

Kim Claire O'Connor

Education

Ph.D.	Caltech	Major: Chemical Engineering Minor: Biology	GPA 3.8 Advisor: James Bailey	1987
B.S.	Rice University	Major: Chemical Engineering Magna Cum Laude	GPA 3.8 Advisor: Larry McIntire	1982

Primary Appointments

1990-present	Tulane University: Professor, Chemical & Biomolecular Engineering Dept., 2003-present Professor, Chemical Engineering Dept., 2002-2003 Associate Professor, Chemical Engineering Dept., 1996-2002 Assistant Professor, Chemical Engineering Dept., 1990-1996
1988-1990	Postdoctoral Research Fellow, Northwestern University: Chemical Engineering Dept. Biochemistry, Molecular Biology & Cell Biology Dept.
1987-1988	Postdoctoral Research Fellow, Caltech, Chemistry Dept.

Related Experience

2009-present	Associate Member, Tulane Center for Gene Therapy
2006-present	Faculty, Biological Chemistry Program, Tulane
1999-present	Adjunct Assoc. Professor, Department of Surgery, Tulane Medical School
1994-present	Contributing Member, Tulane Cancer Center
1991-present	Faculty, Interdisciplinary Molecular & Cellular Biology Graduate Program (1991-2006), renamed Biomedical Sciences Graduate Program (2006-present) Tulane Medical School (100+ faculty across 3 campuses): Steering Committee Member, 1993-2006 Co-Director, 1996-1999 (elected) Interim Director, 1997 (with Prof. Bill Toscano)
2005	Visiting Professor, Center for Cell and Gene Therapy, Baylor College of Medicine

Honors

Tulane Health Sciences Award for Leadership & Excellence in Intercampus Collaborative Research, 2005
Editorial Board Member, Journal of Cellular and Molecular Medicine, 2004-2006
Tulane University, Interdisciplinary Teaching Award, 2001
Society of Tulane Engineers and Lee H. Johnson Award for Teaching Excellence, 2001
Who's Who Among American Teachers, 2000, 2005
Tulane University, Award for Excellence in Undergraduate Teaching, 1999
NASA Space Act Award, 1994, 1995, 1996
Sigma Xi, 1987
Weyerhaeuser Company Foundation Fellow, 1982-1983
Texas Society of Professional Engineers, Outstanding Engineering Student, 1982
Magna Cum Laude, Rice University, 1982
Tau Beta Pi, 1982
Max Roy Merit Scholar, 1981-1982
Phi Lambda Upsilon, 1981
George R. Brown Engineering Merit Scholar, 1980-1982
Robert A. Welch Merit Scholar, 1978-1982

Editorial Recognition of Peer-Reviewed Publications:

- BL Barrilleaux, DG Phinney, DJ Prockop and **KC O'Connor***. Ex vivo engineering of living tissue with adult stem cells. *Tissue Eng*, 12: 3007-19 (2006). **[FEATURED ARTICLE]**
- H Song, S Jain, RM Enmon and **KC O'Connor***. Restructuring dynamics of DU 145 and LNCaP prostate cancer spheroids. *In Vitro Cell Dev Biol - Anim*, 40: 262-7 (2004). **[FEATURED ARTICLE]**

Recognition of Presentations:

J Muhitch, K O'Connor, D Blake, D Lacks and G Spaulding. Cultivation of bovine corneal endothelial cells in rotating-wall vessel. Society for In Vitro Biology, New Orleans, LA, 1999. **[FEATURED POSTER]**

K O'Connor, T Prewett, T Goodwin, K Francis, A Andrews and G Spaulding. Animal-cell cultivation in the NASA rotating-wall vessel. European Society for Animal Cell Technology, Würzburg, Germany, 1993. **[FEATURED POSTER]**

Research Areas

Cell and Tissue Engineering: Biocomputation, Biokinetics, Oncology, Stem Cell Technology, Tissue Assembly

Publications

86 Total: 45 Peer-Reviewed Publications (5 in preparation), 2 Patents, 19 Abstracts, 20 Proceedings

Peer-Reviewed Publications (* Corresponding Author)

BL Barrilleaux, DG Phinney, BW Fischer-Valuck, KC Russell, G Wang, DJ Prockop and **KC O'Connor***. Small-molecule antagonist of macrophage migration inhibitory factor enhances migratory response of mesenchymal stem cells to bronchial epithelial cells. *Tissue Eng Part A*, Feb 27 (2009) [Epub ahead of print].

BW Fischer-Valuck, BL Barrilleaux, DG Phinney, KC Russell, DJ Prockop and **KC O'Connor***. Migratory response of mesenchymal stem cells to macrophage migration inhibitory factor and its antagonist as a function of colony-forming efficiency. submitted (2009).

KC Russell, DG Phinney, MR Lacey, BL Barrilleaux, K Meyertholen, DJ Prockop and **KC O'Connor***. High-capacity assay of colony-forming efficiency and trilineage potential reveals clonal heterogeneity and hierarchy of mesenchymal progenitors. submitted (2009).

KC O'Connor*. An introductory course in bioengineering and biotechnology for chemical engineering sophomores. *Chem Eng Edu*, 41: 247-52 (2007).

K O'Connor*, C Vidulescu, S Clejan, H Song and M Venczel. Predicting tissue assembly of prostate cancer spheroids. *Cell Technology Processes for Cell Products*, R Smith, Ed. (Springer Publishers, Netherlands, 2007), 297-302.

KC O'Connor*, JW Muhitch, DJ Lacks and M Al-Rubeai. Modeling suppression of cell death by Bcl-2 over-expression in myeloma NS0 6A1 cells. *Biotechnol Lett*, 28: 1919-24 (2006).

BL Barrilleaux, DG Phinney, DJ Prockop and **KC O'Connor***. Ex vivo engineering of living tissue with adult stem cells. *Tissue Eng*, 12: 3007-19 (2006). **[FEATURED ARTICLE]**

(Hurricane Katrina closed Tulane for four months in 2005 and severely damaged Prof. O'Connor's lab.)

KC O'Connor* and M Venczel. Predicting aggregation kinetics of DU145 human prostate cancer cells in liquid-overlay culture. *Biotechnol Lett*, 27: 1663-8 (2005).

KC O'Connor*. Incorporating molecular and cellular biology into a chemical engineering degree program. *Chem Eng Edu*, 39: 124-127 & 133 (2005).

H Song, S Jain, RM Enmon and **KC O'Connor***. Restructuring dynamics of DU 145 and LNCaP prostate cancer spheroids. *In Vitro Cell Dev Biol - Anim*, 40: 262-7 (2004). **[FEATURED ARTICLE]**

C Vidulescu, S Clejan and **KC O'Connor***. Vesicle traffic through intercellular bridges in DU 145 human prostate cancer cells. *J Cell Mol Med*, 8: 388-96 (2004).

H Song, O David, S Clejan, CL Giordano, H Pappas-LeBeau, L Xu and **KC O'Connor***. Spatial composition of prostate cancer spheroids in mixed and static cultures. *Tissue Eng*, 10: 1266-76 (2004).

H Song, **KC O'Connor***, DJ Lacks, RM Enmon and SK Jain. Monte Carlo simulation of LNCaP human prostate cancer cell aggregation in liquid-overlay culture. *Biotechnol Prog*, 19: 1742-9 (2003).

KC O'Connor*, H Song, N Rosenzweig and DA Jansen. Extracellular matrix substrata alter adipocyte yield and lipogenesis in primary cultures of stromal-vascular cells from human adipose. *Biotechnol Lett*, 25: 1967-72 (2003).

H Song, **KC O'Connor***, O David, CL Giordano, H Pappas-LeBeau and S Clejan. Immunohisto-chemical analysis of differentiation in mixed and static prostate cancer spheroids. *J Cell Mol Med*, 7: 180-6 (2003).

RM Enmon, **KC O'Connor***, H Song, DJ Lacks and DK Schwartz. Aggregation kinetics of well and poorly differentiated human prostate cancer cells. *Biotechnol Bioeng*, 80: 580-8 (2002).

