

CHEMICAL HERITAGE FOUNDATION

**STEPHEN M. DENNING**

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview  
Conducted by

Marcia L. Meldrum

at

Duke University Medical Center  
Durham, NC

on

23-25 August 1995

From the Original Collection of the University of California, Los Angeles

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INTERVIEWEE

*Stephen M. Denning*  
(Signature)

Stephen M. Denning  
(Typed Name)

Duke University Medical Center  
Department of Medicine

Box 31203  
(Address)

Durham, North Carolina 27710

X Date August 23, 1995

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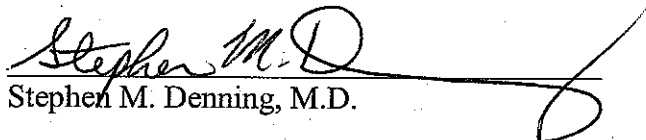
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## STEPHEN M. DENNING

1954 Born in Murphy, North Carolina on 19 March

### Education

1976 B.S., Duke University  
1980 M.D., Duke University

### Research Appointments

1980-1981 University of Chicago Hospitals and Clinics  
Intern  
1981-1983 Resident  
  
1983-1984 Duke University Medical Center, Division of Cardiology  
Clinical Fellow  
1985-1987 Research Fellow

### Professional Experience

1987-1989 Duke University, Department of Medicine  
Assistant Professor  
1989-present Associate Professor

### Honors

1976 Phi Beta Kappa  
1987 Clinician Scientist Award, American Heart Association  
1990-1994 Pew Scholar in the Biomedical Sciences

### Selected Publications

Denning, S.M. et al., 1987. Human thymic epithelial cells can function as accessory cells for autologous mature thymocyte activation. *Journal of Immunology*, 138:680-86.  
Denning, S.M. et al., 1987. Monoclonal antibodies to CD2 and LFA-3 antigens inhibit



- human thymic epithelial cell dependent mature thymocyte activation. *Journal of Immunology*, 139:2573-78.
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- Haynes, B.F. et al., 1989. CD44--a molecule involved in leukocyte adherence and T-cell activation. *Immunology Today*, 10:423-28.
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## ABSTRACT

**Stephen M. Denning** was born in Murphy, North Carolina, a small town in the foothills of the Appalachians, and “about as far west in North Carolina as you could go”; he grew up in nearby Rutherfordton. Both parents were teachers, and his one sibling, a younger brother, became a teacher—of biology—as well. From an early age, Denning was attracted to science; he remembers being enthralled by Sputnik and the United States’ subsequent space program. Denning loved to read, especially about science. Biographies of scientists like Marie Curie and Louis Pasteur—and of course a chemistry set—encouraged his interest in chemistry and physics. He also evinced an early interest in electronics and took up photography as a hobby as well; this hobby he pursues today, when he has time. He was selected for several programs established to enrich education for gifted children, including the Governor’s School in Winston-Salem, and found that in high school he tended to know more of some subjects (especially mathematics) than the teachers; but he had one outstanding teacher, for biology, who really inspired him. For fun, Denning and his family hiked and camped; Denning played touch football and built rockets. When he was in high school, on weekends and after school he worked in a hospital, where he drew blood and learned to analyze it.

Denning attended Duke University, receiving his BS in chemistry. The chemistry majors of his year formed a close-knit group, doing lab work and generally working together, unlike in the biology department, where competition was more prevalent. Denning applied to graduate schools in chemistry and to medical schools, unsure which course he wanted to pursue. An emeritus professor of chemistry, Marcus Hobbs, convinced him to go into medicine, as there would be more breakthroughs and discoveries in that field than in chemistry. Denning attended Duke Medical School; there he did research with Sheldon Pinnell on collagen antibodies; and then he did his internship and residency at University of Chicago. In Chicago he met his wife, Judith J. Johnson, a nurse in a medical intensive care unit. He then accepted a fellowship in cardiology under Joseph C. Greenfield at Duke University, where he has remained. He joined Barton Haynes’ laboratory where he began research into the development of T cells in the human fetus and in immune response in general. His greatest interest is in the intersection between his clinical work and his research on molecular mechanisms and their therapeutic or interventional value. Denning continues to balance family—his wife, Judith, a nurse anesthetist now, and two young sons—and his work; to attempt to interest medical students in research; and to seek funding for ever more research.

