosols in the Energy & Environment Division.

Tica's research on urban atmospheres has been both original and controversial. As early as 1973 he speculated that a major component of the particulate matter found in urban atmospheres is of carbonaceous nature; and arises not from photochemical reactions of gaseous emissions, but directly as soot from combustion sources. Tica's research also pointed out the potential catalytic role of these soot particles in the chemistry of the atmosphere.

These and related findings, initially disputed by other researchers in the field, are now accepted, and are influencing pollution control policy. Present control strategies for carbonaceous particulates are based on controlling gaseous hydrocarbon precursors. Research by Tica and his group at LBL has been influential in causing these strategies to be reevaluated; the automotive industry is now operating under the assumption that a soot standard will be implemented by the Environmental Protection Agency.

- *Ron Ritschard* was recently selected as a member to the Pacific States Regional Technical Working Group Committee of the National Outer Continental Shelf Advisory Board. This committee has been developed to improve and formalize coordination and the flow of technical information required for effective decision-making regarding OCS hydrocarbon development. The purpose of the committee is to advise the Secretary of Interior through the Director of the Bureau of Land Management on technical matters of regional concern regarding both pre-leasing and post-leasing activities.
- *Hal Rosen* has been invited to serve on the Organizing Committee of the First International Workshop on Light Absorption by Aerosol Particles. The committee's first meeting was held in Fort Collins, Colorado, on October 25, 1979.
- *Harvey Blanch* has assumed the responsibilities of Deputy Program Leader of the Chemical Process Research & Development Program from *Scott Lynn*. The Division wishes to thank Professor Lynn for his contributions to the Division and the Chemical Process Research & Development Program. At the same time we offer our congratulations on his recent appointment as Vice Chairman of the Chemical Engineering Department at UCB.

Harvey is presently undertaking research on Cellulose Conversion under the Fuels From Biomass Program of the Solar Energy Research Institute. In conjunction with *Charles Wilke*, research is examining the conversion to ethanol of cellulose from agricultural residues or whole trees. It is hoped this research will result in a cost-effective process for utilizing 'waste' materials to produce valuable liquid fuel.

- Work is beginning on the Energy & Environment Division Annual Report. This year the report will be based on the fiscal year ending on September 30, 1979. Titles of articles were due to be handed in October 26, 1979, to the appropriate section editor. Articles should be written as soon as possible thereafter, since the sections will be separately printed as soon as they are completed and handed over to TID. In this way sections that are completed early will be available in printed form to the Energy & Environment Division Review Committee. This will spare the review committee the task of wading through many centimeters of draft material.
- In case you haven't noticed, the Building 90 Library has moved to Trailer B90P, just south of the main door to Building 90. Around two years ago the Library began building up its energy collection, and soon found itself running out of space and overloading the third floor in Building 90. As a result the library vacated its 1450 ft<sup>2</sup> and moved to a 2100 ft<sup>2</sup> triple trailer. The new quarters provide more (and quieter) space for reading, and the journal display area is three times larger than before (Users now often ask, "Did you really have all these journals when you were located upstairs?").

Despite being a scenic one minute walk from the third floor of Building 90, casual drop-in use of the library has decreased, reports *Carol Backus*. Carol, and the other library staff (*Steve Parker, Cheryl Wodley, and Sheila Stith*) are dismayed that since the move fewer people are casually dropping in to browse and look through journals. In addition to over 300 journals and newsletters the Library receives the Wall Street Journal, the Washington Post, and the Sunday New York Times. People are welcome in the Library to browse their lunches and literature simultaneously.

The Library's reference section has recently been expanded in the areas of energy statistics, policy, and conservation. A wide range of literature searches are available, based on keywords supplied by the user. If you are interested in finding out more about the Library's services stop by and pick up copies of "Cutting Through the Library Maze" and "What Can the Building 90 Library Do For You." Or call the Library at ext. 5091, and order a copy.