- KC O'Connor***, NL Cowger, DCR De Kee and RP Schwarz. Prolonged shearing of insect cells in a Couette bioreactor. *Enzyme Microb Technol*, 31: 600-8 (2002).
- H Song, **KC O'Connor***, KD Papadopoulos and DA Jansen. Differentiation kinetics of in vitro 3T3-L1 preadipocyte cultures. *Tissue Eng*, 8: 1071-81(2002).
- S Clejan*, **K O'Connor** and N Rosenzweig. Tri-dimensional prostate cell cultures in simulated microgravity and induced changes in lipid second messengers and signal transduction. *J Cell Mol Med*, 5: 60-73 (2001).
- NJ Hallab*, KJ Bundy, **K O'Connor**, RL Moses and JJ Jacobs. Evaluation of metallic and polymeric biomaterial surface energy and surface roughness characteristics for directed cell adhesion. *Tissue Eng*, 7: 55-71 (2001).
- RM Enmon, **KC O'Connor***, DJ Lacks, DK Schwartz and RS Dotson. Dynamics of spheroid self-assembly in liquid-overlay cultures of DU 145 human prostate cancer cells. *Biotechnol Bioeng*, 72: 579-91 (2001).
- JW Muhitch, **KC O'Connor***, DA Blake, DJ Lacks, N Rosenzweig and GF Spaulding. Characterization of aggregation and protein expression of bovine corneal endothelial cells as microcarrier cultures in a rotating-wall vessel. *Cytotechnology*, 32: 253-63 (2000).
- NL Cowger, **KC O'Connor***, TG Hammond, DJ Lacks and GL Navar. Characterization of bimodal cell death of insect cells in a rotating-wall vessel and shaker flask. *Biotechnol Bioeng*, 64: 14-26 (1999).
- KC O'Connor***. Three-dimensional cultures of prostatic cells: tissue models for the development of novel anti-cancer therapies. *Pharm Res*, 16: 486-93 (1999) **[INVITED]**.
- N Cowger and **K O'Connor***. Enhanced apoptosis in insect cells cultivated in simulated microgravity. *New Developments and New Applications in Animal Cell Technology*, O-W Merten, P Perrin and B Griffiths, Eds. (Kluwer Academic Publishers, Dordrecht, 1998), 231-3.
- KM Francis, **KC O'Connor*** and GF Spaulding. Cultivation of Fall Armyworm Ovary cells in simulated microgravity. *In Vitro Cell Dev Biol - Anim*, 33: 332-6 (1997) **[INVITED]**.
- KC O'Connor***, RM Enmon, RS Dotson, AC Primavera and S Clejan. Characterization of autocrine growth factors, their receptors and extracellular matrix present in three-dimensional cultures of DU 145 human prostate carcinoma cells grown in simulated microgravity. *Tissue Eng*, 3: 161-71 (1997).
- NL Cowger, **KC O'Connor*** and JE Bivins. Influence of simulated microgravity on the longevity of insect-cell culture. *Enzyme Microb Technol*, 20: 326-32 (1997).
- N Cowger and **K O'Connor***. Applications of simulated microgravity to insect-cell culture. *Invertebrate Cell Culture: Novel Directions and Biotechnology Applications*, K Maramorosch and J Mitsuhashi, Eds. (Science Publishers, Enfield, New Hampshire, 1997), 131-8 **[INVITED]**.
- K O'Connor***, R Enmon, A Primavera, R Dotson and S Clejan. Characterization of extracellular matrix in three-dimensional cultures of DU 145 human prostate carcinoma cells. *Animal Cell Technology: From Vaccines to Genetic Medicine*, MCarrondo, B Griffiths and J Moreira, Eds. (Kluwer Academic Publishers, Dordrecht, 1997), 571-5.
- S Clejan, **KC O'Connor***, NL Cowger, MK Cheles, S Haque and AC Primavera. Effects of simulated microgravity on DU 145 human prostate carcinoma cells. *Biotechnol Bioeng*, 50: 587-97 (1996) **[INVITED]**.
- NJ Hallab, KJ Bundy*, **K O'Connor**, R Clark and RL Moses. Cell adhesion to biomaterials: correlations between surface charge, surface roughness, adsorbed protein and cell morphology. *J Long-Term Effects Med Implants*, 5: 209-31 (1995) **[INVITED]**.
- W Hugler, **KC O'Connor***, SJ Landry and JE Bivins. Induction of stress proteins in anoxic and hyperthermic *Spodoptera frugiperda* cells. *Cytotechnology*, 17: 91-101 (1995) **[INVITED]**.
- K Francis, **K O'Connor***, D Blake, D Caldwell and G Spaulding. Growth and structure of corneal tissue in simulated microgravity. *Animal Cell Technology: Developments Towards the 21st Century*, E Beuvery, J Griffiths and W Zeijlemaker, Eds. (Kluwer Academic Publishers, Dordrecht, 1995), 959-63.
- KJ Bundy*, OC Roberts, **KC O'Connor**, B Rahn and V McLeod. Quantification of fibroblast adhesion to biomaterials using a fluid mechanics approach. *J Mat Sci: Mater Med*, 5: 500-2 (1994).
- N Kommareddi, **KC O'Connor** and VT John*. EPR characterization of alpha-chymotrypsin active site dynamics in reversed micelles at enhanced gas pressures and after subjection to clathrate formation conditions. *Biotechnol Bioeng*, 43: 215-24 (1994).
- K O'Connor***, T Prewett, T Goodwin, K Francis, A Andrews and G Spaulding. Animal-cell cultivation in the NASA rotating-wall vessel. *Animal Cell Technology: Products for Today, Prospects for Tomorrow*, R Spier, J Griffiths and W Berthold, Eds. (Butterworth-Heinemann, London, 1994), 293-5.

- KC O'Connor*** and ET Papoutsakis. Agitation effects on microcarrier and suspension CHO cultures. *Biotechnol Tech*, 6: 323-8 (1992).
- KC O'Connor** and JE Bailey*. ESR investigations of free and immobilized glutamate dehydrogenase. *Biotechnol Bioeng*, 34: 110-6 (1989).
- KC O'Connor**, H-J Schütz and JE Bailey*. Alteration of substrate regulation patterns in glutamate dehydrogenase by enzyme immobilization. *Biotechnol Bioeng*, 33: 896-905 (1989).
- KC O'Connor** and JE Bailey*. Hydrolysis of emulsified tributyrin by porcine pancreatic lipase. *Enzyme Microb Technol*, 10: 352-6 (1988).

Patents

- KC O'Connor**, GF Spaulding, TJ Goodwin, LA Aten, KM Francis, DR Caldwell, TL Prewett and WS Fitzgerald. Three-dimensional optic tissue culture and process. US Patent 5,962,324 (1999).
- GF Spaulding, TJ Goodwin, **KC O'Connor**, KM Francis, AD Andrews and TL Prewett, Recombinant protein production and insect cell culture and process. US Patent 5,637,477 (1997). Licensed to VivoRx Pharmaceuticals, Inc., Santa Monica, CA (NASA DE-200, partially exclusive license).

Abstracts

- K O'Connor and H Song. Computational tissue engineering: Monte-Carlo simulation of restructuring dynamics during tissue self-assembly of prostate cancer spheroids. *In Vitro Cell Dev Biol - Animal*, 44: S33 (2008).
- K O'Connor, H Song and S Clejan. Computer-aided tissue engineering: predicting self-assembly of prostate cancer spheroids. *In Vitro Cell Dev Biol - Animal*, 42: 19-A (2006).
- H Song, S Jain, RM Enmon and KC O'Connor. Restructuring of prostate spheroids. *In Vitro Report, Journal Highlights*, 39.2 (2005).
- CF Vidulescu, S Clejan and K O'Connor. Vesicle traffic through intercellular bridges in DU145 human prostate cancer cells. *FASEB J*, 19: A822 (2005).
- H Song, K O'Connor, D Lacks, R Enmon and S Jain. Monte Carlo simulation of LNCaP human prostate cancer cell aggregation in liquid-overlay culture. *In Vitro Cell Dev Biol - Animal*, 40: 35-A (2004).
- G Spaulding, T Goodwin, L Aten, K O'Connor, D Caldwell and K Francis. Growing three-dimensional corneal tissue in a bioreactor. *NASA Tech Briefs* 27: 65 (2003).
- H Song, K O'Connor, K Papadopoulos and D Jansen. Differentiation kinetics of in vitro 3T3-L1 preadipocyte cultures. *In Vitro Cell Dev Biol - Animal*, 39: 30A (2003).
- R Enmon, K O'Connor, H Song, D Lacks and D Schwartz. Spheroid self-assembly of well and poorly differentiated prostate cancer cells. *In Vitro Cell Dev Biol - Animal*, 38: 7A (2002).
- R Enmon, K O'Connor, D Lacks, D Schwartz and R Dotson. Population dynamics of spheroid self-assembly of prostate cancer cells. *In Vitro Cell Dev Biol - Animal*, 37: 29A (2001).
- J Muhitch, K O'Connor, D Blake and N Rosenzweig, Cultivation of bovine corneal endothelial cells in rotating-wall vessel. *In Vitro Cell Dev Biol - Animal*, 35: 546 (1999).
- N Cowger, K O'Connor, D Lacks, D DeKee and R Schwarz. Modeling population dynamics of insect cells cultured in rotating-wall vessel and shaker flask. *In Vitro Cell Dev Biol - Animal*, 35: 36A (1999).
- G Spaulding, T Goodwin, L Aten, K O'Connor, D Caldwell and K Francis. Growing three-dimensional corneal tissue in a bioreactor. *NASA Tech Briefs* 21: 74-5 (1997).
- K O'Connor, S Clejan, R Enmon, N Cowger and A Primavera. The use of three-dimensional growth to develop tissue-like spheroids and bilayers as prostate cancer cell models. *In Vitro Cell Dev Biol - Animal*, 33: 28A (1997).
- G Spaulding, T Goodwin, T Prewett, A Andrews, K Francis and K O'Connor. Cultivating insect cells to produce recombinant proteins. *NASA Tech Briefs* 20: 56 (1996).
- N Cowger, K O'Connor and J Bivins. Characterization of microgravity cultures of insect cells in stationary and death phase. *In Vitro Cell Dev Biol - Animal*, 32: 37A (1996).
- K O'Connor, N Rosenzweig and S Clejan. Simulated microgravity inhibition of in vitro aggressiveness of prostate cancer is accompanied by change in signal transduction and lipid second messengers. *FASEB J*, 10: A1395 (1996).
- N Hallab, K Bundy, K O'Connor and R Moses. Biofilm composition and cellular morphology as related to cellular adhesion to biomaterials. *J Long-Term Effects Med Implants*, 5: 87-8 (1995) **[FEATURED ABSTRACT]**.
- K Francis, N Johnson, K O'Connor and G Spaulding. Metabolic activity of insect cells cultured in simulated microgravity. *In Vitro Cell Dev Biol - Animal*, 30A: 55 (1994).