## UCLA INTERVIEW HISTORY

### INTERVIEWER:

Marcia L. Meldrum, postdoctoral fellow, UCLA Department of History. B.A., University of Minnesota; M.B.A., Boston University; M.A., Ph.D., State University of New York at Stony Brook.

### TIME AND SETTING OF INTERVIEW:

**Place:** Denning's office, Duke University Medical Center.

**Dates, length of sessions:** August 23, 1995 (138 minutes); August 24, 1995 (151); August 25, 1995 (86).

**Total number of recorded hours:** 6.25

**Persons present during interview:** Denning and Meldrum.

### CONDUCT OF INTERVIEW:

This interview is one in a series with Pew scholars in the biomedical sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts's Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The Project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships since 1988.

To provide an overall framework for Project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Meldrum then held a telephone pre interview conversation with Denning to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. Meldrum further reviewed the documentation in Denning's file at the Pew Scholars Program office in San Francisco, including his proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For technical background, Meldrum consulted Brigitte T. Huber and Ed Palmer, eds. *Superantigens: A Pathogen's View of the Immune System*. Plainview, New York: Cold Spring Harbor Laboratory Press, 1993; Charles Janeway and Paul Travers, *Immunobiology: The Immune System in Health and Disease*. New York: Garland Publishing Company, 1994; Pauline M. H. Mazumdar, ed., *Immunology 1930-1980: Essays on the History of Immunology*. Toronto: Wall and Thompson, 1989; and recent articles on immunology in *Scientific American*.

The interview is organized chronologically, beginning with Denning's childhood in rural North Carolina and continuing through his undergraduate and medical education at Duke University, his residency at the University of Chicago, and his research in immunology at Duke University Medical Center. Major topics discussed include the development of T cells and other components of the immune system, the relationship between research and clinical work, the

evolution of the immune system, and funding problems facing the scientific community.

ORIGINAL EDITING:

Kristian London, editor, edited the interview. He checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Denning reviewed the transcript. He verified proper names and made minor corrections. London prepared the table of contents, biographical summary, and interview history. Jennifer Glenn, Gold Shield intern, compiled the index.

## TABLE OF CONTENTS

Family Background	1
<p>Growing up in western North Carolina. Childhood interest in science. Involvement in programs for gifted students. High school classes. Part-time work in a clinical laboratory. Denning's first chemistry set. Interest in electronics and photography. Parents' expectations regarding education.</p>	
College Years	18
<p>Decides to attend Duke University. Relationship with other chemistry majors. Senior thesis on the mathematics of molecular structures.</p>	
Medical School	26
<p>Remains at Duke for medical school. Medical school rotations. Research with Sheldon R. Pinnell on collagen antibodies--Internship and residency at University of Chicago. Meets wife, Judith J. Johnson. Decides to specialize in cardiology under Joseph C. Greenfield. Duties of cardiology fellows at Duke.</p>	
Post-graduate Work	43
<p>Arranges to do research in the Barton F. Haynes's laboratory. Development of T cells in the human fetus. Mitosis in thymocytes. Mitogens and antigens in immune response. Role of epithelial cells in thymocyte mitosis. CD4<sup>+</sup> cells, CD8<sup>+</sup> cells, and CD4<sup>+</sup>CD8 cells. Interleukins 1 and 2 in thymocyte mitosis. Collaboration with Timothy A. Springer on role of lymphocyte function-associated antigens in binding together epithelial cells and developing lymphocytes. Isolating stem cells. Importance of purity. Natural killer cells from TN cells.</p>	
Continuing Life in the Lab	61
<p>Collaboration with Haynes. Structure and atmosphere of Denning's lab. Clinical duties. Intersections of Denning's clinical work and his research. Collaboration with Rebecca H. Buckley. Experiments with CD3 in hopes of finding the genetic switch that regulates T cell development. Research on terminal deoxynucleotidyl transferase and lymphocyte splicing. Current directions of Denning's T cell research. Further projects on interleukin 2 and adhesion molecules.</p>	
Funding and General Thoughts	71
<p>Denning's Pew Scholars Program in the Biomedical Sciences award. His other funding sources. His family life. Efforts to expose medical students to the world of research. Research on molecular mechanisms that will affect the practice of clinical medicine. Funding problems in the scientific community. Current research questions in the field of immunology. Difficulties minorities and women face in becoming researchers. Johnson's career as a nurse anesthetist.</p>	
Index	111

