

RESUME

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QUALIFICATIONS

1. 1963 BACHELOR OF ARCHITECTURE, UNIVERSITY OF VIRGINIA
2. 1969 NCARB ARCHITECTURAL REGISTRATION MARYLAND, VIRGINIA AND WASHINGTON STATE
3. 1971 MASTER OF LANDSCAPE ARCHITECTURE FROM IAN MCHARG, UNIVERSITY OF PENNSYLVANIA
4. 1972 SCHOLARSHIP TO SILT PILE ONE WITH PAOLO SOLERI
5. 1980 CHARTER MEMBER NATIONAL INSTITUTE OF BUILDING SCIENCE
6. 2001 MEMBER U.S. GREEN BUILDING COUNCIL
7. MEMBER STRUCURAL INSULATED PANEL ASSOCIATION
8. 20 YEARS OF SOLAR RESEARCH
9. 30 YEARS OF EXPERIENCE BUILDING HOUSES
10. PROGRAM MANAGER FOR DESIGN OF NEIGHBORHOOD AND VILLAGE CENTERS AT ROUSE CO.
11. DEPUTY PROGRAM LEADER TO THE ENERGY EFFICIENT BUILDING PROGRAM AT LAWRENCE BERKELEY LABORATORY.
12. OWNER, DESIGNER, BUILDER OF A SOLAR HOUSE THAT HAS SUPPLIED ALL ITS HEATING AND 80% OF ITS ELECTRICITY FROM RENEWABLE RESOURCES FOR LAST 20 YEARS
13. ASSOCIATE PROFESSOR IN THE SCHOOL OF ARCHITECTURE AT FLORIDA A & M UNIVERSITY TEACHING ENVIRONMENTAL TECHNOLOGY AND DESIGN
14. 2010 PROFESSIONAL MEMBER IN PASSIVE HOUSE ALLIANCE
15. HOME ENERGY RATER (HERS)
16. PASSIVE HOUSE RATER

HISTORY

PASSIVE HOUSE 2010 – 2012

For the past 2 years I have focused on Passive House an old concept in the US but developed by Europe where 30,000 have been built and which reduces the energy consumption in houses by 90%. This concept will revolutionize the housing industry in the US and make the same impact on houses that electric cars are making on the auto industry. The combined impact of the two efforts may reduce the overall energy consumption of the US by 25%. I have developed a lecture on Passive House and have two clients who want me to design and build a Passive House. I am also doing research on using thermal mass to distribute heat/cool in these houses instead of ducts.

MAGGIE'S MUSIC 1991 – 2009

For nineteen years my wife Maggie and I developed and ran an independent record label. We started with my wife's music and then signed eight other artists. We built the company into sixty albums and a revenue base of one million dollars per year. (See www.maggiesmusic.com.) I was responsible for album covers, the Web site, accounting, inventory, the physical plant and managing personnel. She was responsible for marketing, tours and recording the music. From the profits of the company we were able to create a sustainable home with organic vegetable gardens and a passive solar house. This house has been part of the ASES National Tour of Solar Homes for the last fifteen years

FLORIDA A & M UNIVERSITY 1985 – 1990

For five years I taught at the School of Architecture at Florida A & M University as an Associate Professor. I taught both Environmental Technology and Design. In Environmental Technology I taught a series of three courses. They began with a course on comfort, passive heating and cooling and HVAC, and then went on to a course on daylighting, lighting, electricity, acoustics and indoor air quality and finally ended with a course on field measurement. In the final course actual buildings were measured, evaluated and recommendations were made for their improvement. Along with this series of courses there were Labs. In the Labs I instructed students on how to evaluate the thermal and day lighting aspects of their designs. We did heat load calculations, ran computer energy simulation programs, created light distribution curves for lighting fixtures designed by students, and made daylight measurements of student's models both outside and in our 10' x 10' indoor artificial sky. In the design studio I paid a great deal of attention to the detail use of buildings and their sites and to the use of environmental technology as a Building Form generator.

LAWRENCE BERKELEY LABS, UNIVERSITY OF CALIFORNIA 1982 – 1985

For three years I worked at Lawrence Berkeley Laboratory (LBL) as Deputy Program Leader to the Energy Efficient Building Program (EEB) under Art Rosenfeld. EEB was an eight million dollar, one hundred person research program consisting of five subprograms devoted to research on infiltration, daylight, windows, lighting, indoor air quality, conductive heat transfer data and computer modeling (DOE-2). My work here was concerned with planning, contracts, budgets, personnel, space allocation and review of publications. I was also able to continue my research on comparing calculated and measured data on energy use in houses.

NATIONAL BUREAU OF STANDARDS (NBS) 1971 – 1982

For eleven years, I worked at the Center for Building Technology (CBT) at NBS on performance specifications and energy. The first four years were spent working on; (1) Operation Breakthrough (industrialized housing), (2) developing the PBS Performance Specifications for Office Building (the Peach Book), (3) a performance version of the Minimum Property Standards (4) a performance guidelines for evaluating the design of housing sites, and (5) a performance specifications for windows. The next seven years I worked on solar energy and energy conservation. My work in this area began with performance specifications for active and passive solar buildings. Then out of frustration with the lack of field measurements, I located funding at the Community Services Administration (CSA), organized and managed a 3 million dollar demonstration of energy conservation (known as Optimum Weatherization) in low-income housing. I spent two and a half years managing this project which involved contracting, budgeting, data processing, and coordinating people at 12 sites across the U.S. The project demonstrated to Congressional conclusively in 1982 that for an investment of \$1700 the consumption of existing houses could be reduced on an average by 42%. The cost data collected was used as input to an energy consumption computer model CIRA developed at Lawrence Berkeley Laboratory and then the consumption data was used to validate the program. As part of this demonstration, data was also collected on infiltration (blower door), mechanical systems efficiencies, air quality, temperature stratification, and comfort.