K Francis, K O'Connor, D Blake, D Caldwell and G Spaulding. Growth and structure of corneal tissue in simulated microgravity. *Cytotechnology*, 14: Suppl. 1, 7.16 (1994).

Proceedings

- K O'Connor, H Song, C Giordano, S Clejan, O David and H LeBeau. Expression of multidrug resistance proteins in static and mixed cultures of prostate cancer spheroids. *Proceedings of the American Association for Cancer Research*, 44: 736 (2003).
- H Song, K O'Connor, C Giordano, S Clejan, O David and H LeBeau. Influence of mixing on phenotypic differences in well and poorly differentiated prostate cancer spheroids. *American Chemical Society*, 225: U225 (2003).
- K O'Connor, N Cowger and D Lacks. Modeling population dynamics of insect cells cultivated in simulated microgravity. *Proceedings of the 2nd Pan Pacific Basin Workshop on Microgravity Sciences*, paper BT-1166 (2001).
- R Enmon, K O'Connor, D Lacks and D Schwartz. Modeling multicellular spheroid formation from human prostate carcinoma cell cultures. *Proceedings of the American Association for Cancer Research*, 40: 463 (1999).
- G Piringer, S Bhattacharya and K O'Connor. Anaerobic acidogenic pretreatment of nitrophenol-containing wastewater. *American Chemical Society*, 218: U702-3 (1999).
- R Enmon, K O'Connor, D Lacks, D Schwartz and S Clejan. Use of 3D growth to develop tissue-like spheroids and bilayers as prostate cancer cell models. *American Chemical Society*, 218: U917 (1999).
- K O'Connor, S Clejan, R Enmon, N Cowger, R Dotson, M Cheles and S Haque. Effects of simulated microgravity on growth patterns and select biological markers of DU 145 human prostate carcinoma cells. *American Institute of Aeronautics and Astronautics*, paper 99-0958 (1999).
- N Cowger, K O'Connor, T Hammond, G Navar and D Lacks. Characterization of bimodal cell death of insect cells cultured in a rotating-wall vessel and shaker flask. *American Chemical Society*, 216: U254 (1998).
- N Cowger and K O'Connor. Application of the extreme low-shear regime of simulated microgravity to insect-cell cultivation. *American Institute of Aeronautics and Astronautics*, paper 98-0461 (1998).
- N Hallab, K Bundy and K O'Connor. Surface properties affecting cellular adhesion. *Proceedings of the Annual Meeting of the Society for Biomaterials*, 30 (1997).
- K O'Connor, S Clejan, S Haque, N Cowger, R Enmon, M Cheles and A Primavera. Effects of simulated microgravity on DU 145 human prostate carcinoma cells. *American Chemical Society*, 211: 226 (1996).
- N Hallab, K Bundy, K O'Connor, R Clark and R Moses. Surface charge, biofilm composition and cellular morphology as related to cellular adhesion to biomaterials. *Proceedings of the Southern Biomedical Engineering Conference*, 81-4 (1995).
- K Francis, K O'Connor, N Johnson and G Spaulding. Viral infection of insect cells cultured in simulated microgravity. *Proceedings of the Louisiana Aerospace Forum*, 139 (1994).
- N Hallab, R Clark, K Bundy and K O'Connor. Surface charge and energy affect fibroblast adhesion to biomaterials. *Proceedings of the Annual Meeting of the Society for Biomaterials*, 205 (1994).
- K Bundy, K O'Connor, O Roberts, B Rahn, R Clark and N Hallab. Physical and biological effects influencing fibroblast adhesion to biomaterials. *Proceedings of the Annual Meeting of the Orthopaedic Research Society*, 16 (1994).
- K Francis, K O'Connor, T Prewett, T Goodwin and G Spaulding. Growth, metabolic activity and recombinant protein expression for Fall Armyworm Ovary cells cultured in the NASA high-aspect ratio vessel. *American Institute of Aeronautics and Astronautics Space Programs & Technologies Conference*, paper 93-4099 (1993).
- K Bundy, B Rahn, K O'Connor, O Roberts and H Gerber. Cell adherence to biomaterials of varying surface characteristics. *Proceedings of the Annual Meeting of the Society for Biomaterials*, 248 (1993).
- K O'Connor, O Roberts, K Bundy and V McLeod. Strength of cellular adhesion to specific biomaterial surfaces. *Proceedings of the Southern Biomedical Engineering Conference*, 257-9 (1993).
- K Bundy, K O'Connor, C Roberts and M Sosa. Cell/biomaterial adherence measured with the microjet impingement technique. *Proceedings of the Southern Biomedical Engineering Conference*, 91-2 (1992).
- V John, J Phillips, N Kommareddi and K O'Connor. Protein extraction and recovery from reversed micelles through pressure-induced micellar phase-transitions. *American Chemical Society*, 202: 46 (1991).

Grants

\$ 5.9 million awarded: \$ 2.2 million as principal investigator, \$ 1.5 million as co-investigator, \$ 2.2 million as collaborator

Grants Awarded with K. O'Connor as Principal Investigator

Mechanism of progenitor enrichment during amplification of marrow stromal cells. D Phinney and M Lacey (Co-I's), and D Prockop (consultant), \$ 142,532 NIH (1 R03 EB007281-01), 6/07-5/09.

Factors influencing plasticity of adult stem cells in co-culture. D Phinney, S Clejan, and S Srivastav (Co-I's), and D Prockop (consultant) \$ 496,381 NSF (BES-0514242), 7/05-6/09.

Spatial organization within prostate cancer spheroids. S Clejan and D De Kee (Co-I's), \$ 522,000, NASA NAG 9-1351, 8/01-9/06.

Spatial organization within prostate cancer spheroids: supplement. \$ 6,000, Tulane Cancer Center, 7/02-6/03.

Use of tissue engineering to develop a breast implant alternative for mastectomy patients. D Jansen (Co-I), \$ 369,005, Joe W. and Dorothy Dorsett Brown Foundation, 5/98-1/02.

Influence of metastatic potential on the kinetics of spheroid self-assembly. \$ 7,000, Tulane Cancer Center, 7/2000-6/01.

Insect-cell cultivation in simulated microgravity. \$ 422,850, NASA NAG9-826, 8/95-12/2000.

Developing three-dimensional spheroids of DU 145 human prostate carcinoma cells as a model of prostatic tumors. \$ 7,000, Tulane Cancer Center, 1/98-12/98.

Renowned women in chemical engineering speaker series. \$ 12,400, Newcomb Foundation, 9/91-8/00.

Three-dimensional cornea regeneration. D Blake and D Caldwell (Co-I's), \$ 10,000, Greater New Orleans Foundation, 5/95-4/96.

