

Anthony J McGoron

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EDUCATION

<u>Degree</u>	<u>Institution</u>	<u>Field</u>	<u>Dates</u>
Postdoc	University of Cincinnati	Pharmacology/Cell Biophysics	1991-1994
PhD	Louisiana Tech University	Biomedical Engineering	1988-1991
MSE	Wright State University	Biomedical/Systems Engineering	1986-1988
BSE	Wright State University	Biomedical Engineering	1983-1986

FULL-TIME ACADEMIC EXPERIENCE

<u>Institution</u>	<u>Rank</u>	<u>Field</u>	<u>Dates</u>
Florida International U	Associate Professor	Biomedical Engineering	2005-present
Florida International U	Assistant Professor	Biomedical Engineering	09/1999-2005
University of Cincinnati	Research Assist Prof	Nuclear Medicine/ Medical Physics	09/1994-09/1999

OTHER ACADEMIC APPOINTMENTS

<u>Institution</u>	<u>Rank</u>	<u>Field</u>	<u>Dates</u>
University of Miami	Volunteer Assist Prof	Radiology	02/2005-present
University of Cincinnati	Volunteer Assist Prof	Radiology	09/1999-present

PUBLICATIONS IN DISCIPLINE

a. Refereed Publications

- 1 McGoron, A.J., M. Xuming, M.F. Georgiou, and J.W. Kuluz. Computer Phantom Study of Brain PET Glucose Metabolism Imaging Using a Rotating SPECT/PET Camera. *Computers in Biology and Medicine*. 2005, 35:511-531.
- 2 Kassing, W.M., A.J. McGoron, S.R. Thomas, H.R. Elson, D.W. Pipes. Monte Carlo Calculations of Dose Distribution for Intramural Delivery of Radioisotopes Using a Direct Injection Balloon Catheter. *Cardiovas Rad Med*. 3:44-48, 2002.
- 3 McGoron, A.J., C.H. Joiner, M. Palascak, W.J. Claussen and R.S. Franco. Dehydration Of Mature And Immature Sickle Red Blood Cells During Fast Oxygenation/Deoxygenation Cycles: Role Of KCl Cotransport And Extracellular Calcium. *Blood*. 2000, 95:2164-2168.
- 4 McGoron, A.J., W.M. Kassing, S.R. Thomas, R.C. Samaratunga, R.G. Pratt, H.R. Elson, D.W. Pipes. Intravascular Irradiation Using Re-186 Liquid-Filled Balloon Catheters: Correlation Between Experimental and Theoretical Studies. *Cardiovas Rad Med*. 1999, 1:368-375.
- 5 McGoron, A.J., D. Biniakiewicz, R.W. Millard, A. Kumar, S.C. Kennedy, N.J. Roszell, M. Gabel, C. Huth, R.A. Walsh and M.C. Gerson. Myocardial Kinetics of 99m-Technetium-Q Agents: Studies in Isolated Cardiac Myocyte, Isolated Perfused Rat Heart and Canine Regional Myocardial Ischemia Models. *Investigative Radiology*. 1999, 34:704-717.
- 6 Lenihan, D.J., A.J. McGoron, M. Gabel, R.A. Walsh, and M.C. Gerson. Reliability of Technetium-99m Q12 and Thallium-201 Myocardial Activity Measurements after Triphenyl Tetrazolium Chloride Myocardial Staining by Perfusion. *Investigative Radiology*. 1999, 34:276-291.
- 7 Rosenbaum, A.F., A.J. McGoron, R.W. Millard, M. Gabel, D. Biniakiewicz, R.A. Walsh and M.C. Gerson. Uptake of Seven Myocardial Tracers During Increased Myocardial Blood Flow by Dobutamine Infusion. *Investigative Radiology*. 1999, 34:91-98.

