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# OCCUPANT SAFETY AND SECURITY STAFF

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

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Brian C. Pierman

Chief, Occupant Safety Program  
Center for Building Technology  
National Bureau of Standards

B.S., Civil Engineering, University of Pittsburgh, 1962.  
M.S., Structural Design, Pennsylvania State  
University, 1964.

Mr. Pierman is the Chief of the Occupant Safety Program. He supervises research in areas related to building safety such as mobile home egress, slippery surface measurement, safety alerting, and access and problems of the handicapped.

Mr. Pierman joined the National Bureau of Standards in 1974 as Manager, Safety Research Programs in the Office of Building Technology. In this capacity, he was responsible for coordination with the Occupational Safety and Health Administration (OSHA) doing research in areas of worker restraint systems as well as worker guardrails. He has been instrumental in the commencement of other projects that are presently underway for OSHA in areas of fire egress from buildings, trenching and excavation safety, and safety signs.

Prior to his service with the Bureau, Mr. Pierman served as the Manager, Architectural and Structural Research Program at the Consumer Product Safety Commission (CPSC). This program was the sponsor for needed research in areas of stair safety, architectural glazing safety, door safety, window safety, as well as building materials fire safety. Mr. Pierman has also been active in worker safety programs as well as spacecraft testing programs at the National Aeronautics and Space Administration (NASA) where he served for seven years.

Mr. Pierman is a registered professional safety engineer and has had courses in systems safety, industrial safety, and safety and health programs. He has received national awards for innovative safety management ideas. He is presently the Secretary for VASCOM, Visual Alerting Systems Committee, an American National Standards Institute oversight body for visual alerting standards, and the Chairman of VASS, Visual Alerting Systems Subcommittee of the Firesafety Symbols Committee of the National Fire Protection Association (NFPA).

#### Publications

"Color in Health Care Facilities," Transactions of a Special Workshop, NBS Special Publication 516, editor, September 1978.

"Building Safety Research at the National Bureau of Standards," Professional Safety Magazine, September 1976.

"Is Safety Research an Accident?," paper presented at the American Association for the Advancement of Science Annual Meeting, Boston, MA, February 23, 1976.

"Architectural Hazards in the Home," Southern Building Code Magazine, Summer 1976.

"Optimization of Subsystem Test Programs," NASA Special Publication, May 1973.

"Reliability Indicators of Sounding Rocket Payloads, NASA Publications, May 1969.

Sanford C. Adler

Research Safety Engineer  
Occupant Safety Program  
Center for Building Technology  
National Bureau of Standards

B.S., Metallurgical Engineering, New York University, 1963.  
M.S. Operations Research, New York University, 1965.  
M.S. Industrial Engineering, New York University, 1971.  
DBA (course work completed), George Washington University.

Mr. Adler conducts research in the area of building user safety. He is currently Project Manager for mobile home egress projects as well as for the planning of necessary research for handicapped egress and for slip resistance standards development.

Mr. Adler joined the National Bureau of Standards in 1970 as an Operations Research Analyst in the Technical Analysis Division. In 1974, he transferred to the Center for Building Technology. In particular, he managed a program to provide technical support to the Consumer Product Safety Commission during the development of a safety standard for architectural glazing products; he conducted a laboratory based evaluation of the emergency egress requirements of the HUD Mobile Home Construction and Safety Standards; and he has directed a research effort on slip-resistance of walkways which lead to the development of the NBS-Brungraber Portable Slip-Resistance Tester. He has authored or co-authored approximately 20 technical reports, many appearing in professional journals.

Prior to joining NBS, his professional experience included work on anti-submarine warfare research aboard the USNS Gibbs (Hudson Laboratories), development of a track-recognition computer program used in basic physics research (Nevis Cyclotron Labs), engineering consulting to a NY based marketing research firm (Markets, Products and People), and systems engineering (IBM Corp.).

