CURRICULUM VITAE
MARC ELIOT TISCHLER

OFFICE INFORMATION

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EDUCATION

Boston University:	B.A.,	1971. Major Field: Biology
University of South Carolina:	M.S.,	1973. Major Field: Chemistry
University of Pennsylvania:	Ph.D.,	1977. Major Field: Biochemistry

POSITIONS HELD

1977-1979	Postdoctoral Fellow, Dept of Physiology, Harvard Medical School
1979-1985	Assistant Professor, Dept. of Biochemistry, Univ. of Arizona
1980-1999	Member of Graduate Program in Nutritional Sciences
1985-1990	Associate Professor (tenured), Dept of Biochemistry, University of Arizona
1986-1990	Associate Professor (joint), Dept of Physiology, University of Arizona
1990-1999	Professor, Dept. of Biochemistry, University of Arizona
1990-2016	Professor (joint), Dept. of Physiology, University of Arizona
1994-1997	Member of Insect Science Committee
1995-2021	Director, Medical Student Bridge Program
1995-1999	Interim Head of Biochemistry
1996-2022	Professor (joint), Dept. of Medicine, University of Arizona
1999-2012	Director, Minority Access to Research Careers Program
1999-2009	Professor and Associate Head of Biochemistry and Molecular Biophysics
2009-2022	Professor, Dept of Chemistry & Biochemistry
2006-2018	Block Director, Digestion, Metabolism and Hormones
2006-2022	Medical Biochemistry Discipline Director
2012-2016	Co-director, Maximizing Access to Research Careers Program
2013-2022	Medical Nutrition Discipline Director
2016-2018	Director, Maximizing Access to Research Careers Program
2018-2021	Co-director, Maximizing Access to Research Careers Program
2018-2020	Associate Block Director, Digestion, Metabolism and Hormones
2021-2022	Director, Maximizing Access to Research Careers Program

HONORS AND AWARDS

1976-1977	HEW Predoctoral Fellowship. Univ. of Pennsylvania
1977	Samuel A. Talbot Travel Award, Biophysical Society
1977	Mass. Heart Assoc. Howard B. Sprague Res. Fellow. Harvard Med. Sch.
1978-1979	Muscular Dystrophy Assoc. Res. Fellow. Harvard Medical School
1982-1987	Established Investigator of the American Heart Association
1983	Travel Award (APS) to 5th Meeting of IUPS Gravitational Physiol, Moscow
1990-1991	President, American Society for Gravitational and Space Biology
1991	PARE-01 Spaceflight Experiment
1992	Graduate College Award for Academic and Professional Presentations Program
1992	Orr E. Reynolds Distinguished Service, Amer. Soc. for Gravitational Space Biol.
1993	Dean's List for Excellence in Basic Science Teaching
1993-1994	Dean's Teaching Scholar
1995	Vernon and Virginia Furrow Award - Excellence in Basic Science Teaching for Medical Students
1995	Basic Science Educator of the Year - College of Medicine
1995	Certificate of Appreciation: Pima Community College Summer Bridge Program
1995	BRIC-04 Spaceflight Experiment
1996	BRIC-07 Spaceflight Experiment

1996	Coordinator of Medical Biochemistry as Outstanding Basic Sciences Course
1996,99,00,02	Dean's List for Excellence in Basic Science Teaching (4 awards)
1997	Vernon and Virginia Furrow Award - Innovation in Teaching
2000-2003	Outstanding Basic Sciences Course (for spring 1999-2003) Coordinator
2002	Distinguished Teaching, College of Science
2002	Meritorious Service Award – Jewish Federation of Southern Arizona
2003	Basic Science Educator of the Year – College of Medicine
2004	Faculty Fellows Speaker – University of Arizona
2004	Basic Science Educator of the Year – College of Medicine
2005	Life Time Basic Medical Science Educator Award
2008-2020	College of Medicine - Academy of Medical Education Scholars
2010	Medical Class of 2010 Outstanding Teacher in the Basic Sciences
2010	Peter Likins Inclusive Excellence Award
2011	Medical Class of 2011 Outstanding Teacher in the Basic Sciences
2012	Medical Class of 2012 Outstanding Teacher in the Basic Sciences
2013	Medical Class of 2013 Outstanding Teacher in the Basic Sciences