- 8 Thomas, S.R., L. Gradon, S.E. Pratsinis, R.G. Pratt, G.P. Fotou, A.J. McGoron, A.L. Podgorski and R.W. Millard. Perfluorocarbon Compound Aerosols for Delivery to the Lung as Potential F-19 NMR Reporters of Regional Pulmonary pO₂. *Invest Radiol.* 1997, 32:29-38.
- 9 Pratt, R.G., J. Zheng, B.K. Stewart, Y. Shiferaw, A.J. McGoron, R.C. Samaratinga and S.R. Thomas. Application of a 3D Volume Protocol for Mapping Oxygen Tension (pO₂) in Perfluorocarbons at Low Field. *Mag Res Med.* 1997, 37:307-313.
- 10 Meleca, M.J., A.J. McGoron, M.C. Gerson, R.W. Millard, M. Gabel, D. Biniakiewicz, N.J. Roszell and R.A. Walsh. Unique Flow versus Uptake Characteristics of Tc-99m Q3: Comparisons of Perfusion Tracers in a Canine Model of Myocardial Ischemia. *J Nuc. Med.* 1997, 38:1847-1856.
- 11 McGoron, A.J., P.K. Nair, R.W. Schubert. Michaelis-Menten Kinetics Model of Oxygen Consumption by Rat Brain Slices Following Hypoxia. *Annals Biomed Eng.* 1997, 25:565-572.
- 12 Lee, M.T.B., C.J. Seliskar, W.R. Heineman and A.J. McGoron. Microelectrode Sensors for *In Vivo* Detection of Radiopharmaceuticals. *J Am. Chem Soc.* 1997, 119:6434-6435.
- 13 McGoron, A.J., M.C. Gerson, D.S. Biniakiewicz, N.J. Roszell, L.C. Washburn, and R.W. Millard. Extraction and Retention of ^{99m}Tc Q12, ^{99m}Tc Sestamibi and ²⁰¹Tl in Isolated Rat Heart During Coronary Acidemia. *Eur J Nuc Med.* 1997, 24:1479-1486.
- 14 McGoron, A.J., D.S. Biniakiewicz, L.C. Washburn, R.W. Millard and M.C. Gerson. Effects of Ouabain on ^{99m}Tc Q12 and ²⁰¹Tl Uptake and Retention by Isolated Rat Hearts. *J. Nucl. Med.* 1996, 37:752-756.
- 15 Gerson, M.C. and A.J. McGoron. ^{99m}Tc Glucarate: What Will Be Its Clinical Role? *J Nucl Cardiol.* 1997, 4:336-340.
- 16 Thomas, S.R., R.G. Pratt, R.W. Millard, R. C. Samaratinga, Y. Shiferaw, A.J. McGoron and K.K. Tan. In Vivo pO₂ Imaging in the Porcine Model with Perfluorocarbon F-19 NMR at Low Field. *Mag Reso. Imaging.* 1996, 14:103-114.
- 17 Stern, S.A., S.C Dronen, A.J. McGoron, X. Wang, K. Chaffins, R. Millard, P.E. Keipert and N.S. Faithfull. The Effect of Supplemental Perfluorocarbon Administration on Hypotensive Resuscitation of Severe Uncontrolled Hemorrhage. *A. J Emergency Med.* 1995, 13:269-275.
- 18 Gerson, M.C., R.W. Millard, A.J. McGoron, M. Gabel, L.C. Washburn, D. Biniakiewicz, R.C. Elder, E. Deutsch and R.A. Walsh. Myocardial Uptake and Kinetic Properties of ^{99m}Tc Q3 in Dogs. *J Nucl Med.* 1994, 35:1698-1706.
- 19 Gerson, M.C., R.W. Millard, N.J. Roszell, A.J. McGoron, G. Gabel, L.C. Washburn, D. Biniakiewicz, D. Blankenship, W.H. Mallin, R.C. Elder, E. Deutsch and R.A. Walsh. Kinetic Properties of ^{99m}Tc Q12 in Canine Myocardium. *Circulation.* 1994, 89:1291-1300.
- 20 McGoron, A.J., R. Pratt, J. Zhang, Y. Shiferaw, S. Thomas and R. Millard. Perfluorocarbon Distribution to Liver, Lung and Spleen of Emulsions of Perfluorotributylamine (FTBA) in Pigs and Rats and Perfluoro Octylbromide (PFOB) in Rats and Dogs by ¹⁹F NMR Spectroscopy. Vth International Symposium on Blood substitutes, San Diego, CA, 1993. Full paper published in *Artificial Cells, Blood Subs. & Immob Biotech.* 1994, 22:1243-1250.
- 21 Millard, R.W. and A.J. McGoron. Lung Functions After Intravenous or Intraperitoneal Administration of Perfluoro Octylbromide (PFOB) or Perfluorotributylamine (FTBA). Vth International Symposium on Blood substitutes, San Diego, CA, 1993. Full paper published in *Artificial Cells, Blood Subs & Immob Biotech.* 1994, 22:1251-1258.
- 22 He, P. and A. McGoron. Parameter Estimation For Nonlinear Frequency Dependent Attenuation In Soft Tissue. *Ultrasound Med Biol.* 1989, 15:757-763.