## INDEX

- I**  
13 chains, 102
- A**  
a3, 63  
A5, 64  
Acquired Immune Deficiency Syndrome, 53, 60, 65, 72, 75, 77, 78, 95, 105  
actin, 93  
affinity, 33  
agarose, 33  
AIDS. See Acquired Immune Deficiency Syndrome  
Alzheimer's, 94  
American Heart Association, 86, 87, 98  
amino acid, 33  
Amos, D. Bernard, 45  
angioplasty, 40  
antibodies, 31, 32, 33, 34, 35, 43, 45, 46, 54, 57, 62, 87  
antigen, 45, 47, 48, 49, 50, 53, 55, 57, 62, 75, 76, 102, 103  
atom, 24, 25  
autoimmune, 47, 103
- B**  
B cells, 48, 55, 56, 58, 75, 76, 79, 80  
B lymphocyte, 46, 55, 59, 60, 84  
Banks, Grant, 12  
basophils, 59  
beta blockers, 39  
biochemical, 32  
biology, 2, 6, 8, 9, 11, 13, 18, 21, 26, 28, 43, 60, 90, 100, 103, 105  
bone marrow, 46, 48, 58, 59, 60, 66, 76  
Bowman-Gray University, 27  
Buckley, Rebecca H., 75, 76  
Buff, Marjorie, 8
- C**  
c3, 62, 63, 64, 70  
cardiology, 38, 39, 40, 41, 42, 43, 44, 72, 74, 91, 92, 94, 98, 109  
catheterizations, 42, 43  
CD2, 57, 58  
CD3, 63, 67, 70, 78, 79, 83, 86  
CD3 5, 67, 78, 79, 80, 83  
CD4, 53, 54, 56, 57, 61, 63, 65, 68, 105  
CD4<sup>+</sup>, 53  
CD4<sup>+</sup>CD8<sup>+</sup>, 54  
CD54, 57  
CD8, 53, 54, 56, 57, 61, 63, 68, 70, 71, 86  
CD8<sup>+</sup>, 53, 68  
chemistry, 6, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22, 26, 27, 52, 94, 108  
Chicago, Illinois, 35, 36, 37, 38, 40  
clinical, 7, 12, 27, 28, 29, 31, 41, 42, 43, 74, 75, 83, 88, 91, 92, 94, 95, 96, 97  
Coats, North Carolina, 3  
collagens, 31, 32, 33, 34, 35  
concanavalin A, 47  
Copernicus, 6  
copper sulfate, 14  
Cresswell, Peter, 45  
Curie, Marie, 6  
cyanogen bromide, 33  
cyclosporin/cyclosporine, 83  
cyclosporin/cyclosporine, 83  
cystic fibrosis, 31, 99  
cytotoxic, 53  
cytotoxicity, 66
- D**  
Denning, Curt Patrick (son), 4, 88, 110  
Denning, Faye Barbour (mother), 1, 89  
Denning, Garland Eugene (father), 1  
Denning, Melvin (paternal grandfather), 3  
Denning, Michael S. (brother), 2  
Denning, Stephen Christopher (son), 2, 4, 88, 89, 110  
Denver, Colorado, 102  
dephosphorylase, 51  
dermatology, 33, 34  
DNA, 34, 50, 51, 52, 53, 79, 80, 81, 83, 92