Characterization of extracellular matrix in corneal tissue models prepared in simulated microgravity. D Blake and D Caldwell (Co-I's), \$ 5,741, LaSpace, 5/95-4/96.

Mechanisms affecting metastatic potential in three-dimensional cultures of DU 145 human prostate carcinoma cells. S Clejan (Co-I), \$12,250, Tulane Cancer Center, 5/95-4/96.

Insect-cell cultivation in the NASA high-aspect ratio vessel. \$ 30,914, NASA NAG 9-733, 5/94-3/95.

Organ/tissue regeneration in simulated microgravity: a study with corneal cell culture. D Caldwell (Co-I), \$ 10,000, LaSpace, 6/94-5/95.

Three-dimensional cornea regeneration. D Caldwell (Co-I), \$ 13,500, Greater New Orleans Foundation, 5/94-4/95.

Factors affecting recombinant protein expression in animal cells: a study with NASA's RWV. \$ 10,000, LaSpace, 1/93-12/93.

Graduate research assistantship. \$ 11,118, NASA/University Space Research Association, 12/92-9/93.

Expression of the Alzheimer's protease inhibitor domain of the amyloid beta-protein precursor in Sf9 cells. D Mullin (Co-I), \$ 20,000, Interdisciplinary Program in Molecular and Cellular Biology at Tulane, 3/92-2/93.

New research investigator grant. \$ 30,000, Shell Oil Company Foundation, 6/91-5/95.

Investigations of hyper- and hypoxia. \$ 5,000, Tulane NIH-BRSG Program, 6/91-5/92.

Animal-cell culture: reactor studies of *Spodoptera frugiperda*. \$ 4,000, Tulane Committee on Research, 5/91-8/91.

Grants Awarded with K. O'Connor as Co-Investigator

Acquisition of a fluorescence activated cell sorter. WT Godbey (PI), K O'Connor, V John, K Papadopoulos and D Overby (Co-I's). \$ 154,842, Louisiana BoR, 6/07.

Confocal video (capillary) microscopy with fluorescence. K Papadopoulos (PI), Y Lu, G Boyd, V John, and K O'Connor (Co-I's). \$ 81,000, NSF 0318995, 4/03-5/04.

Atomic force microscope acquisition for chemical engineering research and education. V John (PI), K O'Connor, K Papadopoulos, R Gonzalez and D Lacks (Co-I's), \$ 131,748, Louisiana BoR, 5/01.

Involvement of reactive oxygen species in breast cancer cells development, maintenance and death. N Rosenzweig (PI), K O'Connor (Mentor Co-I) and D Jansen (Co-I), \$ 150,000, DoD HBCU/MI-Focused Training Award 21C302-1233-7505-20, 7/00-6/02.

Biomaterialization mimetics and particle synthesis in microstructured environments. V John (PI), G McPherson and K O'Connor (Co-I's), \$ 348,000, NSF 10920136-1, 7/92-6/95.

Use of the microjet impingement technique for measuring cell adherence to biomaterials: a feasibility study. K Bundy (PI) and K O'Connor (Co-I), \$ 5,000, Tulane NIH-BRSG Program, 1/92-12/92.

Formation and emission of methane in rice soils: experimental determination and modeling analysis. V Law and C Lindau (PI's), R DeLaune, W Patrick, K O'Connor and S Bhattacharya (Co-I's), \$ 413,155, DoE National Institute for Global Environmental Change, 7/91-6/92.

Formation and emission of methane in rice soils: experimental determination and modeling analysis. V Law and W Patrick (PI's), C Lindau, R DeLaune and K. O'Connor (Co-I's), \$ 221,073, DoE National Institute for Global Environmental Change, 7/90-6/91.

Grants Awarded with K. O'Connor as Collaborator

Lung cancer and stem cells. D Sullivan (PI), G Morris, J Lasky, and D Prockop (Co-I's), K O'Connor and S Hill (consultants). \$ 85,000, Tulane Research Enhancement Fund, 4/07-3/09.

Development of a nationally recognized model in research commercialization, education and workforce development in chemical engineering and the chemical sciences through university and community college collaborations. V John, C Stevens, V De Angelis, and L Goodwin (PIs), K O'Connor is one of several faculty consultants, \$ 1,200,000 for Tulane University, BoR, 9/07-8/10.

Research training in surgical oncology. B Jaffe (PI), K O'Connor is one of 15 preceptors, \$ 921,280, NIH 1T32CA65436, 7/97-6/02.

Presentations

110 Total: 52 Conference Speeches, 24 Posters, 34 Invited Speeches

Conference Speeches (Speaker)*

B Barrilleaux, D Phinney, B Fischer-Valuck, K Russell, G Wang, D Prockop and K O'Connor*. Small-molecule antagonist of macrophage migration inhibitory factor enhances migratory response of mesenchymal stem cells to bronchial epithelial cells. European Society for Animal Cell Technology, Dublin, Ireland, 2009.

Ibid. (Barrilleaux – speaker), American Institute of Chemical Engineers, Philadelphia, PA, 2008.

D Phinney*, M Dutreil, N Tremain, L Ortiz, I Isakova, D Gaupp, A Pandey, K Russell and K O'Connor. Biochemical heterogeneity of mesenchymal stem cells accounts for their broad therapeutic potential. Plenary session speaker, 1st UK-Korea Stem Cell Symposium, Annual Meeting of the Korean Society for Stem Cell Research, Seoul National University, Seoul, South Korea, 2008.

D Phinney*, M Dutreil, N Tremain, L Ortiz, I Isakova, D Gaupp, A Pandey, K Russell and K O'Connor. A SAGE view of mesenchymal stem cells. Taiwan International Somatic Stem Cell Symposium. Taipei Veterans General Hospital, Taipei, Taiwan, 2008.

K O'Connor* and H Song. Computational tissue engineering: Monte-Carlo simulation of restructuring dynamics during the self-assembly of prostate cancer spheroids. Society for In Vitro Biology, Tucson, AZ, 2008.

Ibid. American Institute of Chemical Engineers, Salt Lake City, UT, 2007.

K O'Connor*, M Almagor, C Vidulescu, S Clejan and H Song. Computer-aided tissue engineering: predicting self-assembly of prostate cancer spheroids. American Institute of Chemical Engineers, San Francisco, CA, 2006.

Ibid., Society for In Vitro Biology, Minneapolis, MN, 2006.

Ibid., European Society for Animal Cell Technology, Harrogate, North Yorkshire, UK, 2005.

Ibid., NASA Cell Science Conference, Galveston, TX, 2005.

L Lawson*, K O'Connor and K Papadopoulos. Protein conjugation at the oil/water interface of emulsion droplets. Louisiana Conference on Advanced Materials and Emerging Technologies, New Orleans, LA, 2005.

H Song, R Enmon, S Jain, D Lacks and K O'Connor*. Monte Carlo simulation of LNCaP human prostate cancer cell aggregation in liquid-overlay culture. Society for In Vitro Biology, San Francisco, CA, 2004.

Ibid., NASA Cell Science Conference, Palo Alto, CA, 2004.

L Lawson*, K O'Connor, and K Papadopoulos. Protein conjugation at the oil/water interface of emulsion globules, American Chemical Society Colloid and Surface Science Symposium, New Haven, CT, 2004.

H Song, R Enmon, S Jain, D Lacks and K O'Connor*. Monte Carlo simulation of LNCaP human prostate cancer cell aggregation in liquid-overlay culture. American Institute of Chemical Engineers, San Francisco, CA, 2003.

H Song, K O'Connor*, K Papadopoulos and D Jansen. Differentiation kinetics of in vitro 3T3-L1 preadipocyte cultures. Society for In Vitro Biology, Portland, OR, 2003.