b. Books/Book Chapters

- 1 Gerson, M.C., A.J. McGoron, N.J. Roszell, D. Biniakiewicz and R.W. Millard. Myocardial Perfusion Imaging: Radiopharmaceuticals and Tracer Kinetics. In: M.C. Gerson (ed): *Cardiac Nuclear Medicine (third edition)*. McGraw-Hill, Inc, New York, 1997, pp 3-27.
- 2 McGoron, A.J., J Franquiz. Emission Imaging: SPECT and PET. In *Biomedical Technology and Devices Handbook*. J. Moore and G. Zouridakis (eds). 2004.

c. Conference Proceedings/Papers/Presentations at Meetings

(1) Invited Papers/Conference Proceedings

1. McGoron, A.J., Radioisotopes in Nuclear Medicine. Proceedings of the 2002 Americas Nuclear Energy Symposium. Full paper on CD from the US Department of Energy (<http://anes2002.hcet.fiu.edu/ProceedingCD/s7mcg.pdf>). Miami, FL, October 16-18, 2002.
2. McGoron, A.J. Cardiac Radiopharmaceuticals: What is the Ideal Agent. Proceedings of the Southeastern Chapter of the Society of Nuclear Medicine 4th Annual Meeting. 2000, Pg III1-III12.

(2) Abstracts/Proceedings/Presentations

1. Wang, J., McGoron, A.J., Byrne, Franquiz, J. Evaluation of a Novel PET Respiratory Gating Algorithm to Reduce Lung Tumor Blurring using the 4D NCAT Phantom. American Association of Physics in Medicine, 48th Annual Meeting. July 30-August 3, 2006
2. Wang, J., McGoron, A.J., Byrne, Franquiz, J. A Novel Respiratory Gating Design for Motion Tracking in PET/CT Imaging. Proceedings of 2006 Summer Bioengineering Conference. June 21-25, 2006.
3. Capille M, McGoron A, Georgiou M, Kuluz J, Sanchez P: Validation of SPECT CBF in Piglet Brain Injury by Registration of Reconstructed Microspheres. Radiological Society of North America, Scientific Assembly and Annual Meeting Program - Abstract #000WNM-p, 2004.
4. McGoron, A.J., J.W. Kuluz, M.F. Georgiou, P. Sanchez, M. Capille, and G.N. Sfakianakis. FDG Kinetics Imaging in Piglet Brain Using a Dual-Head Rotating SPECT/PET Camera. Proceeding of the Biomedical Engineering Society. Nashville, TN. October 1-4, 2003.
5. Capille, M. and A.J. McGoron. Radon Transform Sinogram Based Calculated Attenuation Correction for PET. Proceeding of the Biomedical Engineering Society. Nashville, TN. October 1-4, 2003.
6. Byrne, J., A.J. McGoron, and R.T. Schoepfoerster. Development of an Undergraduate Biomedical Engineering Laboratory Curriculum and Facilities. Proceeding of the Biomedical Engineering Society. Nashville, TN. October 1-4, 2003.
7. McGoron, A.J., M.F. Georgiou, J.W. Kuluz, M. Zhou, P. Sanchez, and G.N. Sfakianakis. FDG Kinetics and Perfusion Imaging with a Dual-Head Rotating SPECT/PET Camera: Preliminary Animal Studies. Proceedings of the 2003 Summer Bioengineering Conference. Key Biscayne, FL. June 25-29, 2003.
8. Kassing, W.M., A.J. McGoron, S.R. Thomas, E.F. Elson and D.W. Pipes. Modeling of Radioactively Coated Stents using Combinatorial Geometry for use in Monte Carlo Simulations. World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia, August 2003.
9. McGoron, A., M. Zhou, M. Xuming, M. Georgiou, J. Kuluz, G. Sfakianakis. PET Imaging with a Dual-Head Rotating SPECT/PET Camera: Phantom Studies of Brain Glucose Metabolism. Proceedings of the 21st Southern Biomedical Engineering Conference, p. 201-202. Washington, DC, September 28 – 29, 2002.
10. Kassing, W.M., A.J. McGoron, S.R. Thomas, H.R. Elson, and J. Franquiz. Lu-177 and P-32 Radiation Dose Delivery for Intravascular Brachytherapy: A Monte Carlo Investigation. *Annals Biomed Eng.* 2001, 29:S101.
11. Holtzclaw, J.D., A.J. McGoron, C.H. Joiner, and R.S. Franco; Generation of Light Sickle Erythrocytes using a Fast Cycle Oxygenation/Deoxygenation Apparatus. Proceedings of the 24th Annual Meeting of the National Sickle Cell Program, p. 38a. Philadelphia, PA, April 9-12, 2000.
12. Holtzclaw, J.D., M.T. Harris, M. Jiang, A.J. McGoron, C.H. Joiner, R.S. Franco. Generation of Light Sickle Erythrocytes from Dense Sickle Erythrocytes during Fast Oxy/Deoxy cycling. *Blood.* 2000, 96:2579.
13. Kassing, W.M., S.R. Thomas, A.J. McGoron, H.R. Elson, D.W. Pipes; Monte Carlo Calculations of Dose Distribution for Intramural Delivery of Radioisotopes using a Direct Injection Balloon Catheter. *J Nucl Med.* 2000, 41:85P.
14. Thomas, S.R., R.G. Pratt, A.J. McGoron, R.C. Samaratinga and R.W. Millard. Monitoring pO₂ in Bone Marrow Using Perfluorocarbon F-19 NMR. International Society for Magnetic Resonance in Medicine. April 20-24, 1998, Sydney, Australia.
15. McGoron, A.J., D.S. Biniakiewicz, S.C. Kennedy, R.W. Millard and M.C. Gerson. Myocardial Kinetics of ^{99m}Tc-Q64 in Isolated Perfused Rat Hearts. *J Nucl Med.* 1998, 39:219P