Mr. Adler also served as an Assistant Professor of Management Science (U.S. Army, Industrial College of the Armed Forces).

Mr. Adler is a registered professional safety engineer and holds a certificate in data processing awarded by the Institute for Certification of Computer Professionals. He was elected a Fellow of the American Association for the Advancement of Science and the Washington Academy of Science. He is a member of Sigma Xi and a professional member of the American Society of Safety Engineers.

Publications:

Government Enhancement of Civilian Technology, A report submitted to the Assistant Secretary for Science and Technology, U.S. Department of Commerce, February 1971, coauthor.

Automatic Data Processing at the Bureau of International Commerce, NBS Report 10908, September 1972.

Arctic Energy Transport Study: Survey of Government Financing Mechanisms, Report to the Research and Development Office Maritime Administration, U.S. Department of Commerce, March 1973.

"Draft Environmental Impact Statement: Occupational Safety and Health Administration Standard to Regulate the Handling of Fourteen Organic Chemical Compounds," Office of Standards, Occupational Safety and Health Administration, U.S. Department of Labor, May 1973, coauthor.

Some Economic Aspects of an Occupational Safety and Health Standard for the Use of Fourteen Carcinogenic Compounds, Office of Standards, Occupational Safety and Health Administration, U.S. Department of Labor, August 1973, coauthor.

"Background Report on Architectural Glass," NBS Interagency Communication, June 1974, coauthor.

"The Unseen Menace -- A Glass Door," Dimensions, National Bureau of Standards, February 1976, coauthor.

Architectural Glazing Safety Standard: Survey of Codes and Standards, NBSIR 76-1109, June 1976.

"A Study of the Egress Provisions of the HUD Mobile Home Construction and Safety Standard", Letter Report to HUD, July 1976.

Evaluation of the Egress Provisions of the HUD Mobile Home Construction and Safety Standard, NBSIR 77-1246, May 1977.







Belinda Lowenhaupt Collins

Research Psychologist  
Occupant Safety Program  
Center for Building Technology  
National Bureau of Standards

B.A., Psychology, Mary Washington College, 1968.  
M.A., Psychology, University of Virginia, 1971.  
Ph.D., Psychology, University of Virginia, 1973.

Dr. Collins is presently a project manager for visual alerting symbols in the Occupant Safety Program. This activity includes the testing of symbols proposed for national and international standards to ensure building user alerting.

Dr. Collins joined the National Bureau of Standards as a research psychologist in 1974. She has served as project leader of an interdisciplinary project which assessed the overall performance of windows in buildings. As project leader, she was instrumental in defining and developing a project plan, coordinating research and publishing results which are expected to have a substantive impact on window design and building codes. She has also published several papers dealing with both the psychological and behavioral consequences of window systems, and the energy effects of different window design and operational features.

Before coming to the Bureau, Dr. Collins served as a consultant for a U.S. Army project which assessed the response of color defective observers to camouflaged military targets. She reviewed the pertinent research in the area of color vision deficiencies and detection. In addition, she supervised screening of subjects as well as portions of the collection and analysis of data. She co-authored two publications describing results from the literature review and the experimental study.

Dr. Collins is a member of the Optical Society of America, the Illuminating Engineering Society (IES), the IES Daylighting Committee, and the American Association for the Advancement of Science.

Publications:

Simplified Analysis of Thermal and Lighting Characteristics of Windows -- Two Case Studies, BSS-109, February 1978, coauthor.

A New Look at Windows, NBSIR 77-1388, January 1978, coauthor.

Window Usage at the National Bureau of Standards, BSS in press, coauthor.

"Human Response to Windows," RILEM/ASTM/CIB Symposium Evaluation of the Performance of External Vertical Surfaces of Buildings, September 1977.

"Evaluation of Human Response to Building Fenestration," ASHRAE Symposium on Passive Systems for Solar Utilization, June 1977, pp. 405-420.