- H Song, K O'Connor*, C Giordano, S Clejan, O David and H LeBeau. Spatial organization of prostate cancer spheroids in rotating-wall vessel and liquid-overlay culture. NASA Cell Science Conference, Houston, TX, 2003.
- H Song, K O'Connor*, K Papadopoulos and D Jansen. Differentiation kinetics of in vitro 3T3-L1 preadipocyte cultures. American Institute of Chemical Engineers. Indianapolis, IN, 2002.
- K O'Connor*, R Enmon, H Song, D Lacks and D Schwartz. Spheroid self-assembly of well and poorly differentiated prostate cancer cells. Society for In Vitro Biology, Orlando, FL, 2002.
- Ibid., NASA Cell Science Conference, Palo Alto, CA, 2002.
- R Enmon, K O'Connor*, H Song, D Lacks and D Schwartz. Aggregation kinetics during spheroid self-assembly of well and poorly differentiated prostate cancer cells. American Institute of Chemical Engineers, Reno, NV, 2001.
- K O'Connor*, N Cowger and D De Kee. Cumulative shear effects on attachment-independent cells in simulated microgravity. 2nd Pan-Pacific Basin Workshop on Microgravity Sciences, Pasadena, CA, 2001.
- Ibid., NASA Cell Science Conference, Houston, TX, 2001.
- R Enmon*, K O'Connor, D Lacks, D Schwartz and R Dotson. Dynamics of spheroid self-assembly in liquid-overlay cultures of DU 145 human prostate cancer cells. American Institute of Chemical Engineers, Los Angeles, CA, 2000.
- K O'Connor*, N Cowger, D Lacks, J Muhitch and M Al-Rubeai. Modeling population dynamics of animal cells. American Institute of Chemical Engineers, Dallas, TX, 1999.
- K O'Connor*, N Cowger, D De Kee, D Lacks, R Schwarz and J Muhitch. Development of a Couette bioreactor for suspension cultures of animal cells. American Institute of Chemical Engineers, Dallas, TX, 1999.
- R Enmon*, K O'Connor, D Lacks, D Schwartz and R Dotson. The use of three-dimensional growth to develop tissue-like spheroids as prostate cancer cell models. American Chemical Society, New Orleans, LA, 1999.
- N Cowger*, K O'Connor, D Lacks, D De Kee and R Schwarz. Modeling population dynamics of insect cells cultured in rotating-wall vessel and shaker flask. Society for In Vitro Biology, New Orleans, LA, 1999.
- R Enmon, K O'Connor*, D Lacks, D Schwartz and S Clejan. Application of simulated microgravity to the development of multicellular spheroids as prostate tumor models. American Institute of Aeronautics and Astronautics, Reno, NV, 1999.
- N Cowger*, K O'Connor, T Hammond, D Lacks and G Navar. Characterization of bimodal cell death of insect cells cultured in a rotating-wall vessel and shaker flask. American Chemical Society, Boston, MA, 1998.
- N Cowger, K O'Connor*, T Hammond and G Navar. Application of the extreme low-shear regime of simulated microgravity to insect-cell cultivation. American Institute of Aeronautics and Astronautics, Reno, NV, 1998.
- K O'Connor*, S Clejan, R Enmon, N Cowger and A Primavera. The use of three-dimensional growth to develop tissue-like spheroids and bilayers as prostate cancer cell models. Society for In Vitro Biology, Washington, DC, 1997.
- N Hallab, K Bundy* and K O'Connor. Surface properties affecting cellular adhesion. Society for Biomaterials, New Orleans, LA, 1997.
- K O'Connor*, S Clejan, R Enmon, R Dotson and A Primavera. Characterization of autocrine regulatory processes in DU 145 human prostate carcinoma cells. American Institute of Chemical Engineers, Chicago, IL, 1996.
- N Cowger*, K O'Connor and J Bivins. Behavior of insect cells during long-term cultivation in simulated microgravity. American Institute of Chemical Engineers, Chicago, IL, 1996.
- N Cowger, K O'Connor* and J Bivins. Characterization of microgravity cultures of insect cells in stationary and death phase. Society for In Vitro Biology, San Francisco, CA, 1996.
- K O'Connor*, R Enmon, A Primavera, R Dotson and S Clejan. Characterization of growth factors and extracellular matrix in three-dimensional cultures of DU 145 human prostate carcinoma cells. European Society for Animal Cell Technology, Vilamoura, Portugal, 1996.
- K O'Connor*, S Clejan, N Cowger, R Enmon, R Dotson and A Primavera. Effects of simulated microgravity on DU 145 human prostate carcinoma cells. American Chemical Society, New Orleans, LA, 1996.
- N Cowger*, K O'Connor and J Bivins. Long-term cultivation of insect cells in simulated microgravity. American Institute of Chemical Engineers, Miami Beach, FL, 1995.

- K O'Connor*, W Hugler, N Cowger, S Landry and J Bivins. Properties of insect cells cultivated in simulated microgravity. The Glaxo International Baculovirus and Insect Cell Gene Expression Conference, Pinehurst, NC, 1995.
- N Hallab*, K Bundy, K O'Connor, R Clark and R Moses. Surface charge, biofilm composition and cellular morphology as related to cellular adhesion to biomaterials. Southern Biomedical Engineering Conference, Shreveport, LA, 1995.
- K Bundy*, K O'Connor, O Roberts, B Rahn, R Clark and N Hallab. Physical and biological effects influencing fibroblast adhesion to biomaterials. Orthopaedic Research Society, New Orleans, LA, 1994.
- N Hallab, R Clark, K Bundy* and K O'Connor. Surface charge and energy affect fibroblast adhesion to biomaterials. Society for Biomaterials, Boston, MA, 1994.
- K Bundy*, B Rahn, K O'Connor, O Roberts and H Gerber. Cell adherence to biomaterials of varying surface characteristics. Society for Biomaterials, Birmingham, AL, 1993.
- K O'Connor*, O Roberts, K Bundy and V McLeod. Strength of cellular adhesion to specific biomaterial surfaces. Southern Biomedical Engineering Conference, New Orleans, LA, 1993.
- K O'Connor, T Prewett, T Goodwin, K Francis and G Spaulding*. Application of simulated microgravity to mammalian & insect-cell cultivation: a study with the NASA rotating-wall vessel. American Institute of Chemical Engineers, St. Louis, MO, 1993.
- K Bundy*, O Roberts, K O'Connor, B Rahn and V McLeod. Quantification of fibroblast adhesion to biomaterials using a fluid mechanics approach. European Society for Biomaterials, Davos, Switzerland, 1993.
- K Bundy*, K O'Connor, C Roberts and M Sosa. Cell/biomaterial adherence measured with the microjet impingement technique. Southern Biomedical Engineering Conference, Memphis, TN, 1992.
- N Kommareddi, M Ayyagari, K O'Connor and V John*. Response of proteins in reverse micelles to pressure-induced changes in surface microstructure. American Institute of Chemical Engineers, Miami Beach, FL, 1992.
- V John*, K O'Connor, N Kommareddi, M Rao and C Karayigitoglu. Interfacial effects on enzyme activity in reverse micelles at non-ambient thermodynamic conditions. American Institute of Chemical Engineers, Los Angeles, CA, 1991.
- V John*, A Rao, N Kommareddi and K O'Connor. Protein extraction and recovery using microemulsions at enhanced pressures. American Chemical Society, New York, NY, 1991.
- K O'Connor* and J Bailey. Structure-function relationships in free and immobilized glutamate dehydrogenase, an allosteric oligomer. American Institute of Chemical Engineers, Miami Beach, FL, 1986.

Posters

- K Russell, D Phinney, M Lacey, B Barrilleaux, K Meyertholen, D Prockop and K O'Connor. High-capacity assay reveals heterogeneity of mesenchymal progenitors. Federation of American Societies for Experimental Biology, New Orleans, LA, 2009.
- Ibid., American Institute of Chemical Engineers, Philadelphia, PA, 2008.
- Ibid., Biomedical Engineering Society, St. Louis, MO, 2008.
- B Barrilleaux, B Fischer-Valuck, K Russell, D Phinney, D Prockop and K O'Connor. Factors influencing the formation of co-cultures of human bone marrow stromal and bronchial epithelial cells. American Institute of Chemical Engineers, Salt Lake City, UT, 2007.
- B Barrilleaux, D Phinney, W Lai, I Isakova, B Fischer-Valuck, R Gonzales, D Prockop and K O'Connor. Preservation of early progenitors in transgenic cultures of human bone marrow stromal cells. Biomedical Engineering Society, Los Angeles, CA, 2007.
- Ibid., American Institute of Chemical Engineers, San Francisco, CA, 2006.
- C Vidulescu, S Clejan, and K O'Connor. Vesicle traffic through intercellular bridges in DU 145 human prostate cancer cells. American Society for Biochemistry and Molecular Biology, San Diego, CA, 2005.
- H Song, R Enmon, S Jain, D Lacks and K O'Connor. Monte Carlo simulation of human prostate cancer spheroid formation. Biomedical Engineering Society, Philadelphia, PA, 2004.
- H Song, K O'Connor, O David, C Giordano, H LeBeau and S Clejan. Expression of multidrug resistance proteins in static and mixed cultures of prostate cancer spheroids. American Association of Cancer Research, Washington, DC, 2003.
- Ibid., Tulane Engineering Forum, New Orleans, LA, 2003.