16. McGoron, A.J., D.S. Biniakiewicz, M. Gabel, C. Huth, R.W. Millard, R.A. Walsh and M.C. Gerson. Kinetics of ^{99m}Tc -Q64 in a Canine Model of Myocardial Ischemia. *J Nucl Med.* 1998, 39:216P.
17. Kumar, A., A.J. McGoron, D.S. Biniakiewicz, S.C. Kennedy, R.W. Millard, R.A. Walsh and M.C. Gerson. Uptake of Novel ^{99m}Tc Compounds by Laminin Attached Adult Rat Cardiac Myocytes. *J Nucl Med.* 1998, 39:216P.
18. Thomas, S.R., R.C. Samaratunga, R.G. Pratt, A.J. McGoron and D.W. Pipes. Endovascular Irradiation Using Re-186 Balloon Catheters: Experimental and Theoretical Studies. Advances in Cardiovascular Therapy II. March 8-10, 1998, Washington, D.C.
19. Heineman, W.R., M.T. Lee-Alvarez, A.J. McGoron and C.J. Seliskar. Microelectrode Sensors for In Vivo Detection of Radiopharmaceuticals. The Electrochemical Society Meeting, May 4-9, 1997, Montreal.
20. Rosenbaum, A.F., J. Lukes, D. Biniakiewicz, C. Fortman, A.J. McGoron, R.A. Walsh and M.C. Gerson. Technetium- ^{99m}Tc Q4 Washout in Human Hearts. *J Nucl Med.* 1997, 38:165P.
21. Roaenbaum, A., A.J. McGoron, M.C. Gerson, R.W. Millard, M. Gabel, D. Biniakiewicz and R.A. Walsh. Myocardial Blood Flow Vs Tracer Uptake Characteristics of Perfusion Tracers During Dobutamine Stress. *J Am Coll Cardiol.* 1997, 29:442A.
22. McGoron A.J., C.H. Joiner, M. Palascak and R.S. Franco. Dehydration of Tfr⁺ Sickle Reticulocytes During Fast Cycle Deoxygenation: Role of KCl Cotransport and External CA⁺⁺. The National Sickle Cell Program Meeting, Washington D.C. September 17-20, 1997.
23. McGoron, A.J., D.S. Biniakiewicz, N.J. Roszell, M.C. Gerson, L.C. Washburn and R.W. Millard. Kinetics of ^{99m}Tc Q12 by Isolated Rat Hearts During Hypoxia, Acidosis and Ischemia. *Nucl Med.* 1996, 37:49P.
24. McGoron, A.J., M. T. Lee, W. R. Heineman and C. J. Seliskar. Detection of Lipophilic Cationic Tracers with Microelectrode Sensors. *Nucl Med.* 1996, 37:205P.
25. Meleca, M.J., A.J. McGoron, M.C. Gerson, R.W. Millard, M. Gabel, D. Biniakiewicz, and R.A. Walsh. Unique Flow Vs Uptake Characteristics of Tc 99m -Q3 Among Five Technetium Tracers in a Canine Model of Myocardial Ischemia. *Circulation.* 1996, 94:I301.
26. Roszell, N.J., A.J. McGoron, D.S. Biniakiewicz, M.C. Gerson and R.W. Millard. Myocyte Hypoxia: A Putative Mechanism of ^{99m}Tc -Q12 Overextraction in the Ischemic Heart. *Circulation*, 1996, 94:I723.
27. Roszell, N.J., A.J. McGoron, D.S. Biniakiewicz, M.C. Gerson and R.W. Millard. Cardiac Myocyte Uptake of Novel ^{99m}Tc Qcompounds is Enhanced by Ligand Ester Groups. *J Nucl Med.* 1996, 37:188P.
28. Lee, M.T., A.J. McGoron, C.J. Seliskar and W.R. Heineman. Development of Nafion Modified Microelectrodes for In Vivo Sensing of Re-Based Imaging Agents. Pittsburg Conference, March 3-8, 1996, Chicago, Il.
29. Lee, M.T., W.R. Heineman, A.J. McGoron and C.J. Seliskar. Development of Nafion Modified Microelectrodes for Detection of Re-Based Imaging Agents. The 210th ACS Conference, August, 1995, Chicago, Il.
30. McGoron, A.J., D.S. Biniakiewicz, N.J. Roszell, M.C. Gerson, L.C. Washburn and R.W. Millard. Extraction and Retention of ^{99m}Tc Q12, ^{99m}Tc Sestamibi and ^{201}Tl Imaging Agents in Isolated Rat Heart During Acidemia. *Circulation.* 1995, 92:I180-I181.
31. Roszell, N.J., A.J. McGoron, D.S. Biniakiewicz, M.C. Gerson, S. Ahmed and R.W. Millard. ^{99m}Tc Q12 Handling by Isolated Rat Cardiac Myocytes and Mitochondria. *Circulation.* 1995, 92:I181.
32. Lenihan, D.J., M.C. Gerson, M. Gabel, C. Huth, A.J. McGoron and R.A. Walsh. Influence of Stunned but Viable Myocardium on Q12 and Thallium Uptake After Reperfusion in Canine Myocardial Infarction. *Circulation.* 1995, 92:I789.
33. Thomas, S.R., L. Gradon, S.E. Pratsinis, R.G. Pratt, G.P. Fotou and A.J. McGoron. Perfluorocarbon Compound Aerosols for Delivery to the Lung as F-19 NMR Reporters of Regional Pulmonary pO₂. *Proceedings of the Society of Magnetic Resonance Third Scientific Meeting.* 1995, pg 1202.
34. Biniakiewicz, D.S., L.C. Washburn, A.J. McGoron and M.C. Gerson. Synthesis and Biodistribution of New Tc- ^{99m}Tc Q-Series Complexes with Ester Functionality. *J Nucl Med.* 1995, 36:17P.
35. McGoron, A.J., R.W. Millard, D.S. Biniakiewicz, L.C. Washburn and M.C. Gerson. Ouabain-Resistant Myocardial ^{99m}Tc -Q12 Extraction and Sustained Retention. *Circulation.* 1994, 90:I368.

