
BIOGRAPHICAL SKETCH

NAME: Mangan, Dennis F.

POSITION TITLE: Director, Chalk Talk Science Project. Santa Rosa, CA

EDUCATION/TRAINING:

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Pennsylvania State University. State College, PA	BS	06/1971	Experimental Psychology
Iowa State University. Ames, IA	BS	05/1973	Bacteriology
West Virginia University. Morgantown, WV	PhD	06/1979	Pathogenic Microbiology
University of Michigan. Ann Arbor, MI	Postdoc	03/1983	Cellular Immunology
Stony Brook University. Alan Alda Center for Communicating Science. Stony Brook, NY	Continuing Educ	06/2012	Science Communication
Stanford University. Stanford, CA. (Continuing education courses in communication)	Continuing Educ	03/2013	Advanced Communication
National Speakers Association Academy, Northern California	Continuing Educ	08/2014	Professional speaking
Next Level Toastmasters. Santa Rosa, CA	Continuing Educ	ongoing	Advanced Speaking

A. Personal Statement

I like to teach. When I learn something, I tell stories to others about what I've discovered and explain why it's important to me and them. Science is full of discovery, so I've never had a shortage of stories to tell. Moreover, the ability to inspire others through storytelling has itself inspired me to teach young, aspiring scientists how to tell stories that convey their thrill of a nascent career in science, technology, engineering or mathematics (STEM).

I started the Chalk Talk Science Project (CTS) nine years ago after hearing from nearly everyone that, in general, scientists are lousy speakers. The mission of CTS is to improve scientists' speaking skills by integrating lifelong communication training into their careers. With the help of fellow biomedical researchers, university and corporate administrators, professional speakers, high school teachers, journalists and even standup comics, I learned to give workshops that teach the skills of speaking, especially storytelling. My goal is to advance science by making presentations interesting, informative and even entertaining. I am delighted to report that these programs have been a success, and they join the efforts of over 30 universities, many corporations, and scientific societies in offering dedicated programs to teach science communication.

My interest in teaching students, especially grad, postdoctoral fellows, new faculty, women and underrepresented minorities sharpened during my tenure as a Senior Research Advisor in the NIH Office of Research on Women's Health (ORWH)(2009-2011). Under the supervision of Dr. Vivian Pinn, a renowned civil rights leader, first African American woman to chair an academic pathology department, and strong advocate for women's health research issues, I learned the values of listening, empathy and storytelling to help others overcome barriers to success in biomedical research. Dr. Pinn challenged me with an assignment to increase NIH recognition of and funding for research on chronic fatigue syndrome (ME/CFS), a mysterious condition afflicting a small percentage of otherwise healthy women. Meetings with angry patients who

distrusted the government and demanded more NIH research funding gave me experience in all aspects of communication. Collaborative efforts with my colleagues at NIH and CDC ultimately resulted in international workshops on ME/CFS, publications, more research and new discoveries. Nine years after my assignment in ORWH, I remain an advocate for these patients today.

B. Positions and Honors

Positions and Employment

1973-1974 Clinical Microbiologist, Raleigh General Hospital, Beckley, WV
1974-1979 Graduate Teaching Assistant, Microbiology and Immunology, West Virginia University, Morgantown, WV
1979-1984 Postdoctoral/Research Scientist, Oral Biology, University of Michigan, Ann Arbor, MI
1984-1989 Assistant Professor, Department of Dental Research, University of Rochester, Rochester, NY
1989-1992 Visiting Scientist, Laboratory of Immunology, NIDR/NIH
1992-2006 Director, Infectious Diseases Programs, NIDCR/NIH
2000-2005 Chief, Infectious Diseases and Immunity Branch, NIDCR/NIH
2003-2005 Acting Deputy Director, Division of Basic and Translational Sciences, NIDCR/NIH
2005-2006 Acting Director, Center for Infectious Diseases and Immunology, NIDCR/NIH
2006-2009 Associate Dean for Research, University of Southern California School of Dentistry, Los Angeles, CA
2009-2011 Senior Research Advisor, Office of Research on Women's Health, NIH
2012- Founder and Director, [Chalk Talk Science Project](#). Santa Rosa, CA

Other Experience

2003-2006 Member, Molecular Libraries and Imaging Implementation Roadmap Group, NIH
2003-2006 Member, Bioinformatics and Computational Roadmap Working Group, NIH
2003-2006 Lead Coordinator, The Human Microbiome Project, NIH and other Federal agencies
2006 Lead NIH Coordinator, National Academies of Science Report on Metagenomics
2012-2014 Board member, International Association for Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (IACFS/ME)
2012- Scientific Advisory Board member, Stanford University Chronic Fatigue Research Initiative
2013-2014 Scientific Advisory Board member, Simmaron Research, Incline Village, NV
2013- Ad hoc Instructor, American Society for Biochemistry and Molecular Biology online course, [The Art of Science Communication](#)
2014-2014 Board member, Solve ME/CFS Initiative
2017-2018 Guest editor, Journal of Microbiology and Biology Education
2014-2016 Member, Communication Committee, American Society for Microbiology

Professional Memberships

1979- Member, American Society for Microbiology
1985- Member, American Association for the Advancement of Science
1980- Member, International/American Association for Dental Research
2012- Member, Society for Science and the Public
2019- Member, Storytellers Association of California

Honors and Awards

1992, 1994, 1995, 1996 NIH Quality Step Increase Awards
1995, 1997 NIH Award of Merit
1997, 1998, 2004, 2006 NIH On-The-Spot Cash Awards
2003-2006 NIH conversion to Federal Government Title 42 Pay Scale
2010 NIH award for cooperative service, National Cancer Institute

2011	NIH award for activities associated with ME/CFS
2012	US Department of Health and Human Services, Assistant Secretary for Health, Special Recognition Award, XMRV Scientific Research Working Group
2020	AAAS Fellow award for distinguished contributions to Dental and Oral health research, science administration, teaching and science communication.

