LC 1103

ARCHITECTURAL RESEARCH STAFF

U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards
National Engineering Laboratory / Center for Building Technology

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Roy E. Clark

Technical Information Specialist
Rehabilitation Technology Program
Center for Building Technology
National Bureau of Standards

M.A., International Relations, Johns Hopkins University, 1960.
B.A., Philosophy, Pennsylvania State University, 1955.

Mr. Clark is associated with research projects of the Rehabilitation Technology and the Architectural Research Programs. He is concerned with occupant/building interactions, energy use in buildings, and use of metric measurement in construction activities.

Mr. Clark's previous experience at NBS included such positions as a Special Assistant to the Chief of the Engineering and Product Standards Division; a Program Analyst position working for the U.S. Metric Study where his work included managing a survey of Federal civilian agencies as part of that study, assembling a selected, annotated bibliography of useful, world-source literature on metrication and dimensional coordination for the building industry; and a position as a Metric Coordinator coordinating the change over to use of metric measurements in Federal agencies, State and local education departments and industrial and commercial companies. Prior to coming to work for NBS Mr. Clark was an Intelligence Analyst with CIA.

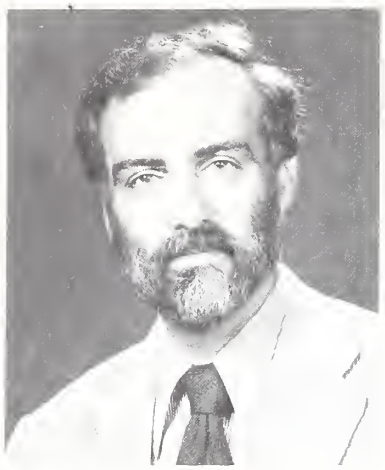
Educational experience: Mr. Clark is currently pursuing studies toward a Masters Degree in Architectural Analysis and Social Planning at Antioch College, Columbia, Maryland.

Publications

"Quantified Occupant-Use Factors Affecting Energy Consumption in Residences," NBSIR (in review, May 1976), co-author.

"Metrication and Dimensional Coordination--A Selected Bibliography," NBS Special Publication 458, April 1977.

"U.S. Metric Study Interim Report: Federal Government Civilian Agencies," NBS Special Report 345-2, July 1971, co-author.



Richard W. Crenshaw

Research Architect
Rehabilitation Technology Program
Center for Building Technology
National Bureau of Standards

M.A., Landscape Architecture, University of Pennsylvania, 1971.
B.A., Architecture, University of Virginia, 1963.

Mr. Crenshaw is the Project Manager providing technical support to a $2 million dollar national demonstration for the Community Services Administration on energy conservation in low income houses. He plans for and supervises a multi-disciplinary team of professionals in CBT. This team is responsible for selecting demonstration sites, individual homes, and architectural and mechanical weatherization options; supervising the collection of data from the demonstration homes before and after weatherization; analyzing the data; and evaluating the homes in relation to that data.

In the past he has been involved in a multitude of solar projects; providing standards for solar systems, encouraging the use of landscaping and windows in conjunction with solar systems, and in the design and construction (on his own time) of a passive solar house in Harpers Ferry, West Virginia.

Other experience includes practice as an architect and contractor in the Washington area and involvement in the design and construction of the new towns of Reston and Columbia.

Publications

"Case Study 22 - Passive Solar House," Pub. AIA Energy Notebook, 1978, Harpers Ferry, West Virginia.

"Energy Conserving Window Options and Design Strategies," BSS 104, 1977, National Bureau of Standards, Washington, D.C., co-author.

"Interim Performance Criteria for Commercial Solar Heating and Combined Heating/Cooling Systems and Facilities," 1977, G.P.O., Washington, D.C., co-author.

"Intermediate Minimum Property Standards for Solar Heating and Domestic Hot Water Systems," NBSIR 76-1059, 1976, National Bureau of Standards, Washington, D.C., co-author.

"Interim Performance Criteria for Solar Heating and Combined Heating/Cooling Systems and Dwellings," 1975, G.P.O., Washington, D.C., co-author.

"Energy Conservation with Landscaping," National Association of Home Building Conference, 1975.

"An Approach to Performance Specifications for Public Buildings," ASCE-IBSE Internation Conference Proceedings, 1972, American Society of Civil Engineers, New York.

"Program for Calculating Heat Flow in a Dome Given Climate and Site Information," 1971, Department of Architecture, University of Southern California, Los Angeles, California.

S. Robert Hastings

Research Architect
Architectural Research Program
Center for Building Technology
National Bureau of Standards

M.S., Architecture, Cornell University, 1972.
B.A., Architecture, Cornell University, 1968.

As a research architect, Mr. Hastings has been involved in energy conservation research at the National Bureau of Standards for the past two years. He has authored several publications including: a pamphlet, "Energy Conservation with Windows," which had a circulation of over 150,000 and was the subject of a Department of Commerce radio interview distributed to over 500 private radio stations, excerpted in 1400 newspapers nationwide; a 200 page book, Window Design Strategies to Conserve Energy reported by the Washington Post to be "one of the most helpful books ever put out by the government"; a data compendium, "Quantified Occupant Use Factors Affecting Energy Consumption in Residences"; and a report describing "Three Proposed Typical House Designs for Energy Conservation Research".