36. Millard, R.W., A.J. McGoron, D.L. Armstrong and J.W. Hicks. Biomechanics and Biophysics of Neck Veins in Giraffe and Ostrich During Postural Maneuvers. *The Physiologist*. 1994, 37:A-77.
37. Russell, P.A., A.J. McGoron, S. Abdallah and R.W. Millard. Prediction and Validation of Particle Distribution in Synthetic and Natural Blood Admixtures in Branched Networks. *Annals Biomed Eng*. 1993, 21(Supplement 1):49
38. Stern, S.A., S.C. Dronen, X. Wang, K. Chaffins, A.J. McGoron and R.W. Millard. The Effect of Supplemental Perfluorochemical Administration on Hypotensive Resuscitation of Severe Uncontrolled Hemorrhage. *Annals Emergency Medicine*. 1993, 22:930.
39. Gerson, M.C., R.W. Millard, A.J. McGoron, M. Gabel, L.C. Washburn, D. Biniakiewicz, E.A. Deutsch, R.C. Elder and R.A. Walsh. Myocardial Uptake & Kinetics of Tc-99m Q3 in Dogs. *Proceedings of the First International Congress of Nuclear Cardiology*, 1993, Abstract 602.
40. Millard, R.W., A.J. McGoron and I.L. Grupp. Coronary and Myocardial Functional Dependence on Perfusate Dissolved Oxygen. *The Physiologist*. 1992, 35:221.
41. McGoron, A.J., P.K. Nair, and R.W. Schubert. Effects of Hypoxia on the Michaelis-Menten Kinetics of Oxygen Consumption by Rat Brain Slices. *FASEB J*. 1992, 6:A1492.
42. Bodi, I., A. McGoron, G. Takemura, A. Schwartz, and R.W. Millard. Intracardiac Electrophysiological Effects of a New Positive Inotropic Agent, OPC-8212, In Anesthetized Dogs. *FASEB J*. 6:A1309, 1992.
43. McGoron, A.J. Estimation Of Nonlinear Attenuation Using Frequency Agility Processing. *Proc. IEEE EMBS 10th Ann. Int. Conf.* 1998, 3:1094-1095.