- H Song, K O'Connor, C Giordano, S Clejan, O David and H LeBeau. Influence of mixing on phenotypic differences in well and poorly differentiated prostate cancer spheroids. American Chemical Society, New Orleans, LA, 2003.
- K O'Connor, J Muhitch, D Blake, D Lacks, N Rosenzweig, G Spaulding and C Giordano. Aggregation and protein expression of bovine corneal endothelial cells as microcarrier cultures in a rotating-wall vessel. American Institute of Chemical Engineers, Los Angeles, CA, 2000.
- G Piringer, S Bhattacharya and K O'Connor. Anaerobic acidogenic pretreatment of nitrophenol-containing wastewater. American Chemical Society, New Orleans, LA, 1999.
- J Muhitch, K O'Connor, D Blake, D Lacks and G Spaulding. Cultivation of bovine corneal endothelial cells in rotating-wall vessel. Society for In Vitro Biology, New Orleans, LA, 1999. **[FEATURED POSTER]**
- R Enmon, K O'Connor, D Lacks and D Schwartz. Modeling multicellular spheroid formation from human prostate carcinoma cell cultures. American Association for Cancer Research, Philadelphia, PA, 1999.
- R Enmon, K O'Connor and D Lacks. Kinetics of multicellular spheroid formation from prostate cancer cells. American Institute of Chemical Engineers, Miami Beach, FL, 1998.
- N Cowger, K O'Connor, G Navar and T Hammond. Shift in death mechanism for *Spodoptera frugiperda* cells in a rotating-wall vessel versus a shaker flask. American Institute of Chemical Engineers, Los Angeles, CA, 1997.
- N Cowger, K O'Connor, G Navar and T Hammond. Enhanced apoptosis in insect cells cultivated in simulated microgravity. European Society for Animal Cell Technology, Tours, France, 1997.
- N Cowger and K O'Connor. Simulated microgravity induces a shift from necrosis to apoptosis in insect cells. Keystone Molecular and Cellular Biology Symposium on Apoptosis and Programmed Cell Death, Tamarron, CO, 1997.
- K O'Connor, R Enmon, N Cowger, R Dotson, A Primavera and S Clejan. Simulated microgravity inhibits in vitro aggressiveness of prostate cancer. Joint Meeting of the American Society for Biochemistry and Molecular Biology, American Society for Investigative Pathology and American Association of Immunologists, New Orleans, LA, 1996.
- K O'Connor, S Clejan, N Cowger, R Enmon, R Dotson and A Primavera. Effects of simulated microgravity on DU 145 human prostate carcinoma cells. Cancer Association of Greater New Orleans, New Orleans, LA, 1996.
- K Francis, K O'Connor, D Blake, D Caldwell and G Spaulding. Growth and structure of corneal tissue in simulated microgravity. Joint Meeting of the European Society for Animal Cell Technology and the Japanese Association for Animal Cell Technology, Veldhoven, The Netherlands, 1994.
- K Francis, K O'Connor, N Johnson and G Spaulding. Viral infection of insect cells cultured in simulated microgravity. Louisiana Aerospace Forum, Baton Rouge, LA, 1994.
- K O'Connor, T Prewett, T Goodwin, K Francis, A Andrews and G Spaulding. Animal-cell cultivation in the NASA rotating-wall vessel. European Society for Animal Cell Technology, Würzburg, Germany, 1993. **[FEATURED POSTER]**

Invited Speeches

- The Pennsylvania State University, Dept. of Chemical Engineering, University Park, PA, 2007.
- Xavier University, Dept. of Chemistry, New Orleans, LA, 2003.
- Rice University, Dept. of Chemical Engineering, Houston, TX, 2002.
- Tulane School of Medicine, Dept. of Cellular and Structural Biology, New Orleans, LA, 2002.
- The Cooper Union, Dept. of Chemical Engineering, New York, NY, 2002.
- Tulane University Association of Women, New Orleans, LA, 2002.
- New Orleans Chapter of the American Institute of Chemical Engineers, New Orleans, LA, 2001.
- NASA Johnson Space Center, Houston, TX, 2000.
- NASA Johnson Space Center, Houston, TX, 1999.
- NASA Johnson Space Center, Houston, TX, 1998.
- International Mechanical Engineering Conference and Exposition, Bio-heat/mass transfer under microgravity session, Anaheim, CA, 1998.
- NASA Johnson Space Center, Houston, TX, 1997.
- Purdue University, Dept. of Chemical Engineering, West Lafayette, IN, 1997.
- Tulane School of Medicine, Dept. of Pathology, New Orleans, LA, 1997.
- NASA Johnson Space Center, Houston, TX, 1996.
- Tulane Cancer Center, Tulane University, New Orleans, LA, 1996.
- NASA Johnson Space Center, Houston, TX, 1995.
- American Institute of Chemical Engineers, Tissue engineering session, San Francisco, CA, 1994.

Tissue Culture Association, Cell culture in microgravity session, Research Triangle Park, NC, 1994.
Commencement speech, Duchesne Academy of the Sacred Heart, Houston, TX, 1994.
Tulane University, Dept. of Biomedical Engineering, New Orleans, LA, 1994.
Japanese Association for Animal Cell Technology, Insect-cell culture and applications session, Nagoya, Japan, 1993.
American Institute of Aeronautics and Astronautics Space Programs and Technologies Conference, Biotechnology applications of microgravity session, Huntsville, AL, 1993.
European Society for Animal Cell Technology, Bioreactor design session, Würzburg, Germany, 1993.
NASA Johnson Space Center, Houston, TX, 1993.
SmithKline Beecham Pharmaceuticals, Epsom, England, 1992.
University College London, London, England, 1992.
Matritech Inc., Cambridge, MA, 1991.
Merck & Company, Rahway, NJ, 1990.
Tulane University, Dept. of Chemical Engineering, New Orleans, LA, 1990.
Baylor College of Medicine, Dept. of Microbiology and Immunology, Houston, TX, 1990.
Duke University, Dept. of Bioengineering, Raleigh/Durham, NC, 1989.
Schering-Plough Corporation, Kenilworth, NJ, 1989.
Pfizer, Inc, Groton, CT, 1989.

Professional Service

Peer-Review Service

Editorial Position: member Editorial Board and Board of Reviewers, Journal of Cellular and Molecular Medicine, 2004-2006
Review Panels: NSF, 2002, Spring 2006, Fall 2006; Interagency NSF/NIH/NASA/DoE, 2005; European Space Agency, Tours, France, 1997
Grant Proposals: NASA, 1995, 2001; NSF, 2001, 2003-2007; Joe W. and Dorothy Dorsett Brown Foundation, 2001; University of Arizona, 1998.
Research Center: NASA Site Visit to Morehouse School of Medicine, Atlanta, GA (\$ 5.0 million), 2000.
Tenure & Promotion: Univ. of Oklahoma, 2005; Louisiana State University, 2006
Manuscripts: Biotechnology and Bioengineering, 1990-present; In Vitro, 1999-present; Biotechnology Progress, 1998-present; Tissue Engineering, 2002-present; Chemical Engineering Education, 2006-present; Journal of Biomaterials Science, 2008; Journal Cellular and Molecular Medicine, 2004-2006; Colloids and Surfaces, 1999; Journal of Engineering Education, 1994; Annals of Biomedical Engineering, 1992-1996.

Professional Affiliations

American Association for Cancer Research
American Institute of Chemical Engineers
Biomedical Engineering Society
European Society for Animal Cell Technology
Society for Biological Engineering
Society for In Vitro Biology
Animal Cell Sciences Section Officer, Secretary, 2004-2008
Tissue Engineering Society International

Sessions Chaired and Committee Service

Chair. Stem Cell Biology & Cancer Drug Development. Society for In Vitro Biology, Tucson, AZ, 2008.
Chair. Animal Cell Biotechnology. Society for In Vitro Biology, Tucson, AZ, 2008.
Member, Poster Prize Committee, European Society for Animal Cell Technology, Harrogate, North Yorkshire, UK, 2005.
Chair. Tissue Engineering, NASA Cell Science Conference, Galveston, TX, 2005.
Chair. Cancer Cell Biology, Society for In Vitro Biology, San Francisco, CA, 2004.
Chair. Cell Models and Cellular Differentiation, Society for In Vitro Biology, Portland, OR, 2003.
Chair. Vertebrate/Cell Toxicology Session, Society for In Vitro Biology, Orlando, FL, 2002.
K O'Connor and N Searby, Co-Chairs. Tissue Modeling, NASA Cell Science Conference, Palo Alto, CA, 2002.
K O'Connor and B Pyle, Co-Chairs. Models in Lower Organisms Session, NASA Cell Science Conference, Houston, TX, 2001.