DNAX research Institute, 67  
double positive, 53, 54, 56  
Duke University, 18, 19, 20, 23, 24, 26, 27,  
35, 36, 40, 41, 42, 44, 48, 88, 90, 91, 94,  
102  
Dunn, North Carolina, 3  
Durham Regional Hospital, 88, 109

## E

E. I. du Pont de Nemours and Company, 83  
Ebola, 11, 77  
Einstein, Albert, 26  
electron paramagnetic resonance, 24  
electronics, 14, 15  
enzyme, 34, 99, 103  
eosinophils, 59  
epithelial, 50, 51, 52, 53, 56, 57, 58, 59, 62,  
63, 84  
extracellular matrix proteins, 31

## F

FK506, 83, 84  
flow cytometry, 62, 72  
funding, 16, 60, 86, 87, 97, 99, 100, 101

## G

Galileo, 6  
genotype, 31  
Goode, Jim, 8  
Governor's School, 15, 16  
Gray, Robert, 7  
Greenfield, Joseph C., Jr., 41, 42, 43, 44

## H

Hantavirus, 11, 78  
Harnett County, North Carolina, 3  
Harvard University, 57  
Hayesville, North Carolina, 1, 5  
Haynes, Barton F., 43, 44, 45, 46, 50, 71,  
72, 105  
heart attack, 3, 39  
helix, 35  
hemoglobin, 13, 43  
histocompatibility locus antigen, 45, 64, 66,

103

HLA. See histocompatibility locus antigen  
Hobbs, Marcus E., 26  
Hudson, Mrs., 8  
Human Genome Project, 81  
Hyde Park (Chicago, Illinois), 37  
hypertrophic cardiomyopathy, 93

## I

I, 102  
I3, 62, 64, 102  
ICAM. See intercellular adhesion molecule  
immune system, 58, 60, 65, 75, 77, 91, 96  
immunodeficiency, 75, 76, 82, 95  
immunology, 34, 38, 44, 45, 47, 94, 98,  
102, 103  
immunosuppressive, 75, 83, 84, 96, 104  
intercellular adhesion molecule, 57, 58  
interleukin 1, 50, 56  
interleukin 2, 56, 62, 67, 76, 83, 84, 104  
interleukin 7, 76

## J

Johnson, Judith J. (wife), 37, 109  
Journal of Magnetic Resonance, 26

## K

Kaufman, Russel E., 43, 44  
killer cells, 66, 67, 68  
Kitty Hawk, North Carolina, 17  
Köhler, Georges J.F., 32  
Kotzin, Brian L., 102  
Kurtzberg, Joanne, 59

## L

Laurinburg, North Carolina, 16  
Lederberg, Joshua, 1  
leukemia, 60, 82, 87, 91  
Leukemia Society of America, 87, 98  
LFA. See lymphocyte-function-associated  
antigen  
lock and key, 56, 57  
London, Fritz, 26  
lupus erythematosus, 47

lymphocyte, 48, 49, 59, 79, 80, 81, 82  
lymphocyte function-associated antigen 1, 57  
lymphocyte function-associated antigen 2, 57  
lymphocyte function-associated antigen 3, 57  
lymphocyte-function-associated antigen, 57, 58

## M

macrophages, 65, 66, 84  
major histocompatibility complex, 49, 50  
March of Dimes Birth Defects Foundation, 98  
McClure, Jim, 9, 12  
medical school, 26, 27, 28, 29, 30, 32, 35, 40, 94, 96, 108  
medicine, 26, 28, 30, 31, 38, 39, 40, 41, 42, 74, 91, 92, 96, 104, 107, 108  
MHC. See major histocompatibility complex  
Milstein, César, 32  
mitogens, 47, 48, 49, 50, 52, 53, 56, 62, 67  
mitomycin, 52, 63  
mitosis, 48, 50, 52  
molecular biology, 34, 43  
molecule, 25, 34, 35, 53, 54, 56, 57, 58, 68, 84  
monoclonal, 32, 34, 43, 45, 46, 62  
monocyte, 48, 49, 50, 56, 57  
Moses, Mamie, 4  
Murphy, North Carolina, 1  
Museum of Science and Industry, 37  
mycoplasma, 51  
myosin, 93