RESEARCH GRANTS/CONTRACTS

Active Funded Research

McGoron (PI, 16%)	3/2006-2/2008
R15 AREA	\$150,000
Source: National Institutes of Health	
Title: Respiratory Motion Compensation in PET Molecular Imaging	
McGoron (PI, 8%)	7/2006-6/2007
Source: Florida Department of Health (SBTR)	\$95,000
Title: A micro-fabricated in vivo bubble oxygenator for the treatment of induced severe pulmonary disease	
Collaborative project with Oxylation, LLC	
Jones (PI)	3/2005-2/2007
Role: (Co-I, 8%)	\$3,000,000
Source: Air Force Office of Scientific Research	
Title: Research in Nanoelectronics and Bio-Nano Sensors	

SERVICE

a. Professional Service

- ❖ American Heart Association Grant Peer Review Committee 2002-present
- ❖ Session Co-Chair: XXI Southern Biomedical Engineering Conference, Washington, DC, September 28 – 29, 2002.
- ❖ Session Co-Chair, American's Nuclear Energy Symposium (ANES), Miami Beach, FL, October 4-6, 2004: Isotopes in Medicine
- ❖ American Heart Association Miami Community Board, 2004-present
- ❖ Steering Committee for BioTech 2004 meeting
- ❖ Technical Committee – Engineering World Health 2004
- ❖ Reviewer. Kentucky Science and Engineering Foundation. R&D Excellence Program 2004-2005

- ❖ Courtesy BME lectures to Miami Dade College in 2005
- ❖ Lectured to Nuclear Medicine Medical Residents at the University of Miami School of Medicine

b. University Service

(1) to the Department

- ❖ Director of Undergraduate Studies for Biomedical Engineering 2003-present
- ❖ Chair Search and Screen Committees 2000, 2002 and 2004
- ❖ Curriculum committee for BS program in Biomedical Engineering 2001-present
- ❖ Curriculum committee for Mechanical Engineering 2001-2003
- ❖ United Way Ambassador 2000

(2) to the School/College

- ❖ Faculty advisor to student chapter of the Biomedical Engineering Society 2000-present
- ❖ COE Faculty Council on Governance 2003-present
- ❖ Order of the Engineer Ceremony Committee 2004-present
- ❖ Trends in Engineering Technologies and Education Workshop, 2004

(3) to the University

- ❖ Radiation Safety Committee 2000-present
- ❖ Animal Care and Use Committee (IACUC) 2002-present
- ❖ Undergraduate Medical Education and Support Services Committee 2005-present

PROFESSIONAL DEVELOPMENT

- ❖ Whitaker Foundation Biomedical Engineering Educational Summit. Washington, DC, 2005
- ❖ ABET Workshop at the Biomedical Engineering Society meeting. Philadelphia, PA, 2004
- ❖ Whitaker Foundation Biomedical Engineering Educational Summit. Washington, DC, 2000
- ❖ Kinetics Transport Modeling Workshop. National Simulation Resource, University of Washington, 1996