- *John Harte* recently received a 50 thousand dollar award from the California Policy Seminar for research on water-energy problems. Most of the research will assess the potential for acid precipitation problems in California in the advent of a major expansion in coal use in the state. This research will be carried out with *Kathy Tonnessen*, a graduate student in the Energy & Resources Program.
- *Peter Jackman* from the Building Services Research Information Association, Bracknell, England, visited the Envelopes Group and presented a seminar on Air Infiltration Studies in England.
- The Building Envelopes Research Group has been measuring the efficiency of the fireplace (with and without energy-saving attachments) at its Walnut Creek Research House. The group has written a pamphlet to guide people to use their fireplaces more efficiently. A sheet was posted

for suggestions for a title. A free subscription to the Energy & Environment Division Newsletter will be given to the first person to guess which of the following suggested titles was actually used:

Fires Are Fun	Forever Ember
The Burning Question	Stove Beats Fireplace--
Hots and Coals	Sparks Fly
Burn This Book	Light My Fire
Burn Baby Burn	Don't Get Burned
Cost-effectiveness-Fireplace	The Fireplace as a Marginally
Efficiencies: Detailed	Effective Peripheral Room
Measurements on a California	Cooler
Fireplace	Wooden You Prefer a Stove
Start the Draft	Chimneys Suck
You and Your Fireplace	The How and Why Book of
Save Energy-Convert Your Logs	Fireplaces
to Oil and Your Fireplace to	More Effective Heating With
a Doghouse	Wood--Carry Logs Rapidly
Luxurious Fireplaces	Back and Forth Throughout
How To Use Your Fireplace for	Your House
Fun and Waste	
Heating With Wood--Walk Rapidly	
Throughout Your House While	
Reading This Pamphlet	

#### \* TRIPS, CONFERENCES AND PRESENTATIONS \*

- *Nabil Amer* gave an invited lecture at the 3rd Liquid Crystal Conference of Socialist Countries, which was held in Budapest, Hungary, August 27-31, 1979. Nabil visited laboratories in Vienna, where he reviewed the latest developments in quantum electronics and applications of photoacoustic spectroscopy to microanalytical chemistry; and in Paris, where he spent a week at l'Ecole Superieure de Physique et Chimie collaborating on an experiment using a new approach for the detection of small optical absorptions.
- *Chris McBride* (not *Harvey Blanch* as reported in the last issue) attended the recent American Chemical Society meeting where he presented a paper, "Bubble Coalescence and Scale-up In Polysaccharide Fermentations."
- *Brian Maiorella* will attend the November meeting in San Francisco of the American Institute of Chemical Engineering (AIChE). Brian will present a paper titled, "Rapid Ethanol Production via Fermentation."
- *Les Packer* and two graduate students, *Toinette Racanelli* and *David Ojcius*, are lucky enough to be invited (with expenses paid) by Dr. Ruben Vallejos (Universidad Nacional de Rosario) to a photosynthesis seminar course at Rosario, Argentina in October 1979.
- *Elton Cairns* attended the 156th Meeting of The Electrochemical Society in Los Angeles, October 14-19, where he presented a paper entitled "High-Temperature Cells and Batteries" and chaired a session on "Electrochemical Processes in High Temperature Batteries and Fuel Cells".

The Second International Conference on Energy Use Management was held in Los Angeles on October 22-26, 1979. This conference, sponsored by the DOE in cooperation with numerous universities and organizations, was planned to examine the issues, problems, and perspectives of energy utilization. The Energy & Environment Division was abundantly represented at the conference, with the following presentations:

- "Thermal Mass: Its Role in Residential Construction," B. Curtis, B. Andersson, R. Kammerud, W. Place, K. Whitley, LBL-9290, June 1979.
- "The Passive Solar Design Process for a Small Office/Laboratory Building," B. Andersson, R. Kammerud, W. Place, LBL-9294, June 1979.
- "The Effect of Occupant Use Patterns on the Performance of Direct-Gain Passive Solar Systems," W. Place and R. Kammerud, LBL-9370.
- "A Heating and Cooling Loads Comparison of Three Building Simulation Models for Residences: TWOZONE, DOE-1, and NBSLD," A. Gadgil, D. Goldstein, and J. Mass.
- "Reducing Swimming Pool Heating Costs," H.W. Sigworth, Jr., J. Wei, A.H. Rosenfeld.
- "Measuring Residential Conservation," A. Meier.
- "Peak Power and Energy Savings by Reducing Infiltration in Residential Buildings," A. Meier, A.H. Rosenfeld, I. Turiel.
- "The DOE-2 Computer Program for Building Energy Analysis, Status and Application to Residential Building Energy Performance Standards," M. Lokmanhekim, R.W. Buhl, R.B. Curtis, S.D. Gates, D. Goldstein, J.J. Hirsch, A.H. Rosenfeld, F.C. Winkelmann.
- "Analysis of Residential Standards," M. Levine.
- "Infiltration and Air Leakage Comparisons: Conventional and Energy Efficient Housing Designs," D.T. Grimsrud, M.H. Sherman, A.K. Blomsterberg, A.H. Rosenfeld.
- "In-situ Testing of Wall Thermal Performance," P.E. Condon, W. Carroll, R.C. Sonderegger.
- "In-situ Measurements of Net Fireplace Efficiency Using Electric Co-Heating," M. Modera and R.C. Sonderegger.
- "The Mobile Window Thermal Test Facility," J.H. Klems, S.E. Selkowitz.
- "Energy Impact of New Energy Efficient Lighting Products," R. Verderber.
- "Impact of Energy Conservation in Buildings on Health," C.D. Hollowell, J.V. Berk, C. Lin, W.W. Nazaroff, G.W. Traynor.

- "Variable Ventilation Control Systems: Saving Energy and Maintaining Indoor Air Quality," I. Turiel, C.D. Hollowell, B.E. Thurston.
- "Air-to-Air Heat Exchangers: Saving Energy and Improving Indoor Air Quality," G.D. Roseme, C.D. Hollowell, A. Meier, A. Rosenfeld.
- "The Effect of Reduced Ventilation on Indoor Air Quality and Energy Use in Schools," J.V. Berk, C.D. Hollowell, C. Lin, I. Turiel.
- The Western States Section of the Combustion Institute held its 1979 Fall Meeting at LBL on October 15-16, 1979. The meeting was hosted by our Division's Combustion Research Group. Among the papers presented were the following:
  - "Network Representation of Enclosure Radiation with Particulate Scattering," C.L. Tien and T.W. Tong.
  - "Flame Structure Measurement of Polymer Diffusion Flames," W.J. Pitz, R.F. Sawyer, N.J. Brown.
  - "Fire Growth Experiments--Toward a Standard Room Fire Test," R.B. Williamson and F.L. Fisher.
  - "Flat Flame Burner Analysis," P.J. Pagni, A. Ortega, and R. Toossi.

\* RECENT LBL REPORTS \*

- The following reports are listed in TID's *Reports Issued*:

May 1979

- LBL-07883 Characterization of Solid Waste Conversion and Cogeneration Systems, Aug. 1978, 225 p., R.L. Ritschard, K.F. Haven, M. Henriquez, J. Kay, and W. Walzer.
- LBL-08323 Free Convective Turbulent Flow Within the Trombe Wall Channel, Apr. 1979, 37 p., T.R. Borgers (Humboldt State Univ.), H. Akbari, and R.C. Kammerud.
- LBL-08386 Analytical Instrumentation - Caveat Emptor, Oct. 1978, 11 p., submitted to Am. Lab., R. McLaughlin.
- LBL-08696 Atmospheric Aerosol Research - Annual Report 1977-78, May, 1979, 165 p.
- LBL-08925 Thermal Performance of Buildings and Building Envelope Systems - An Annotated Bibliography, Apr. 1979, 40 p., presented at the DOE/ASTM Thermal Insulation Conf., Tampa, FL, Oct. 23-24, 1978, W.L. Carroll.
- LBL-08949 Electric Co-Heating - A Method for Evaluating Seasonal Heating Efficiencies and Heat Loss Rates in Dwellings, Mar. 1979, 13 p., presented at the Second CIB Symposium on Energy Conservation in the Built Environment, Copenhagen, Denmark, May 28-June 1, 1979, R.C. Sonderegger, and M.P. Modera.