C. Contributions to Science

My early research studied the interactions of bacteria with human immune cells. In particular, my lab was interested in how bacteria regulated phagocytosis, cytokine release and polyclonal lymphocyte activation. The results from these studies provided seminal information about apoptosis and cytokine regulation of homeostasis of leukocytes during an infection.

- a. **Mangan**, D.F., and I.S. Snyder. 1979. Mannose-sensitive stimulation of human leukocyte chemiluminescence by *Escherichia coli*. *Infection and Immunity* 26: 1014-1019.
- b. **Mangan**, D.F., T. Won, and D.E. Lopatin. 1984. Monocyte suppression of *Fusobacterium nucleatum*-induced human polyclonal B lymphocyte activation. *Infection and Immunity* 46: 332-339.
- c. **Mangan**, D.F., and S.M. Wahl. 1991. Differential regulation of human monocyte programmed cell death (apoptosis) by chemotactic factors and pro-inflammatory cytokines. *Journal of Immunology* 147: 3408-3414.

Much of my career has been devoted to science administration. After leaving bench level research, I joined the NIH as a Program Director at the NIDCR (Dental) where I oversaw the awarding of infectious diseases grants and contracts. While there, I was a strong proponent of funding for the Human Microbiome, small grants, and grants to HBCU institutions. I was recruited to University of Southern California School of Dentistry for three years to strengthen their research programs and enhance recognition of outstanding research being conducted at the USC. I set up ways for the School to highlight its research at national meetings, local events, and student research days. I submitted applications to Professional Societies and succeeded in getting over \$50,000 in awards for faculty achievement. Upon returning to NIH, I joined the Office of Research on Women's Health in the Office of the Director as a Senior Research Advisor. Our teams were able to increase funding for training next generation scientists and for research on women's health-related issues including cancer, autoimmunity, and heart diseases. My two largest efforts were devoted to co-writing the strategic plans for ORWH for the next ten years and advancing the NIH attention on chronic fatigue syndrome (ME/CFS). These efforts resulted in scientists from many disciplines finding a new funding source through women's health research.

- a. Holgate S.T., A.L. Komaroff, D. **Mangan**, and S. Wessely. 2011. Chronic fatigue syndrome: understanding a complex illness. *Nature Review Neuroscience* 12: 539-544.
- b. **Mangan** D.F., C. Laughlin, T. Gondre-Lewis, B.A. Eldadah, C.L. McDonald, D.G. Blair, C. Mullins, J. Clayton, and J.W. Kusiak. 2012. Interdisciplinary analysis of a complex illness. NIH convenes a State of the Knowledge Workshop to advance scientific progress for Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). Trans-NIH Working Group on Chronic Fatigue Syndrome.

While at the NIH and USC, I recognized that outstanding researchers were not getting support for their studies as a result of an inability to explain their ideas clearly, concisely and confidently to study section reviewers, Congress, university administrators or funding agencies. Moreover, the overwhelming consensus was that most of their presentations at scientific conferences were excruciatingly dull and lacked impact. This encouraged me to begin teaching others how to make and deliver interesting talks to any kind of audience. Following extensive non-degree coursework at Stanford and other locations, and with the help of scientists, university and company administrators, business leaders, high school teachers, professional societies, actors, and even standup comics, I set up the Chalk Talk Science Project to formalize my efforts to teach science communication and get it integrated into the lifelong career plans of all STEM students and faculty. Over the past five years, science communication training programs have surged at over 30 universities. As part of CTS,

I personally offer science communication lectures, seminars, workshops and multi-day courses. In addition, I encourage students to improve their speaking skills via programs offered by professional societies (e.g., AAAS, ASBMB), universities (e.g., Alan Alda Center for Science Communication, Stony Brook), and organizations (e.g., COMPASS, ScienceTalk.org).

- a. **Mangan, D.** 2012. *Guide to Effective Grant Writing. How to Write a Successful NIH Grant Application*, by Otto O. Yang. MICROBE. The News Magazine of the American Society for Microbiology 7: 431-432.
- b. **Mangan, D.** 2012. *Don't Be Such a Scientist*, by Randy Olson. MICROBE. The News Magazine of the American Society for Microbiology 7: 484-485.
- c. **Mangan DF**, Cloyd ET, Romo JA, Wessner DR, Westenberg DJ, Adukwu E, Menninger H, Gardy J. 2018 Introducing the JMBE Themed Issue on Science Communication. J Microbiol Biol Educ. Mar 30;19(1). pii: 19.1.9.
- d. **Mangan DF.** The Head and Heart of Science Communication - Sage Advice from Alan Alda. J Microbiol Biol Educ. 2018 Mar 30;19(1). pii: 19.1.42.

D. Additional Information: Research Support and/or Scholastic Performance

Self-supported. No Federal funding received over the past three years.