ERDA/NBS Roundtable on Energy Efficient Windows, April 13, 1977, NBS Special Publication, in press.

Proposed Energy Budget Concept for Use in Building Energy Performance Standards, Letter Report to HUD/ERDA, September 15, 1976, coauthor.

"Windows and Human Satisfaction," Solar Radiation Considerations in Building Planning and Design, BRAB/NAS, Washington, D.C., 1976, 30-35.

"Review of the Psychological Reaction to Windows," Lighting Research and Technology, 8, 80-88, 1976.

"The Broca-Sulzer Effect Under Scotopic Viewing Conditions," Vision Research, 1976, 16, 1439-1443, coauthor.

Windows and People: A Literature Survey of the Psychological Reaction to Environments With and Without Windows, National Bureau of Standards (U.S.), Building Science Series 70, 88 pages, June 1975.



## Neil D. Lerner

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

Ph.D., Psychology, Brown University, 1975  
M.A., Psychology, Brown University, 1973  
B.A., Psychology, University of Wisconsin-Milwaukee, 1970

Dr. Lerner recently joined the CBT staff as a member of the Building Safety and Security Group (March 1979). As a National Research Council (NRC)-NBS Postdoctoral Fellow, he came to NBS in 1974 to research the effects of noise on human performance, memory, and annoyance. He then continued as a Research Psychologist for the Environmental Noise Program Team. Projects included both general issues in the measurement of human response to noise and the evolution of specific environmental and product noise sources. As a member of the Building Safety and Security Group, Dr. Lerner will be primarily concerned with human factors in building safety.

Dr. Lerner's graduate training was in Experimental Psychology (Ph.D., Brown University, 1975). His interests were in basic processes of learning, memory, and psychophysics, in both animals and humans.

### Publications:

"An Analysis of Reactive Responding in Response to Shock", doctoral dissertation, Brown University, 1975.

"Relationship between Noise Aversiveness and Activity Interference", **Journal of the Acoustical Society of America**, 1975, 58 (Supplement 1), S117.

"Does the Headless Roach Learn to Avoid?", **Physiological Psychology**, 1976, 4, 439-442, co-author.

"Duration Discrimination By Rats", **Journal of Experimental Psychology: Animal Behavior Processes**, 1976, 2, 33-312, co-author.

**Preliminary Tests of Psychoacoustic Facilities and Techniques for Studying the Human Response to Transmission Line Audible Noise**, Dept. of Energy HCP/T-6010/EZ, 1977, 1-67, co-author.

"Psychoacoustic Feasibility Studies on Transmission Line Audible Noise", **IEEE Proceedings**, in press, co-author.