In addition to his own project involvement, he is, or has been, in contact with such other NBS projects as the Twin River-Princeton Study, the Attic Ventilation Study, the NAHB Research Foundation Study of the EER demonstration house, and the Community Services Administration Energy Conservation Program. In addition, he is in contact with researchers at Lawrence Berkeley Labs, Los Alamos Labs, and Sandia Laboratories. International work contacts include the Eidgenössische Technische Hochschule in Zürich, the Swedish Council for Building Research, the Technical University of Denmark, and the Building Research Establishment of Great Britain.

Mr. Hastings also practices architecture as a registered architect and is involved with the design of houses from preliminary design through working drawings and construction supervision. In addition, he is a lecturer on the topic of energy conservation for homeowners and has given presentations throughout Northern Virginia under the sponsorship of the Northern Virginia Community College System.

Publications

"A Comprehensive Approach to Window Design," Proceedings of the 2nd National Passive Solar Energy Conference, Philadelphia, Pa., February 1978.

Three Proposed Typical House Designs for Energy Conservation Research, NBSIR 77-1309, September 1977.

A Preliminary Assessment of the Need for Installation Standards for Window Retrofit Measures, Letter report to FEA, August 1977.

Three Typical House Designs for Energy Conservation Research, Letter report to HUD and ERDA, August 1977.

Performance Evaluation of Window Strategies, RILEM/ASTM/CIB Proceedings, August 1977.

Quantified Occupant-Use Factors Affecting Energy Consumption in Residences, Letter report to HUD and ERDA, June 1977.

Window Design Strategies to Conserve Energy, BSS, April 1977.

"Saving Energy with Window Design Strategies," Washington Post, Newspaper interview, October 1976.

Energy Conservation with Windows, FEA pamphlet, 130,000 copies distributed, 1976.

Stephen T. Margulis

Research Psychologist
Architectural Research Program
Center for Building Technology
National Bureau of Standards

Ph.D., Psychology, University of Minnesota, 1967.
M.A., Psychology, Clark University, 1959.
B.A., Psychology, City College, CUNY, 1956.

Dr. Margulis, trained as a social psychologist, has extensive university teaching and research experience. Since 1971, when he came to the National Bureau of Standards, he has worked on environmental behavior issues.

He has been a project leader on five projects, which include: nationwide postoccupancy evaluation of industrialized housing; analysis of factors associated with doorway accidents; methods to evaluate the technical competence of commercial testing laboratories and their staff; and environmental aspects of privacy. He has been involved with projects on stair and guardrail safety, energy use in residential buildings, physical security against burglary, and health standards for rehabilitated buildings.

Teaching experience: Instructor, Department of Psychology, University of Minnesota; Assistant Professor, Department of Psychology, and Graduate School faculty, University of Florida. Dr. Margulis taught recently at Antioch College East. Courses taught have included: environmental design research methods, environmental psychology, advanced social psychology, theories of social psychology, and nonverbal communication.

Dr. Margulis has published 20 articles and has edited two volumes of original articles on privacy and he has authored or co-authored six letter reports to sponsors (HUD, CPSC, ERDA/DoE).

Publications

Safety on Stairs: A Survey and Inventory, BSS, in press, co-author.

"Privacy as a Behavioral Phenomenon," Journal of Social Issues, 1977, 33(3), volume editor.

"Conceptions of Privacy: Current Status and Next Steps," Journal of Social Issues, 1977, 33(3), 5-21.

"How Environmental Research May Affect the Technical Provisions and Enforcement of Regulations," Research and Innovation in the Building Regulatory Process, (P. Cooke, Ed.), NBS Special Publication 473, (1977).

"Environmental Research Inputs to Policy and Design Programs: The Case of Preparation for Involuntary Relocation of the Institutionalized Elderly," APA Task Force on Environment and Behavior Newsletter, May 1976, pp. 5-9, co-author.

"Privacy," in D. H. Carson (Ed.), Man-Environment Interactions: Evaluations and Applications, (Part II, Vol. 6), Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, 1976, volume editor.

"Privacy as a Behavioral Phenomenon: Coming of Age," in D. H. Carson (Ed.), Man-Environment Interactions: Evaluations and Applications (Part II, Vol. 6: S. T. Margulis, Vol. Ed.), Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, 1975.

"A Comparison of the Opinions of Operation BREAKTHROUGH Occupants and Conventional Housing Occupants About Their Housing," Industrialization Forum, 1975, 6, pp. 21-26.

"The Power of the Printed Word: Its Effect on the Judgment of the Quality of Research," Journal of Social Psychology, 1974, 94, pp. 301-302, co-author.

"Experiment Title as a Source of Sampling Bias in Commonly Used 'Subject Pool' Procedures," Canadian Psychologist, 1973, 31, pp. 367-370, co-author.

"Impression Change and Favorableness of First Impressions: A Study of Population and of Commitment Effects," Psychonomic Science, 1971, 22, pp. 318-320, senior author.