- LBL-09076 The Broader Consequences of Improved Rural Transport - Three-Wheeled Vehicles in Crete, May 1979, 8 p., presented at the World Future Society Meeting, Berlin, West Germany, May 8-10, 1979, A. Meier.
- LBL-09104 Surface Area Variations of Coal During Solvent Extraction, Feb. 1979, 11 p., submitted to Fuel, D. Medeiros, and E.E. Petersen.
- LBL-09131 A Novel Approach to Photoacoustic Determination of the Thermal Diffusivity of Condensed Matter, Apr. 1979, 1 p., to be presented at the 1st Intl. Photoacoustic Spectroscopy Conf., Ames, Iowa, Aug. 1-3, 1979, Z. Yasa, and N.M. Amer.
- LBL-09132 Photoacoustic Investigation of Atmospheric Aerosols, Apr. 1979, 1 p., to be presented at the 1st Intl. Photoacoustic Spectroscopy Conf., Ames, Iowa, Aug. 1-3, 1979, Z. Yasa, and N.M. Amer.
- LBL-09133 A New Method for the Determination of Absolute Absorption Coefficients by Photoacoustic Spectroscopy, Apr. 1979, 2 p., to be presented at the 1st Intl. Photoacoustic Spectroscopy Conf., Ames, Iowa, Aug. 1-3, 1979, Z. Yasa, and N.M. Amer.
- LBL-09134 Dependence of Piezoelectric Photoacoustic Signal on Sample Properties, Apr. 1979, 2 p., to be presented at the 1st Intl. Photoacoustic Spectroscopy Conf., Ames, Iowa, Aug. 1-3, 1979, W. Jackson, and N.M. Amer.
- LBL-09145 The  $C^{12} (d,n)N^{13}$  Nuclear Reaction for Determination of Carbon in Atmospheric Aerosols, M. Clemenson, S.S. Markowitz, and T. Novakov.
- LBL-09167 A Photoacoustic Investigation of Urban Aerosol Particles, Apr. 1979, 8 p., submitted to Appl. Opt., Z. Yasa, N.M. Amer, H. Rosen, A.D.A. Hansen, and T. Novakov.

June 1979

- LBL-08579 Comments on "Efficiency of the Solid-State Engine Made With Nitinol Memory Material," Nov. 1978, 3 p., submitted to J. Appl. Phys., H.A. Mohamed and R.M. Banks.
- LBL-08827 A Continuous Flow Bioassay Technique for Assessing the Toxicity of Oil-Shale-Related Effluents: Preliminary Results with Two Species of Caddisfly Larvae, Mar. 1979, 15 p., presented at the EPA Oil Shale Sampling, Analysis and Quality Assurance Symposium, Denver, CO, March 26-28, 1979, P.P. Russell, V.H. Resh, and T.S. Flynn.
- LBL-08829 Retort Water Particulates, Mar. 1979, 25 p., presented at the EPA Oil Shale Sampling, Analysis and Quality Assurance Symposium, Denver, CO, March 26-28, 1979, J.P. Fox.
- LBL-08888 Use of Zeeman Atomic Absorption Spectroscopy for the Measurement of Mercury in Oil Shale Gases, Mar. 1979, 15 p., presented at the EPA Oil Shale Sampling, Analysis and Quality Assurance Symposium, Denver, CO, March 26-28, 1979, D.G. Girvin, T. Hadeishi, and J.P. Fox.