PROFESSIONAL HONORS, PRIZES AND FELLOWSHIPS

- ❖ Member - Biomedical Engineering Society
- ❖ Member - Sigma Xi Scientific Research Society
- ❖ American Heart Association Initial Investigator Award 2001-2004
- ❖ FIU Provost's Office Summer Research Competition 2000 and 2002
- ❖ National Institutes of Health Postdoctoral Fellow, 1991-1994
- ❖ Elected to Sigma Xi Scientific Research Society 1990
- ❖ Louisiana Board of Regents Graduate Fellow, 1988-1991
- ❖ Outstanding Biomedical Engineering Student Award, 1986
- ❖ Tau Beta Omega Engineering Honor Society (later Tau Beta Pi) 1986
- ❖ PhD GPA 4.0/4.0 - MSE GPA 3.6/4.0 - BSE. with High Honors (GPA 3.7/4.0)

GRADUATE STUDENT DEVELOPMENT ACTIVITIES

a. Dissertation/Thesis Advisor:

1. Xuming Mao, MS (2001), 1999-2001. Interpolation Methods for Dynamic Imaging and Tracer Kinetic Modeling for Emission Tomography using Rotating Detectors.
2. Min Zhou, MS (2002), 2000-2002. Image Processing and Tracer Kinetics Modeling for The Rotating PET Study of Cerebral Glucose Metabolism
3. Danny Gonzalez, MS (2004), 2002-2004. Creation of a Novel Magnetic Drug Delivery Complex.

4. Michael Capille, MS (2004), 2002-2004. SPECT CBF Validation using Radioactive Microspheres.
5. Marie Saurel Gilet, MS, 2004-present. Cerebral Perfusion and Quantitative Glucose Metabolism Imaging in a Piglet Model of Pediatric Brain Injury using Hybrid SPECT/PET.
6. Jiali Wang, MS (2005), 2004-2005. Respiratory Gated PET for Lung Cancer Imaging. Device Development
7. Kealoha Young, MS (2006), 2005-2006. A micro-fabricated in vivo bubble oxygenator for the treatment of induced severe pulmonary disease. (Supported by Oxylation, LLC).
8. Jiali Wang, PhD, 2005-present. Respiratory Gated PET for Lung Cancer Imaging. Image Processing
9. Sarah Erickson, PhD, (Presidential Fellow) 2005-. Respiratory Gated PET for Lung Cancer Imaging.
10. Yuan Tang, PhD, 2005-present. Image Guided Targeted Therapeutics for Cancer: Combined Hyperthermia and Chemotherapy.
11. Raquibul Chowdhury, MS, 2005-present. Image Guided Targeted Therapeutics for Cancer: Combined Hyperthermia and Chemotherapy.
12. Alicia Fernandez, MS, 2006-present. Image Guided Targeted Therapeutics for Cancer: Combined Hyperthermia and Chemotherapy.

b. Dissertation/Thesis Committees:

1. William Kassing, PhD (2001). Department of Mechanical, Industrial and Nuclear Engineering, University of Cincinnati. A Monte Carlo Investigation of the Radiation Dose distribution in Intravascular Brachytherapy.
2. David Holtzclaw, PhD (2001). Department of Aerospace Engineering and Engineering Mechanics, University of Cincinnati. Characterization of Light Sickle Erythrocytes Derived from Dense Erythrocytes In vitro.
3. Yanran Liu, MS (2002). BMEI, FIU, A Three-Dimensional Model of a Polymer Composite Trileaflet Aortic Valve Using Finite Element Analysis
4. Alejandra Caceras, MS (2003). BME, FIU. A Dosimetry and Radiobiological Model for Intravascular Brachytherapy Treatment Planning with Radioisotope Emitting Stents.
5. Madhu Durai, MS (2003). BME, FIU. Statistical Characterization of Positron Emission Tomography Standardized Uptake Values in Simulated Malignant Tumors.
6. Martha Vallejo, MS (2004). BME, FIU. Development and Implementation of Biodegradable Matrix for Cardio Regeneration
7. Brijesh Kadam, MS (2004). BME, FIU. Site-specific Delivery of Growth Factors Using Polymer Nanoparticles
8. Zhizhong Wang, PhD (2005). Chemistry, FIU. An Improved Synthetic Route to Tryprostatins and their Applications in Natural Product Synthesis.
9. Fernando Jaramillo, MS (2005). BME, FIU. Catheter Based Heart Valves.
10. Manu Kumar, MS (2005). BME, FIU. In Vitro Study and Quantification of Nitric Oxide and Calcium Interactions in Micro vessels obtained from Rat Mesentery using Fluorescent Microscopy.
11. Jose Iragorry, PhD (2005). ME, FIU. Development in Frost Measurement Techniques and Mathematical Models.
12. Qiang Wang, MS (2006). BME, FIU. Catheter Based Heart Valves, In Vivo and In Vitro Evaluation
13. Ange Marie Patricia Fièvre, MS (2006), ECE, FIU. Nanoscale Optical Waveguides.
14. David Saez, MS (2006), BME, FIU, MCNP5 Monte Carlo Calculation of Radial Dose Distributions ion Water from Isotropic Sources of Beta Emitters used in Radionuclide Therapy.
15. Alex Pena, MS (2006), BME, FIU, Posture-Sensing Back Belt for the Encouragement of Proper Lifting Techniques.