"Attributing Danger as a Means of Explaining One's Fear," Journal of Experimental Social Psychology, 1965, 1, pp. 267-281, co-author.

Kalev Ruberg

Research Architect
Environmental Design Research Division
Center for Building Technology
National Bureau of Standards

M. Architecture, MIT, 1979
B.S.A.D., MIT, 1975

As an exchange research associate from MIT's Department of Architecture, Mr. Ruberg has been involved in passive solar building research at the Bureau since September 1978. He contributed to the development of a comprehensive interdisciplinary plan to deal with the issues of passive and hybrid solar utilization in commercial urban areas, and designed and analyzed the performance of numerous passive solar prototypes in the urban context.

Prior to coming to NBS, Mr. Ruberg was a research and teaching assistant at MIT. He performed research on building thermal performance, solar design, and user evaluation; was involved with the detailing and constuction of MIT's Solar House 5 under Professor T. E. Johnson's direction; participated in the preparation of the **Progressive Architecture's** award-winning research publication **Private Space: Habitability of Apartments for the Elderly** with Ms. G. Epp and Dr. S. Howell; and prepared and directed laboratory work for a graduate course in microclimatically responsive design. His thesis at MIT was the development of a scale modeling procedure for analyzing natural convection in enclosed spaces. An abridged version of the thesis was presented at the Third National Passive Solar Conference in San Jose.

He has visited Canadian, Norwegian, Swedish and Finnish building research establishments, and has studied the climate-adaptive architecture in these countries. He worked cumulatively for 18 months as a designer in major Canadian architectural firms.

Publications:

"Heat Distribution by Natural Convection: Modeling Procedure for Enclosed Spaces", **Proceedings of the Third National Passive Solar Conference,** American Section of the International Solar Energy Society, January 1979.

Private Space: Habitability of Apartments for the Elderly, Design Evaluation Project, Department of Architecture, MIT, 1978 (contributed graphics and data interpretation).

George E. Turner

Research Architect
Architectural Research Program
Center for Building Technology
National Bureau of Standards

M. Arch., Architectural Research, University of Illinois, 1973.
B. Arch., Architectural Design, University of Illinois, 1970.
B.F.A., Interior Design, Ohio State University, 1966.

Mr. Turner is a research architect involved in the study of pedestrian movement in building circulation systems. These studies are aimed at the development of design guidelines and are used as the research basis for building regulations. Currently, measurements are being made of pedestrian flow on stadium ramps. From examinations of relationships between flow variables, generalizable models can be developed for movement on ramps. By understanding flow relationships on various simulation system components, modeling of the overall building circulation will be possible.

Prior to coming to NBS in 1974 Mr. Turner was associated with IDS, Incorporated, and was responsible for architectural project analysis. As a researcher and author, he developed feasibility studies, financial analyses, master plans, architectural programs, and building evaluations. He was the manager of the interior design of Alpha Tau Omega National Headquarters in Champaign, Illinois and Parkview Memorial Hospital in Fort Wayne, Indiana. He also managed promotion in the form of marketing the firms services in the states of Illinois, Indiana, Ohio, Pennsylvania, Maryland, and the District of Columbia. During that employment he wrote several papers and participated in two national design competitions.

Publications

National Institute of Cancer Emergency Virus Facility: A Case Study of Post Occupancy Evaluation, NBSIR 77-1402, 1977.

Book Review of Architecture, Problems, and Purposes, by John Wade, Journal of Architectural Research, August 1977.

Submission to Progressive Architecture 25th Annual Awards Program: A Safety Analysis and Performance Model, Letter report, August 1977.

Jenkins Washington

Research Architect
Architectural Research Program
Center for Building Technology
National Bureau of Standards

B. Arch., Southern University, 1971.
M.E.D., Yale University, 1973.

Mr. Washington has been involved with research projects that are related to physical security. His most recent activity has involved a security demonstration project that is designed to field test physical security standards that were developed in the laboratory at the National Bureau of Standards for doors and windows. Mr. Washington has also worked on a limited basis in the areas of solar energy and energy conservation for residential and light commercial buildings.

Before coming to NBS, he worked as a designer/draftsman in a private architectural firm preparing preliminary design drawings, conducting environmental analyses, developing contract documents, and participating in architectural studies, i.e., architectural programming, graphic designs, etc., for residential, institutional, and commercial buildings.

Mr. Washington is presently interested in research that involves energy conservation and solar energy as a means of providing heating/cooling for residential and light commercial buildings, as well as in evaluating existing requirements related to building rehabilitation.

Publications

Voluntary Standards for the Physical Security of Window Units, Department of Justice, NILECJ STD. 0316.00, August 1976, co-author.

Recommended Criteria for Retrofit Materials and Products Eligible for Tax Credit, NBSIR 75-795 November 1975/updated April 1977, co-author.

ASTM F-12 Review of the NILECJ Standard, July 1975.

Classification of Doors and Locks Data (Security), Report.

Classification of Windows Data (Security), Report.

Comparative Report of Security Related Standards, Specifications, and Codes, April 1975.