- LBL-08901 Intercomparison Study of Elemental Abundances in Raw and Spent Oil Shales, Mar. 1979, 24 p., presented at the EPA Oil Shale Sampling, Analysis, and Quality Assurance Symposium, Denver, CO, March 26-28, 1979, J.P. Fox, J.C. Evans, T.R. Wildeman, J.S. Fruchter.
- LBL-08946 Experimental Study of Combustion in a Turbulent Boundary Layer, Mar. 1979, 6 p., to be presented at the Second Symposium on Turbulent Shear Flows, Imperial College, London, July 2-4, 1979, R.K. Cheng, R.G. Bill, Jr., F. Robben, R. Schefer, and L. Talbot.
- LBL-09002 Interlaboratory, Multimethod Study of an In Situ Produced Oil Shale Process Water, Mar. 1979, 30 p., presented at the EPA Oil Shale Sampling, Analysis and Quality Assurance Symposium, Denver, CO, March 26-28, 1979, D.S. Farrier, J.P. Fox, and R.E. Poulson.
- LBL-09030 Partitioning of Major, Minor, and Trace Elements During Simulated In Situ Oil Shale Retorting in a Controlled-State Retort, Apr. 1979, 15 p., presented at the 12th Oil Shale Symposium, Golden, CO, April 18-20, 1979, J.P. Fox, K.K. Mason, and J.J. Duvall.
- LBL-09040 Control Strategies for Abandoned In Situ Oil Shale Retorts, Apr. 1979, 8 p., presented at the Twelfth Oil Shale Symposium, Golden, CO, April 18-30, 1979, P. Persoff and J.P. Fox.
- LBL-09139 Inventory of Energy Conservation Potential in California: The Cement Industry, Apr. 1979, 44 p., P. Kuhn, K. Hudson, C. Blumstein, and C. York.
- LBL-09177 Extraction of Phenols from Coal Conversion Process Condensate Waters, Jun. 1979, 98 p., M.S. Thesis, D.C. Greminger and C.J. King.
- LBL-09188 An Overview of Biomass Liquefaction, Jun. 1979, 2 p., presented at the 3rd Annual Biomass Energy Systems Conf., Golden, CO, June 5-7, 1979, S. Ergun.
- LBL-09192 Economic Feasibility Assessment of Biomass Liquefaction, Jun. 1979, 2 p., presented at the 3rd Annual Biomass Energy Systems Conf., Golden, CO, June 5-7, 1979, S. Ergun.
- LBL-09214 Measurement and Analysis of Circumsolar Radiation, Apr. 1979, 7 p., presented at the DOE Division of Distributed Solar Technology Contractors' Program Review, Denver, CO, April 3-6, 1979, D.F. Grether, D. Evans, A. Hunt, and M. Wahlig.
- LBL-09231 Change in Physical Characteristics of Roland Seam Coal With Progressive Solvent Extraction, Nov. 1978, 18 p., submitted to Fuel, J. Harris, E.C. and E.E. Petersen.
- LBL-09290 Thermal Mass: Its Role in Residential Construction, Jun. 1979, 1 p. Abs. to be presented at the 4th National Passive Solar Conf., Kansas City, Kansas, October 3-5, 1979, M.B. Curtis, B. Andersson, R. Kammerud, and W. Place.

- LBL-09291 Correlations for Several Important Design Parameters of Turbulent  
Abs. Free Convective Flow Within the Trombe Wall Channel, Jun. 1979,  
1 p., presented at the 4th National Passive Solar Conf., Kansas  
City, Kansas, Oct. 3-5, 1979, T.R. Borgers, H. Akbari, and R.  
Kammerud.
- LBL-09292 The Energy Performance Analysis of Roof Ponds, Jun. 1979, 1 p.,  
Abs. presented at the 4th National Passive Solar Conf., Kansas City,  
Kansas, Oct. 3-5, 1979, H. Akbari, T.R. Borgers, and R. Kammerud.
- LBL-09293 A Comparison of Three Building Simulation Models for Residences:  
Abs. TWOZONE, DOE-1 and NBSLD/BLAST, Jun. 1979, 1 p., presented at the  
4th National Passive Solar Conf., Kansas City, Kansas, Oct. 3-5,  
1979, A. Gadgil, D. Goldstein, R. Kammerud, and J. Mass.
- LBL-09294 The Passive Solar Design Process for a Small Office/Laboratory  
Abs. Building, Jun. 1979, 1 p., presented at the 4th National Passive  
Solar Conf., Kansas City, Kansas, October 3-5, 1979, B. Andersson,  
R. Kammerud, and W. Place.
- LBL-09295 Mean Monthly Performance of Passive Solar Water Heaters, Jun. 1979,  
Abs. 1 p., presented at the 4th National Passive Solar Conf., Kansas City,  
Kansas, October 3-5, 1979, M. Daneshyar, R. Kammerud, and W. Place.
- LBL-09296 Passive Analysis Capabilities of BLAST, Jun. 1979, 1 p., presented  
Abs. at the 4th National Passive Solar Conf., Kansas City, Kansas, Oct.  
3-5, 1979, R. Kammerud and W. Place.
- LBL-09297 An Analysis of Natural Convection in Room Geometries, Jun. 1979,  
Abs. 1 p., presented at the 4th National Passive Solar Conf., Kansas  
City, Kansas, October 3-5, 1979, A. Gadgil, F. Bauman, and R.  
Kammerud.