## N

NASA, 6  
National Institutes of Health, 86, 87, 98  
National Jewish Center for Immunology and Respiratory Medicine, 102  
natural killer cells, 65, 66, 67, 68, 70, 71, 75, 76, 78, 80, 83, 86  
neutrophils, 58, 59, 76

Newton, Isaac, 12  
NIH. See National Institutes of Health  
NK. See natural killer cells  
North Carolina, 1, 2, 3, 7, 8, 9, 18, 35, 38  
Northern blotting, 84  
Northwestern University, 36

## P

Pasteur, Louis, 6  
PCR. See polymerase chain reaction  
peer review, 100, 101  
pepsin, 32  
peptides, 49, 103  
Pew Scholars in the Biomedical Sciences, 1, 71, 86, 87, 98  
phenotype, 62, 63, 67, 70  
Phi Eta Sigma, 22  
philosophy, 15  
photography, 10, 11, 12, 23, 110  
phytohemagglutinin, 47  
Pinnell, Sheldon R., 31  
plasminogen, 91  
polyclonal, 32, 34, 87  
polymerase chain reaction, 79, 84, 85  
Princeton University, 18  
proline, 33

## Q

quantum mechanics, 24  
quantum theory, 24, 26

## R

Raleigh, North Carolina, 3  
receptor, 34, 49, 50, 55, 56, 57, 61, 62, 63, 64, 65, 67, 68, 70, 76, 78, 80, 102, 103, 104  
red cells, 46, 59, 60, 91  
residency, 32, 35, 36, 38, 40, 44, 96  
rheumatoid arthritis, 47  
rheumatology, 45  
ribonucleic acid, 79, 94  
Richmond, Virginia, 3  
RNA. See ribonucleic acid  
Rocky Mount, North Carolina, 2, 3



Rutherfordton, North Carolina, 1, 3, 5

## S

Salem College, 15, 16  
Sarah P. Duke Gardens, 23  
Smith, Peter, 24  
South Side (Chicago, Illinois), 36  
Springer, Timothy A., 57  
Sputnik, 2  
statistician, 12  
Stead, Eugene A., 42  
stem cell, 59, 60, 61, 64, 79, 90  
streptokinase, 39  
supernatant, 59  
suppressor, 53  
surgery, 30, 39, 40, 68, 70

## T

T cell, 34, 43, 46, 47, 48, 49, 50, 52, 53, 55,  
56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66,  
67, 68, 69, 70, 71, 72, 75, 76, 78, 79, 80,  
83, 84, 86, 95, 102, 103, 104, 105  
T11, 57  
tacrilimous, 83  
Taylor, Leslie, 13  
TdT. See terminal deoxynucleotidyl  
transferase  
terminal deoxynucleotidyl transferase, 80  
tetanus toxoid, 47  
the Johns Hopkins University, 27  
thrombolytic, 91

thymic, 51, 53, 54, 63, 84  
thymidine, 50, 51, 52  
thymine, 51  
thymocytes, 48, 50, 52, 56, 58, 68  
thymus, 43, 46, 47, 48, 50, 53, 54, 56, 57,  
59, 60, 61, 63, 66, 67, 68, 69, 70, 84, 103  
TN. See triple-negative  
transplantation, 49, 50, 74, 75, 76, 87, 96  
triple-negative, 61, 62, 65, 68, 70, 71, 86  
troponin, 93

## U

UNC. See University of North Carolina  
unified field theory, 26  
University of Chicago, 36, 109  
University of North Carolina, 27, 80, 109

## V

Vietnam War, 22  
virus, 46, 66, 77, 78, 104

## W

Western Carolina University, 7, 8, 9  
Winston-Salem, North Carolina, 15, 16  
Wofford College, 18

## Y

y5, 62, 63, 65, 70  
yolk sac, 46