SERVICE ACTIVITIES

University Service

Department Biochemistry & Molecular Biophysics Completed through 2017

1980-1991	Graduate Study Committee; Vice Chairman (1983-85); Chairman (1985-91)
1987-1988	Faculty Search Committee
1991	Faculty Search Committee
1991-1994	Curriculum Committee
1992-1996	Budget Committee
1993-1995	Executive Committee
1994-1997	Promotion and Tenure Committee
1998-2009	Undergraduate Committee; Biochemistry & Molecular Biophysics
1998-1999	Head Search Committee (chair)
1999-2009	Executive Committee (ex-officio)
2002	Faculty Search Committee
2004	Faculty Search Committee

Department Chemistry and Biochemistry Completed through 2017

2009-2010	Executive Committee
2009-2011	Education/Curriculum Committee
2012-2015	Teaching Professionals Career Development Committee
2012-2015	Teaching Professional Evaluation Committee

Department Chemistry and Biochemistry Completed after 2017 or Ongoing

2009-2020	Medical School Liaison – Program Head
2015-2021	Teaching Assistant Evaluation Committee
2018-2019	Search Committee Career Track Lecturer COM – chair
2019	Promotion and Tenure Subcommittee, chair
2019-2020	Search Committee Career Track Lecturer COS
2020-2021	Awards Committee
2020-2022	Diversity and Inclusion Committee
2021-2022	Assessment Committee

College Completed through 2017

1979-2013	College of Medicine Student Applicant Interviewer
1981-1984	Continuing Medical Education
1982-1992	MD/Ph.D. Committee
1982-1987	College of Medicine Student Research; Chairman (1984-86)
1983	Department of Pharmacology Review
1984	Judge: Medical Student Research Forum
1984-1987	College of Medicine Student Progress; Vice Chairman (1985-86); Chairman (1986-87)
1985-1987	Animal Resources Advisory Committee
1986-1991	Student Affairs Group
1986	LCME Subcommittee C

1986-1987 Space Committee (Medicine)
1987-1988 Medical Student Support Group Leader
1987-1988 Committee of Nine; Chairman (Medicine)
1989-1992 College of Medicine Student Progress Committee; Chairman (1989-91)
1990 LCME Subcommittee C
1991-1992 Department of Pediatrics Search Committee
1992-1995 College of Medicine Promotion and Tenure; Chairman (1994-95)
1993 Medical Physiology Course Review Committee
1994 Sunset Review of Arthritis Center
1994-1995 CCAPP Appraisals Task Group
1996-1997 Nominations Committee (Medicine)
1997-1998 LCME Task Group
1998-2006 Basic Science Course Directors
1999-2001 College of Medicine Student Appeals Committee
2001-2004 College of Medicine Student Progress Committee
2003-2009 College of Medicine Admissions, chair 2006-09
2004-2005 College of Science – Recruiting Committee
2004-2006 College of Medicine Curriculum Reform Integration Team, Chair
2004-2006 College of Medicine Curriculum Reform Steering Committee
2008-2010 College of Medicine Clinical Curriculum Committee; intersessions subcommittee
2008-2009 College of Medicine Teaching Funds Distribution Committee
2008-2009 College of Medicine Holistics Pilot Project; subcommittees C,D
2009-2011 College of Medicine, Executive Director Admissions
2009-2012 College of Medicine Student Appeals Committee
2011-2013 College of Medicine Admissions Committee, Chair (2011)
2011-2014 College of Medicine Student Progress Committee
2012 College of Medicine Simulations Committee
2012-2015 College of Medicine Dean's Faculty Advisory Committee
2013 LCME subcommittee
2013-2015 College of Medicine Diversity Advisory Committee
2014 Chair, Medical Education Assessments Search Committee
2014-2016 College of Medicine Curriculum Redesign Committee
2015 College of Medicine Premedical Course Working Group
2015-2016 College of Medicine Education Working Group
2015-2017 College of Medicine Student Affairs Committee
2016-2017 College of Medicine Preclinical Logistics Committee