July 1979

- LBL-08188 Nitric Oxide Determination Utilizing a Zeeman-Tuned, Frequency-  
Modulated Atomic Line Source, Apr. 1979, 34 p., submitted to  
Anal. Chem., H. Koizumi, T. Hadeishi, and R.D. McLaughlin UC 37.
- LBL-08619 Energy and Environment Division - Annual Report 1978, Jul. 1979,  
343 p.
- LBL-08835 Thermal Performance of Insulating Window Systems, Dec. 1978,  
19 p., presented and published in the Proceedings of the ASHRAE  
1979 Annual Meeting, Detroit, MI, June 24-28, 1979, S.E.  
Selkowitz.
- LBL-08997 Water Quality Effects of Leachates from an In Situ Oil Shale  
Industry, Apr. 1979, 39 p., J.P. Fox.
- LBL-09037 Proceedings Carbonaceous Particles in the Atmosphere, March 20-22,  
1978, Lawrence Berkeley Laboratory, University of California, Jun.  
1979, 285 p.

- LBL-09189 Direct Liquefaction of Biomass - Correlative Assessment of Process Development, Jun. 1979, 2 p., presented at the 3rd Annual Biomass Energy Systems Conf., Golden, CO, June 5-7, 1979, C. Figueroa, and S. Ergun.
- LBL-09233 Data Needs for Regional Residential Electricity Sales Forecasting, May 1979, 11 p., to be presented at the 1979 Annual Meeting of the Urban Regional Information Systems Assoc., San Diego, CA, August 19-24, 1979, C. Blumstein.
- LBL-09315 Infrared Radiative Cooling, May 1979, 4 p., presented at the 1979 Intl. Congress of the Intl. Solar Energy Society, Atlanta, GA, May 28 - June 1, 1979, P. Berdahl, and M. Martin.
- LBL-09317 A New Solar Thermal Receiver Utilizing Small Particles, May 1979, 5 p., presented at the 1979 Intl. Congress of the International Solar Energy Society, Atlanta, GA, May 28 - June 1, 1979, A.J. Hunt.
- LBL-09333 A Novel CO<sub>2</sub>/N<sub>2</sub>O Waveguide Laser, Jun. 1979, 11 p., submitted to Opt. Lett., R. Gerlach, and N.M. Amer.
- LBL-09411 Coal Liquefaction Catalysis By Zinc Chloride Melts in Combination With Organic Solvents, June 1979, 27 p., E.A. Grens II, F. Hershkowitz, R.R. Holten, J.H. Shinn, and T. Vermeulen.

\* NEW EMPLOYEES \*

- *Richard Beerman* joins the Building Envelopes group to work on the Passive ETTU, a device for determining the thermal characteristics of walls in situ.
- *Brenda Sharp* has joined the Membrane Bioenergetics Group, where she will be working for *Les Packer* in an administrative capacity. Brenda previously worked in the U.C.S.F. Dept. of Psychiatry.
- *James Pepper* has begun work with the Ventilation group. Jim transferred from LBL's Instrumentation Techniques group, and will be in charge of gathering data with the EEB Mobile Laboratory.
- Five of the seven year-round Lab Co-op students have now been selected: *Patricia Babbitt* will be working for Dick Fish in Oil Shale Research, *Michael Kennedy* will be working for Robert Sonderegger in Buildings Research, *Miles Tashima* has been selected by Bob Miksch to work in Ventilation, *Randy Mandell* joins Mina Bissell in Chemical Biodynamics, and *Dennis Cates* will be working with Gary Roseme in Ventilation.
- And a note from *Les Packer*:  
*Paul Sullivan*, a visiting professor from the Department of Chemistry at the University of Ohio, will be joining the lab for one year and will work on free radical chemistry of carcinogenic hydrocarbons and free radical damage to membranes.