MASTERS OF LANDSCAPE ARCHITECTURE 1969 – 1971

For two years I studied Landscape Architecture under Ian McHarg at the University of Pennsylvania. I took courses in operations research, geology, soils, ecology, computer technology, climatology, architectural psychology, design, mapping, and site planning. A group of us developed a computer model for overlaying maps to evaluate land use (the first GIS) and I worked with Prof. Bill Lowry, a biometeorology's, modeling the effects of landscape on the energy consumption of houses.

ROUSE COMPANY 1965 – 1969

For four years I worked at the Rouse Company as project coordinator for village and neighborhood centers in the new town of Columbia, MD. I was responsible for evaluating proposed building sites, for developing building programs, for budgeting, for coordinating the work of architects and contractors. At neighborhood centers, I carried the additional responsibility of directing two draftsmen in the preparation of design drawings, construction drawings, and specifications

PROFESSIONAL PRACTICE 1963 – 2011

For six years after my graduation from architecture school and during my summers in graduate school, I worked in architectural offices and on construction sites. During this time, I worked as a draftsman, designer, job captain, carpenter and general contractor. I worked on houses, office buildings, apartments, dormitories, hotels, shopping centers, and churches. I designed a group of inexpensive townhouses in Reston, VA and acted as general contractor in the remodeling of a house in Georgetown, DC. In 1966 I became an associate in the firm of Douglas Stenhouse and Associates. In 1969, I worked as a design consultant to Mark Beck & Assoc. Where I dealt with architectural programming and energy analysis. In this capacity I developed a program and a design for a builder's solar house and worked on DOE's Solar Data Network. I have become a member of the Green Building Council and have prepared a submittal to the Council for a LEED award for the Mt Rainier Police Station. I have written numerous papers on energy conservation and won the education award as coauthor from Los Angeles American Planning Association for organizing and editing the book Sustainable Cities, published in 1993. This book was used by many universities as a textbook for sustainable design. I have been a consultant to EcoVillage in Ithaca and have taught at Anne Arundel Community College in 2008 & 2009 three courses on building a new solar house, retrofitting an existing house and building solar doll houses. I use REVIT (BIM Program), SketchUp and AUTOCAD and offer architectural services to anyone who wants to build a Passive House.

WEST RIVER WATERSHED 2002 – 2008

Drawing from my graduate environmental education at the University of Penn I have been involved in watershed management and data collection for my community. I have participated in the Chesapeake Bay Foundation's programs on Grasses for the Masses, Stream Wader, Oyster Gardening, and Submerged Aquatic Vegetation Hunters. I have also contributed data on the migration of birds through the watershed to Cornell Laboratory of Ornithology as part of the Feeder Watch Project. I have been pushing for zoning based on soils, and collecting and analyzing data once a month on dissolved oxygen, salinity, conductivity, PH, temperature, and turbidity at 6 points in the West River for four years.

MILITARY SERVICE 1956 – 1958

USNR Preflight School in Pensacola FL, Deck hand aboard Aircraft Carrier CVA-15 USS Randolph.

RELIGIOUS AFFILIATION

Buddhist (ordained as lay priest by Thich Nhat Hanh) / Christian (I teaching Sunday School and Mindful Meditation at Christ Episcopal Church in West River MD)

HOBBIES – Sailing and Gardening

PUBLICATIONS

Chapman, Robert E.; Crenshaw, Richard; Barnes, Kimberly A.; Chen, Phillip T.
Optimizing Weatherization Investments in Low-Income Housing: Economic Guidelines and Forecasts. U.S. Department of Commerce, Washington, D.C. February, 1990.

Crenshaw, Richard. *Thermal and Economic Performance of Low-Income Housing.*
Lawrence Berkeley Laboratory, University of California, Berkeley, California. June, 1982.

Crenshaw, Richard. *Instrumental Residential Audits.* Lawrence Berkeley Laboratory,
University of California, Berkeley, California. August, 1982.

Crenshaw, Richard; Clark, Roy E. *Optimal Weatherization of Low-Income Housing in the U.S.: A Research Demonstration Project,* BSS 144. U.S Department of Commerce, Washington, D.C. September, 1982.

Crenshaw, Richard; Clark, Roy; Chapman, Robert; Grot, Richard; Godette, McClure.
CSA Weatherization Demonstration Project Plan. U.S. Department of Commerce, Washington, D.C. March, 1979.

Crenshaw, Richard. *Case Study 22 – Passive Solar House Harpers Ferry, West Virginia,*. Pub. AIA Energy Notebook, 1978.

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

Hastings . Robert S; Crenshaw, Richard. *Window Design Strategies to Conserve Energy.* BSS 104 U.S. Department of Commerce, Washington, D.C. June, 1977.

Crenshaw, Richard, co-author. *Intermediate Minimum Property Standards for Solar Heating and Domestic Hot Water Systems.* NBSIR 761059. National Bureau of Standards, Washington, D.C. 1976.

Crenshaw, Richard. *Energy Conservation with Landscaping.* National Association of Home Building Conference. 1975.

Crenshaw, Richard, co-author. *Interim Performance Criteria for Solar Heating and combined*

Heating/Cooling Systems and Dwellings. G.P.O., Washington, D.C., 1975

Crenshaw, Richard. An Approach to Performance Specifications for Public Building. ASCE-IBSE International Conference Proceedings, American Society of Civil Engineers, New York, 1972.

Crenshaw, Richard. Program for Calculating Heat Flow in a Dome given Climate and Site Information. Department of Architecture, University of Pennsylvania, Philadelphia, PA, 1971.