

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Mark W. DiFrancesco, Ph.D.		POSITION TITLE	
eRA COMMONS USER NAME MDIFRANCESCO		Assistant Professor of Radiology	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Carnegie-Mellon University, Pittsburgh, PA	B.S.	1981	Physics
University of Pittsburgh, Pittsburgh, PA	M.S.	1985	Physics
University of Pittsburgh, Pittsburgh, PA	Ph.D.	1989	Physics
Exxon Research & Engineering, Annandale NJ	Post-doc	1992	Physics

A. Positions and Honors.**Positions and Employment**

1984-1985 Teaching Assistant, Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA
 1989-1992 Postdoctoral Fellow, Exxon Research and Engineering Company, Annandale, NJ
 1992-1993 Physicist, Biocontrol Technology, Inc., Indiana, PA
 1993-1995 Manager, Device Characterization and Modeling, Biocontrol Technology, Inc., Indiana, PA
 1995-1996 Project Manager, Biocontrol Technology, Inc., Indiana, PA
 1996-1997 Senior Research Physicist, Biocontrol Technology, Inc., Indiana, PA
 1997-2000 Senior Scientist/Biomedical Engineer, Ethicon Endo-Surgery, Inc., Cincinnati, OH
 2000-2004 Staff Scientist/Biomedical Engineer, Ethicon Endo-Surgery, Inc., Cincinnati, OH
 2004-2007 Research Fellow, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
 2004-present Scientific Consultant, Atricare, Inc., Westchester, OH
 2007-present Assistant Professor of Radiology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Other Experience and Professional Memberships

1984-present Member, American Physical Society
 1989-present Member, Sigma Xi, The Scientific Research Society
 2000-present Member, American Association for the Advancement of Science
 2004-present Member, International Society for Magnetic Resonance in Medicine
 2007-present Member, Organization for Human Brain Mapping

Honors

1988 Outstanding Research Presentation Award, Pittsburgh Chapter of Crystal Growers, Pittsburgh, PA
 2005 Excellence in Neuroscience Award, University of Cincinnati, Cincinnati, OH

B. Selected peer-reviewed publications (in chronological order).

1. **M.W. DiFrancesco**, S.N. Rauseo, and J.V. Maher, Viscous fingering as a first step toward understanding dendrites, *Superlattices and Microstructures*, 3, 617-623 (1987).
2. **M.W. DiFrancesco**, Recent results of experiments with Saffman-Taylor flow, in *Nonlinear Evolution and Chaotic Phenomena*, Proceedings of a NATO Advanced Study Institute, Noto, Italy, 1987, p. 313-317.
3. **M.W. DiFrancesco** and J.V. Maher, Noisy and regular features in Saffman-Taylor patterns, *Phys. Rev. A* 39, 4709-4717 (1989).
4. **M.W. DiFrancesco** and J.V. Maher, Hele-Shaw scaling properties of low-contrast Saffman-Taylor flows, *Phys. Rev. A* 40, 295-304 (1989).
5. Thomsen SL, Ryan RP, Freeman LJ, and **DiFrancesco MW**, Influence of different anatomies on healing of interstitial thermal lesions in goat and pig breasts, *Proceedings SPIE*, vol. 4247, 69-76 (2001).

Principal Investigator/Program Director (Last, First, Middle):

6. **DiFrancesco MW**, Holland SK, Ris D, Adler C, DelBello M, Altaye M, Brunner HI. Functional magnetic resonance imaging of cognitive function in childhood-onset systemic lupus erythematosus: a pilot study. *Arthritis Rheum*, 56, 4151-4163 (2007).

US Patents

1. Purdy, DL; Palumbo, P; **DiFrancesco, MW**: METHOD FOR NON-INVASIVE MEASUREMENTS OF CONCENTRATION OF ANALYTES IN BLOOD USING CONTINUOUS SPECTRUM RADIATION. (to Diasense, Inc.) USA Patent 5,460,177; issued 24 Oct. 1995.
2. Yarnall, Steven T; **DiFrancesco, Mark W**: GUIDANCE METHOD FOR RADIATION DETECTION. (to Ethicon Endo-Surgery, Inc.) USA Patent 6,331,703; issued 18 Dec. 2001.
3. Freeman, Lynetta J; **DiFrancesco, Mark W**: METHOD AND DEVICE FOR MINIMALLY INVASIVE IMPLANTATION OF BIOMATERIAL. (to Ethicon Endo-Surgery, Inc.) Patent Pending.
4. **DiFrancesco, Mark W**: MEDICAL-TREATMENT ELECTRODE ASSEMBLY HAVING TREATMENT-MONITORING APPLICATION. (to Ethicon Endo-Surgery, Inc.) Patent Pending.

C. Research Support

2004-2007

NIH-T32 EB01656-3

(Ball, W.)

09/20/03 – 03/30/08

“Neuroimaging Training in Pediatrics and Brain Development”

(Role: Research Fellow)

GOAL: NIH training grant for support of students and fellows in the development and use of MR imaging methods in study of childhood diseases and development. Dr. Holland is the director of the post-doctoral program.