COURSE, CURRICULUM DEVELOPMENT ACTIVITIES

- ❖ Served on the committee to develop the BS Biomedical Engineering curriculum.
- ❖ Serve as the Director of Undergraduate Studies for Biomedical Engineering and currently directing ABET activities for the department.

- ❖ Designed and implemented two undergraduate student laboratory courses in which students learn to execute and analyze research level experiments. Worked closely with the laboratory instructor and other faculty in the Department to design 5 laboratory exercises for each course. The exercises incorporate current faculty research and utilize state-of-the-art research equipment.
- ❖ Developed a Minor in Biomedical Engineering for Non-Engineering Majors that has been approved by the college curriculum committee.
- ❖ Developed the Honors Curriculum for Biomedical Engineering.
- ❖ Attended the 2000 Whitaker Foundation Biomedical Engineering Educational Summit. Washington, DC to present our Clinical Rotations for Biomedical Engineers course.
- ❖ Attended the 2005 Whitaker Foundation Biomedical Engineering Educational Summit. Washington, DC
- ❖ Attended the ABET Workshop at the Biomedical Engineering Society meeting. Philadelphia, PA, 2004
- ❖ To expose the students to “real world” bioengineering, I invited speakers from our Biomedical Engineering Industry Partners to speak to the students in the EGM 4580 class and the entire college to these lectures. I also coordinated visits by the EGM 4580 students to biotechnology companies.

OTHER TEACHING RELATED ACTIVITIES

a. Post Graduates/Fellows

1. Anil Kumar, M.D., Cardiology Fellow, University of Cincinnati, 1997-1998
2. Abbe Rosenbaum, M.D., Cardiology Fellow, University of Cincinnati, 1996-1997
3. Michael Meleca, M.D., Cardiology Fellow, University of Cincinnati, 1995-1996
4. Daniel Lenihan, M.D., Cardiology Fellow, University of Cincinnati, 1994-1995
5. Joseph Olonzo, M.D., Internal Medicine Resident, University of Cincinnati, 1994

b. Undergraduate Students Mentored at FIU

I believe it is very important to provide undergraduate students with the experience and exposure to state-of-the-art engineering research and applications. I also try to provide mentoring to students when possible. Therefore, I regularly have undergraduate students work in my laboratory. The following undergraduate students have worked in my lab at FIU.

1. Jennifer Soto, 2006-present
2. Anat Aviram (Supported by MBRS fellowship), 2005-present
3. Sandy Emile (Supported by the Norman Weldon Summer Research Internship) 2005
4. Adrian Romero (Supported by a Ronald E. McNair Research Fellowship), 2004-present
5. Alicia Fernandez, 2004
6. Delhy Arias (Supported by MBRS fellowship), 2003-2005
7. Mahwish Ahmed, 2003-2004
8. Karym Urdaneta, 2003
9. Jackeline Martinez, 2002-2003
10. Juan Marquez, 2003
11. Yenny Vargas (Supported by MBRS fellowship), 2001-2002
12. Joseph Manguno, 2000-2001
13. Danny Acero, 2000-2001
14. Luis Ruiz, 2000

c. High School Students Mentored at FIU

1. Alisa Tao, 2004
2. Deniz Yavas, 2002-2003

d. Undergraduate Students Mentored at Previous Academic Appointment

1. Ashfaque Karim, American Heart Association Summer Research Fellow, 1998
2. Nicole Faust, ASPET Summer Research Training Program, 1998
3. Ursula Ekpenyong, NIH Summer Research Fellow, 1996
4. Geneeco Hudson, NIH Summer Research Fellow, 1995, 1996
5. Katie Peeden, American Heart Association Summer Research Fellow, 1995
6. Darnell Hackworth, NIH Summer Research Fellow, 1994
7. Stephanie Buening, American Heart Association Summer Research Fellow, 1993