E Cilento, Chair, and K O'Connor, Co-Chair. Biotechnology Poster Session, Group 15, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, 1994.
B Allen, Chair, and K O'Connor, Co-Chair. Biotechnology Poster Session, Group 15, Annual Meeting of the AIChE, St. Louis, MO, 1993.
Area Chair. Annual Meeting of the AIChE, Area 4 m, 1993.
K O'Connor, Chair, and J Sinclair, Co-Chair. Young Faculty Forum, Group 4, Annual Meeting of the AIChE, Miami Beach, FL, 1992.
Area Chair. Annual Meeting of the AIChE, Area 4 m, 1992.
P Burbhan, Co-Chair, and K O'Connor, Co-Chair. Young Faculty Forum, Group 4, Annual Meeting of the AIChE, Los Angeles, CA, 1991.

Collaborations and Consultations

Millennium Pharmaceuticals, Inc., Cambridge, MA, 1999
VivoRx Pharmaceuticals, Inc., Santa Monica, CA, 1997
National Aeronautics and Space Administration, Houston, TX, 1992-1994
SmithKline Beecham Pharmaceuticals, Epsom, United Kingdom, 1992
Matritech, Inc., Cambridge, MA, 1991

University Service

Department of Chemical and Biomolecular Engineering

Founder/Director, Chemical Engineering/Molecular & Cellular Biology Combined Degree Program, 1993-2006; renamed Chemical Engineering/Biomedical Sciences Combined Degree Program, 2006-present
Chair, Tenure and Promotion Committee, 2006-2007
Faculty Search Committee: Junior Faculty 2002-2004 (Chair, 2003-2004); Department Chair 2008-2009
Graduate Committee: Recruitment 1992-1994, 1997-2002 (Chair, 1997-1999); Qualifying Exam, 1998, 2000-2004, 2006-2008 (Chair, 2003, 2006-2008); Curriculum and Policy, 2003-2009 (Chair, 2003-2008)
Undergraduate Committee: Recruitment, 1996, 1999, 2000, 2002-2005; Class Advisor, Class of 2000, 2004; Curriculum, 1993-1994, 2002, 2004-2005
Founder/Director, Newcomb Lectureship-Renowned Women in Chemical Engineering, 1991-1999
Coordinator, Seminar Series, 1995-1997

School of Science and Engineering

Committee for Tenure, Promotion and Third-Year Review, 1997-1998, 2000-2001, 2002-2004, 2007-2010
Graduate Committee, 1997-1999, 2003-2008 (Chair, 2005)
Committee on Honors, 1991-2003 (Chair, 1997-2000, 2001-2002)
Undergraduate Committee, 2001
Engineering Science Advisory Committee, 1997-1999
Faculty-Student Relations Committee, 1990-1991
Commencement Marshal, 2001-2002; 2007

Biomedical Sciences Graduate Program (formerly Molecular & Cellular Biology Graduate Program)

Faculty, 1990-present
Steering Committee, 1993-2006
Internal Review Committee, 1994, 2001
Grievance Committee, 2001
Co-Director, 1996-1999
Interim Director with Prof. Bill Toscano, 1997
Training Grant Committee, 1994-1995

Tulane Cancer Center

Contributing Member, 1994-present
Prostate Cancer Task Force, 1996
Molecular Determinants of Cancer Program, 1995

Tulane Center for Gene Therapy

Associate Member, 2009-present

University in General

Interviewed Candidates for Chair of Pathology and Asst. Professor in the Gene Therapy Center, 2009
Search Committee, Executive Director of the Newcomb College Institute, 2008
Taskforce to \$300 Million, Genetics and Genomics Subcommittee, Regenerative and Restorative Medicine Subcommittee, 2008
Evaluation of faculty candidates, Biomedical Engineering Department, 2008
Genetics and Gene Therapy Committee, Tulane Medical School, 2007-2008
Awards Judge, Tulane Health Sciences Center Research Day, 2007
Selection Committee, Shaffer Award for Excellence in Research, Tulane Medical School, 2005
Provost's Search Committee, Vice-President of Student Affairs & Dean of Students, 2002-2003
Provost's Undergraduate Action Committee, 2001-2002
University Focus Group on Uptown/Downtown Collaborations, 2001
Award Committee, Inspirational Undergraduate Professor, 2001
Graduate School Honor Board, 2000
Gene Therapy Scientific Advisory Committee, Tulane Medical School, 1999
Bioenvironmental Research Center, Internal Peer-Review Panel: DoD & Office of Naval Research, 1999
Steering Committee, Tulane 3-2-2 Program for Minority Education, 1997-1998
Committee on Newcomb College, 1993-1994
Joint Hearing Board and Appellate Committee, Conduct Code Judiciary, 1991-1994; Chair, Appellate Committee for precedent date-rape case, 1992

Courses Taught

School of Science and Engineering

Transport Phenomena I. CENG 232, 2008-2009
Introduction to Biomolecular Engineering and Biotechnology. CENG 250 (3 credits, CENG core course), Created by K. O'Connor, 2005-2007
Advances in Biotechnology. CENG 677/477 (3 credits, BMS elective, co-listed as CENG 477 starting in 2007), Created by K. O'Connor, 1994, 1999, 2002, 2006-2008
Biochemical Engineering. CENG 671/471 (3 credits, BMS elective, co-listed as CENG 471 starting in 2004), 1990-1996, 1998, 2000-2001, 2003-2004
Engineering Thermodynamics. ENGR 213 (3 credits), 1994-1999, 2001, 2006
Practice School. CENG 460/462 (6 credits), 1991-1992, 1995-2005, 2007
Chemical Engineering Thermodynamics. CENG 212 (3 credits), 2000-2004
Material and Energy Balances. CENG 214 (3 credits), 1991-1993
Introduction to Chemical Engineering, ENGR 102 (1 credit), 2003 (with K Papadopoulos)

Biomedical Sciences Graduate Program (formerly Molecular & Cellular Biology Graduate Program)

Research Methods. BMS 712/713 (2 credits), 1993, 1998, 2000, 2003-2004
Workshop. BMS 710/711 (1 credits), 1992-1994

Research Assistants

42 Research Assistants: 4 Visiting Professors/Postdocs, 9 Ph.D.'s, 3 M.S.'s, 8 B.S.'s. with honors thesis, and 14 B.S. 's without thesis, 4 technicians

Visiting Professors and Postdoctoral Fellows

Dr. Miriam Almagor, Hubert Humphrey Fellow and Visiting Research Professor, 2004-2005
Dr. Cristina Vidulescu, Fulbright Scholar and Visiting Associate Professor, 2003-2004
Dr. Tania Grivas (Medical Resident), 1998-1999.
Dr. Nitsa Rosenzweig (Postdoctoral Fellow), 1998; (Adjunct Assistant Professor), 1999-2003

Ph.D. Chemical Engineering/M.S. Biomedical Sciences Combined Degree

Jennifer Gilliam, 2008-present
Santosh Dhule, 2007-present
Benjamin Fischer-Valuck, 2007-present
Katie Russell, 2006-present
Bonnie Barrilleaux, 2004-present

- M.S. "Small-molecule antagonist of macrophage migration inhibitory factor enhances chemotactic response of mesenchymal stem cells to bronchial epithelial cells"
Hong Song, 1998-2003
Ph.D. "Spatial Assembly and Composition of Prostate Cancer Spheroids"
M.S. "Kinetics of Preadipocyte Differentiation"
Richard Enmon, 1995-2000
Ph.D. "Kinetics of Spheroid Self-Assembly in Well and Poorly Differentiated Prostate Cells"
M.S. "Dynamics of Spheroid Self-Assembly in Human Prostate Cells"
Jim Muhitch, 1995-2000
Ph.D. "Modeling Population Dynamics of Freely Suspended Animal-Cell Cultures"
M.S. "Tissue Modeling of Bovine Corneal Endothelium: An Application of Simulated Microgravity"
Nancy Cowger, 1993-1999
Ph.D. "Population Dynamics of Insect-Cell Cultures in Different Bioreactor Environments and as a Function of Shear Stress"
M.S. "Aspects of Extended Cultivation of Insect Cells in Simulated Microgravity"

M.S. Chemical Engineering Degrees Awarded

- Mark Venczel, "Predictive Capacity of Mathematical Model of Human Prostate Cancer Cell Aggregation," 2001-2003
Atilio Zardetto, "Cloning of the Alzheimer's Beta Protein Precursor Inhibitor Domain," 1992-1996
Walter Hugler, "Protein Expression of Sf9 Cells Under Stress and Simulated Microgravity," 1992-1994