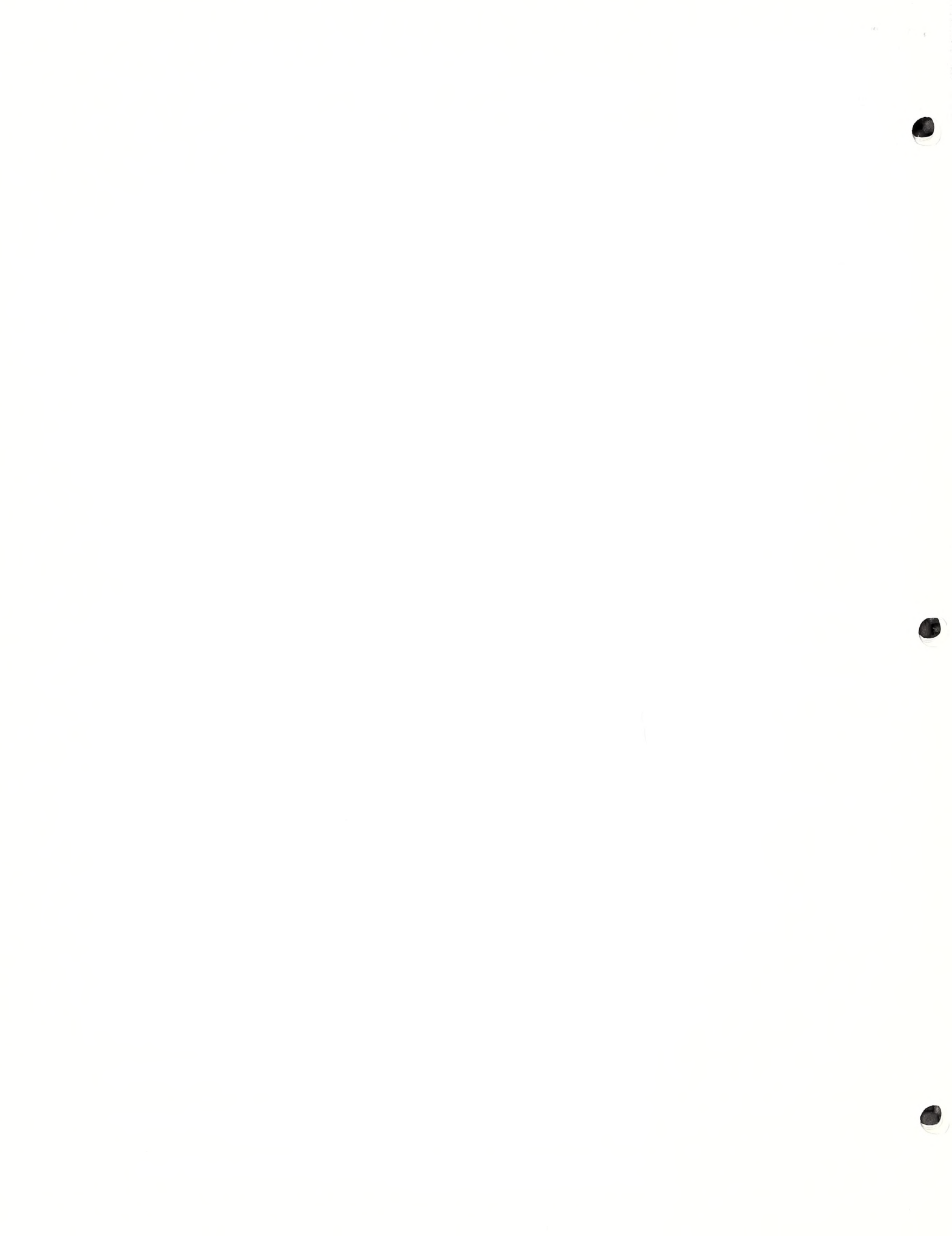
**Initial Psychoacoustic Experiments on the Human Response to Transmission Line Audible Noise**, U.S. Dept. of Energy Technical Report, 1979, in press, co-author.

"Audible Noise from High-Voltage Transmission Lines: Psychoacoustic Findings", to be published in Proceedings of Department of Energy Environmental Control Symposium (**Energy and Environmental Goals: Compatibility Through Environmental Controls**), co-author.

"Psychoacoustic Evaluation of the Audible Noise from Extra-High Voltage Power Lines", **IEEE Proceedings**, in press, co-author.

"Human Response to Audible (Corona) Noise From Electric Transmission Lines", **Journal of the Acoustical Society of America**, in press, co-author.

"Modification of Power Line Noise Spectra to Minimize Environmental Impact", submitted to **Human Factors**, co-author.



Fred I. Stahl

Research Psychologist  
Architectural Research Program  
Center for Building Technology  
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M. Arch., Rensselaer Polytechnic Institute, 1972.  
B. Arch., The City College of the City University  
of New York, 1971.  
B.S., Architecture, The City College of the City  
University of New York, 1970.

Fred Stahl is currently engaged in the development of a computer simulation of human behavior in fires for the U.S. Public Health Service, Dept. of Health, Education and Welfare. In addition, he is actively involved in research on pedestrian movement, and is developing an agenda for technical research on access to, movement within, and egress from buildings and sites.