Naoki Kamo, visiting postdoctoral from Hokkaido University, Japan, will be working on photoelectrical aspects of energy conversion by bacteriorhodopsin.

Maury Swanson will be awarded his Ph.D. degree (Dec. 1979) for his work on cytochrome c oxidase (thesis title, "Membrane Organization of Cytochrome c Oxidase"). He will be leaving the lab soon to do a year or two of post-doctoral work in Prof. E. Magoliash's lab at Northwestern University; he has been awarded the prestigious Weizmann Institute of Science Postdoctoral Fellowship.

\* SEMINARS \*

TUESDAYS, 4 P.M., BLDG. 90, Room 3148  
(unless otherwise noted)

- 6 November David Gregg, LLL  
"Preliminary results on solar thermal coal gasification and oil shale retorting"
- 13 November Sabri Ergun, LBL  
"Oil from biomass"
- 15 November Ron Wada, Association of Bay Area Governments  
(Thursday) "Development of an air quality plan for the Bay Area"  
(NOTE: Building 70A, Room 3377)
- 19 November T.V. Long, University of Chicago  
(Monday) "Energy conservation in manufacturing: detailed international comparisons"  
(NOTE: 12:00 noon--bag lunch)
- 20 November Brian O'Connor, LBL  
"Powder diffractometry of airborne particulate samples"
- 27 November Wilson Clark, Special Energy Adviser to Gov. Brown's Office  
"Issues in alternative energy development and implementation"
- 29 November Bill Dark, Jim Krol, Waters Associates  
(Thursday) (NOTE: 1:00-3:00 pm, Demonstration of automated Model 224 liquid chromatography system  
3:00 pm, Seminar: "New developments in HPLC analysis of petroleum- and coal-based fuels and their process effluents"  
Building 70A, Room 3377)

\* AN INTERVIEW WITH NANCY SCHORN \*

E & E: Nancy, what's a nice *bleep* like you doing working at a place like this?

N.S.: That's a long story. Once upon a time, having taught English and Drama in high school, and having to support a husband in graduate school, I

came to work at then UCRL. In 1963 the Lab had a secretarial pool which provided support to all departments on the Hill. I was hired into that. I spent a few weeks working with one group and then moved on to another. I worked for Segre-Chamberlain, TID, Electronics, Animal Research.

E & E: Animal research?

N.S.: Yes, it was very interesting. I watched several operations on dogs and rabbits while I was there. I remember taking home a pregnant mouse and watching the birth of 30 babies. I took them back the next day, though. I also remember that was the time of the Cuban Missile Crisis and since there was no radio in Building 55, I sat in my car listening to the radio to hear President Kennedy. Those were the days when it was possible to park where you worked. I was assigned to the Nuclear Chemistry Department later in that year and asked to remain there because I enjoyed the work and the people there. I quit the Lab in June 1965. My first son was born in November of that year. The next year we bought a house and it became necessary for me to work again. I went back with TID to do report typing. Strange as it may seem, I really loved report typing . . . the more technical the better.

E & E: What's it like working full-time with an infant at home?

N.S.: It's rough. I surely met some awful baby-sitters who caused me a good deal of worry. Finally I found a wonderful older woman who cared for Adam in my home.

E & E: Did you continue working in the Nuclear Chemistry Division?

N.S.: Not at first. I was at TID and then switched to work part-time in Chemistry again. Much of that work was fascinating. You see, I'm a history nut, and much of what I did involved retrieving information and papers for Glenn Seaborg from his files. I learned a lot about the Manhattan Project, the history of the hydrogen bomb decision, and the Oppenheimer case . . . all non-classified, I assure you. In May of 1971 I quit the Lab again, when I was pregnant with my second son, Jason. Two years later my husband and I separated and once again I came back to work at the Lab in TID.

I cannot and do not stop reading history books. One of my dreams is to begin taking courses and eventually get a Master's degree in History. I told this to my older son who is 14 years old now and he said he thought it would take so long that we'd probably graduate together.

E & E: When did you begin working in the Energy & Environment Division?

N.S.: I was loaned by TID to a researcher who was doing work in the area which coincided with E&E-type work. The E&E Division was formed in 1973, with Jack Hollander as head. The man I worked for was actually in CSAM at that time, but was transferred to E&E. I went along with him.