B.S. Students with Thesis

- Kristin Meyertholen, "Evaluating Multipotency of Adult Bone Marrow Stromal Cells," Cellular and Molecular Biology double major, 2006-2008
Carrie Giordano, "Multidrug Resistance Protein Expression in Static and Mixed Cultures of DU 145 Human Prostate Carcinoma Cells," Cellular and Molecular Biology double major, 1999-2003
Shamik Jain, "Spatial Assembly of Human Prostate Carcinoma Cells," Cellular and Molecular Biology double major, 1997-2001
Sandeep Sule, "A Study of Carbohydrate Consumption in *Spodoptera frugiperda* (Sf9) Insect Cells," 1993-1996
Paige Hastings, "Synthesis and Cloning of Alzheimer's APP1 Gene," 1990-1993
Angela Andrews, "Recombinant Protein Expression in Sf9 Insect Cells," 1990-1993

B.S. Students without Thesis

- Kyle Hoerger, 2008-2009
Andrew Katz, 2007-2009
Ross Gonzales, 2005-2007
Benjamin Fischer-Valuck, 2004-2007
Andrew Larson, 2001-2003
Daniel Jung, 1998-2000
Julie Talavera, 1996-1999, with junior year abroad
Krista Brandt, 1997-1998
Amy Connolly, 1997-1998
Brian Leitsch, 1995-1997
Amy Primavera, 1993-1996
Jessica Bivins, 1993-1996
Sara Dawdy, 1994-1995
Karen Francis, 1990-1993, with junior year abroad
Val McLeod, 1991-1993
Wayne Fink, 1990-1991

Technicians

- Li Xu, 2002-2004
Karen Francis, 1993-1995
Suresh Lakkapragada, 1991-1993
Rahul Tandon, 1990-1993

Additional Dissertation/Thesis Committee Service

Carolina Rojas-Gonzalez (Chemical & Biomolecular Engineering), Ph.D., Advisor-K. Papadopoulos, 2008
Chris Newton (Chemical & Biomolecular Engineering), M.S., Advisor-K. Papadopoulos, 2005
Louise B. Lawson (Chemical & Biomolecular Engineering), Ph.D., Advisor-K. Papadopoulos, 2005
Quan Liu (Chemical & Biomolecular Engineering), Ph.D., Advisor-D. De Kee, 2004
Gerhard Piringer (Environmental Engineering), Ph.D., Advisor-S. Bhattacharya, 2000
Michael Greene (Molecular and Cellular Biology), Ph.D., Advisor-S. Landry, 1999
Dong Yuan (Chemical Engineering), M.S., Advisor-D. Lacks, 1999
Vikas Uberoi (Environmental Engineering), Ph.D., Advisor-S. Bhattacharya, 1996
Zewen Liu (Chemical Engineering), Ph.D., Advisor-K. Papadopoulos, 1996
Nadim Hallab (Biomedical Engineering), Ph.D., Advisor-K. Bundy, 1996
Adesina Oyefodun (Chemical Engineering), Ph.D., Advisor-V. Law, 1996
Richard Madura (Environmental Engineering), M.S., Advisor-S. Bhattacharya, 1995
Nagesh Kommareddi (Chemical Engineering), Ph.D., Advisor-V. John, 1994
Murthy Tata (Chemical Engineering), Ph.D., Advisor-V. John, 1994
Clive Roberts (Biomedical Engineering), M.S., Advisor-K. Bundy, 1993
Colleen Kelley (Chemical Engineering), B.S. with thesis, Advisor-V. John, 1991

Research Assistant Honors

Graduate Students and Postdoctoral Fellows

2007-2011 B. Fischer-Valuck: Louisiana Board of Regents Fellow
2006-2010 K. Russell: Louisiana Board of Regents Fellow
2006 B. Barrilleaux: American Institute of Chemists Graduate Student Award, Tulane CBE
2005 Dr. C. Vidulescu: American Institute of Chemists Postdoctoral Award, Tulane CBE
2004-2008 B. Barrilleaux: Louisiana Board of Regents Fellow
2003 H. Song: Graduate Student Achievement Award, Tulane, School of Engineering
2002-2003 M. Venczel: Joe W. and Dorothy Dorsett Brown Fellow
2002 H. Song: Outstanding Research Award, Tulane ChE
2002 H. Song: Omega Chi Epsilon Teaching Assistant Award (Alpha Iota Chapter)
1999-2001 R. Enmon: Louisiana Board of Regents Fellow
1998-2000 R. Enmon: Joe W. and Dorothy Dorsett Brown Fellow
1997-1998 R. Enmon: Vince A. Forte Fellow
1997 N. Cowger: American Institute of Chemists Graduate Student Award, Tulane ChE
1996 J. Muhitch: Omega Chi Epsilon Teaching Assistant Award (Alpha Iota Chapter)
1995-1996 N. Cowger: Joe W. and Dorothy Dorsett Brown Fellow

Undergraduate Honors Students

2008 A. Katz: Randall K. Nichols Award, Tulane CBE
2008 K. Meyertholen: American Institute of Chemists Undergraduate Student Award, Tulane CBE
2007 K. Meyertholen: NIH Exceptional Summer Student Award
2007 K. Meyertholen: Newcomb Scholar, Tulane University
2007 K. Meyertholen: Randall K. Nichols Award, Tulane CBE
2007 R. Gonzales: American Institute of Chemists Undergraduate Student Award, Tulane CBE
2006 R. Gonzales: Randall K. Nichols Award, Tulane CBE
2003 C. Giordano: AIChE Activity Award, Tulane ChE
2002 C. Giordano: Randall K. Nichols Award, Tulane ChE
2001 S. Jain: Leon H. Scherck Award, Tulane, School of Engineering
2001 S. Jain: Valedictorian, School of Engineering
2001 S. Jain: Senior Scholarship Award, Tulane ChE
2000 S. Jain: Highest Scholastic Average Award, Tulane ChE
1996 S. Sule: Senior Scholarship Award, Tulane ChE
1995 S. Sule: Highest Scholastic Average Award, Tulane ChE
1993 A. Andrews: Senior Scholarship Award, Tulane ChE

Research Assistant Appointments

Graduate Students and Postdoctoral Fellows

2005 Dr. Miriam Almagor: Director, Division of Clinical Laboratories and Blood Transfusion Services, Bikur Cholim Hospital, Jerusalem, Israel

- 2004 Dr. Cristina Vidulescu: Assoc. Professor, Cellular and Molecular Medicine Dept., Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
- 2003 Hong Song: Postdoctoral Fellow, Department of Radiation Oncology, Johns Hopkins School of Medicine, Baltimore, MD
- 2001 Rich Enmon: Postdoctoral Fellow, Department of Medical Physics, Memorial Sloan-Kettering Cancer Center, New York, NY
Current Position: Patent Agent, King & Spalding Law Firm, New York, NY
- 2000 Jim Muhitch: Process Engineer, Merck, a Merck Company, North Brunswick, NJ
Current Position: Senior Engineer, Alcon Laboratories, Fort Worth, TX
- 1999 Nancy Cowger: Senior Research Scientist, StelSys, LLC, Baltimore, MD
Current Position: Corporate Officer, Office of Research and Development, University of Maryland, Baltimore, MD
- 1998 Dr. Nitsa Rosenzweig: Assistant Professor, Department of Chemistry, Xavier University, New Orleans, LA
Current Position: Scientific Review Administrator, Division of Molecular and Cellular Mechanisms, National Institutes of Health, Center for Scientific Review, Bethesda, MD
- 1996 Atilio Zardetto: Manager, Research and Development, Xutja Corp., Guatemala City, Guatemala
- 1994 Walter Hugler: Cydsa Corporation, Monterrey, Mexico; Adjunct Professor, University of Monterrey, Mexico

Undergraduate Honors Students

- 2008 Kristin Meyertholen: University of Texas Medical School, Galveston, TX
- 2003 Carrie Giordano: Merck Research Laboratories, Fermentation and Mammalian Cell Culture Process Development Department, West Point, PA
- 2001 Shamik Jain: Johns Hopkins University, Medical School, Baltimore, MD
Current Position: Resident, Virginia Mason Medical Center, Seattle, WA
- 1996 Sandeep Sule: Washington University, Medical School, St. Louis, MO
- 1993 Angela Andrews: University of Texas Southwestern Medical Center, Dallas, TX
- 1993 Page Hastings: Shell Chemical Company, Norco, LA