In the past, he has planned, managed, and conducted research on problems of architectural design methodology, low-income public housing, life safety from fire, and the utilization of the environment by handicapped persons. Recently he completed an assessment of the technical literature on emergency egress from buildings for the Occupational Safety and Health Administration.

Prior to this arrival at the Bureau in 1976, Mr. Stahl taught architectural design, environmental design methodology, and architectural photography as an Instructor of Architecture at Kansas State University. He also taught man-environment systems and environmental psychology as a Visiting Instructor of Architecture at Pratt Institute.

Publications

A Computer Simulation of Human Behavior in Fires:  
Interim Report, NBSIR 78-1514, September 1978.

Human Response to Fire: Three Designs for Research,  
NBSIR 78-1508, August 1978.

An Assessment of the Technical Literature on Emergency  
Egress from Buildings, NBSIR 77-1313, October 1977, co-author.

Simulating Human Behavior in High-Rise Building Fires:  
Modeling Occupant Movement Through a Fire-Floor From  
Initial Alert to Safe Egress, NBS-GCR 77-92, June 1975,  
issued August 1977.

"Some Prospects for Simulating Human Behavior in High-Rise  
Building Fires: A Pilot Demonstration." In Suedfeld, P.,  
and Russell, J.A. (Eds.), The Behavioral Basis of Design,  
Stroudsburg, PA: Dowden, Hutchinson, and Ross, 1976,  
pp. 211-218.

High-Rise Fire Safety: An Annotated Bibliography,  
Monticello, IL: Council of Planning Librarians,  
Exchange Bibliography #823, June 1975.

"Buildings of a Region: A Photographic Essay," Kansas  
Quarterly, Vol. 6, No. 2, pp. 24-29, 1974.

"Review of: Equipotential Space, by R. Severino,"  
Journal of Architectural Research, Vol. 3, No. 1, 1974.

Review of: Symbol Sourcebook, by H. Dreyfuss," Journal  
of Architectural Research, Vol. 3, No. 3, 1974.

"Effects of Housing Project 'Size' on Environmental  
Maintenance Concern and Behavior." In Kouskoulas, V.  
(Ed.), Urban Housing, Detroit: Wayne State Univ., 1973,  
pp. 133-136.

"Environmental Maintenance Concerns and Behaviors of  
Occupants of 'Large' and 'Small' Low-Income Housing  
Projects." Monograph printed and distributed by AIA,  
September 1972.



John S. Stroik

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

Registered Architect, Pennsylvania.  
B. Arch., University of Pennsylvania, 1958.

Mr. Stroik is currently leading a demonstration project to field test security standards for doors and windows and serving as Chairman of ASTM Committee F-12, Security Systems and Equipment and Chairman of an NBS/ASTM Symposium on Building Security, 1979. In the past he has developed security standards for doors and windows; provided research in energy conservation, law enforcement facilities, building performance, building codes and standards.

As an architect in private practice for 15 years, Mr. Stroik designed buildings for education, health care, administrative, commercial, industrial and residential uses. Prior to his arrival at NBS in 1972, Mr. Stroik served as Chief Architect with Morton L. Fisherman Associates in Philadelphia. Other experience includes positions with private firms in Philadelphia as an architect and designer, and a position as an architect with Llewelyn-Davies, Weeks and Partners in London from 1964 to 1966.

#### Publications

Physical Security of Door Assemblies and Components, NILECJ-STD-0306.00, May 1976, co-author.

Standard Test Methods for Security of Swinging Door Assemblies, ANSI/ASTM F476-76 Standard, November 1976, co-author.

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

Literature Search: Law Enforcement Facilities - Planning, Design, Construction, NBS Tech Note 859, November 1975, co-author.

Terms and Definitions for Door and Window Security, NBS SP 480-22, May 1977.