At first the Division had a boom-town atmosphere. The projects and staff were widely scattered around the Hill, had very diverse and sporadic funding and were pretty much left on their own. Will Siri became Program Manager of the Energy Analysis Group in September 1974. We got our first continuous, core funding in January 1975. The Division Office was originally in Building 70A; then moved to Building 50A in early 1974. Our group and Sid Phillips' group were the first to be on the 3rd floor of Building 90.

*E & E:* You work as one of several division administrators. How would you describe your job?

*N.S.:* Interesting and busy. Some days it's like getting hit with a million little pieces of flying glass. Too many small things grab your attention. The main things I deal with are budgeting, accounts, Purchase Orders, supervision of work flow and priorities, etc. Beginning about two years ago Barbara West developed the administrative system we use today: 7 administrators for various E&E projects and/or groups responsible to Barbara for the functioning of each. The system works very well--Barbara stated her needs for administering the Division and leaves the daily detail of the system to the individual administrators. In addition to this, I manage the Energy Analysis Office. Energy Analysis has a core group of about 25 people, with administrative responsibility for about 40 more.

*E & E:* How would you characterize the style of work in the Energy Analysis Group?

*N.S.:* I think that working as a team is the key. I recall some time ago when we had to get out a 220 page report that was being written in pieces by various people. All of us met here on Friday evening. We set up tables in the hallway and formed a production line, with me typing furiously at one end of it. I left at 1:30 a.m. and the others kept on xeroxing until 3:00 a.m. The next draft went out the same way only this time we worked all day Saturday with paper, pizza and beer. The work was hard, but the spirit was high.

*E & E:* Is this typical?

*N.S.:* Not typical, but it happens. In order to stop the frantic late Friday afternoon work sessions we were getting into, I organized a "seminar" for Friday afternoons, when we all get together to relax, learn and fraternize.

*E & E:* Nancy, you always seem to maintain your sense of humor even when you're snarling at people. How do you do it?

*N.S.:* I never snarl, dear, though I have been known to growl late afternoons and early mornings. Seriously, I'm a great kidder and most people seem to accept it. Bob Budnitz' first secretary, Agnes Foster, and I used to insult each other endlessly. When she quit to study to become a para-legal worker her co-workers gave her a big going-away luncheon. A lot of people made speeches and testimonials. She got up to speak and

the first thing she did was look right at Will and say, "When are you going to fire that damn Nancy Schorn? She's worthless." That seems to me to be almost the height of kidding. She and I took that well, but I'm not sure everyone at the luncheon understood.

In our group I try to deal with people as real persons, not simply workers trying to produce something in a given amount of time. Dealing with people as personalities can be great--at other times it's not so pleasant. It goes with the territory. It is wonderful to work with a program leader like Will Siri. He manages to keep a sense of humor in times of crisis.

One real regret I have is how the space crunch has changed how people interact with each other. I'm not just talking about how we are now attempting to put 4 people in offices large enough for 2. It was really a loss when the service departments moved downtown. I used to be able to walk down the hall or go downstairs to talk to people in travel, or business services, accounting or purchasing, when I had a question or a problem arose. We could solve it face to face. Then they moved the service departments off the Hill. Now they seem more like an anonymous business. I miss the daily contacts. I think it made those people feel more a part of the "LBL work," to be on the Hill.

*E & E:* Is your group much more crowded now than a few years ago?

*N.S.:* Well, we haven't moved, but we now have 19 people in the 5-6 offices where we used to have 10 people. That's crowded. The space race gets very bizarre sometimes. I've had trailer space given and taken away from me in the same day. Will always tells me, "Now don't you give up one more inch of space." I really don't know what we can do. I suppose a short-term solution would be to reorder the two trailers for the Building 90 parking lot which were cancelled. Best would be if another building were built on the Hill.

*E & E:* How about closing the interview with a gripe?

*N.S.:* No, this interview has gone on long enough and I don't want to end it that way. I have loved the work here, the people, the atmosphere. I've made a lot of good friends. Just say . . . you've caught me on a mellow day.