College Completed after 2017 and Ongoing

2006-2022 College of Medicine, Tucson Curriculum Management Subcommittee [chair 2014-15]
2008-2020 Academy of Medical Education Scholars [Founding Member]
2014-2021 College of Medicine Medical Education Distinction Track Committee
2015-2018 College of Medicine Student Progress Committee [resource consultant]
2017-2019 College of Medicine Secondary Screener
2017-2021 College of Medicine MMI Interviewer
2017-2022 College of Medicine Admissions Prerequisite Committee
2018-2019 College of Medicine Honor Code Committee
2018-2019 College of Medicine Podcast Proposal committee
2018-2021 College of Medicine Student Progress Committee; 2019-20, chair; 2020-21, co-chair

University Completed

1982 Faculty Search, Department of Physical Education
1986 Biochemistry Headship Search
1986-1991 Graduate College Representative
1987 University Graduate Fellowship Selection, Chairman
1987-1988 Life Sciences Building Planning Committee
1989 Animal Sciences Headship Search
1989 Review of Dean of Faculty of Sciences
1989 Selection of Recipients for Graduate Student Summer Research Support
1989-1997 Faculty Sponsor for Minority Students in Biological Sciences
1990 Search Committee: Associate Vice President for Research
1990-1998 Undergraduate Biology Research Committee
1992-1995 Committee on Academic Freedom and Tenure (chaired 2 panels)

1993-1995	Graduate Recruiting and Admissions Committee - Physiological Sciences
1995	Vice Provost Search Committee
1995-2007	Prehealth Advisory Council
1995-2003	Graduate College Representative
1996	Biological Sciences Core Curriculum Guidelines Committee
1997-2011	Minority Science Pipeline Committee
1998-99	Biochemistry Headship Search, Chair
2000-06	McNair Fellowship Steering Committee
2000-08	Minority Health Disparities Committee
2001-04	Faculty sponsor for Biochemistry club
2001-08	Faculty sponsor for UA Chapter Society for Advancement of Chicanos and Native Americans in Science
2001-10	Faculty sponsor for African-Americans in Life Sciences (AALS)
2002	IBSB Program Coordinator Search Committee
2002-13	BRAVO selection committee
2004-06	Undergraduate Retention Committee
2008	New Start Task Force

Professional Service

Organization of Conferences and Symposia

1983	"Muscle Contractility and Protein Turnover" University of Arizona
1989	"Biochemical and Biophysical Mechanisms in Response to Gravity", FASEB Conference; co-organizer
1989	5th Annual meeting, Amer. Soc, Gravitational Space Biology; co-organizer
1990	6th Annual meeting, Amer. Soc, Gravitational Space Biology; co-organizer
1991	7th Annual meeting, Amer. Soc, Gravitational Space Biology; co-organizer
1992	8th Annual meeting, Amer. Soc, Gravitational Space Biology; chairman
1992	68th meeting, Southwest Rocky Div. of Amer. Assoc. Adv. Science; liason

Editorial Activities

1987-2008	Associate Editor, METABOLISM
1991-1995	Associate Editor, MUSCLE & NERVE 1992-
1999	Publishing Editor, ASGSB BULLETIN
1994-1995	Associate Editor, AMERICAN JOURNAL OF PHYSIOLOGY (Regulatory)

Grant Reviews

1989	Grant Review Panel for AIBS
1992-1993	NASA Center of Research and Training Selection Panel/Site Visits

National

1985	FASEB Life Sciences: Future Direction of Space Biology Research;
1986-1989	Governing Board - American Society for Gravitational and Space Biology 1989-
1990	Vice President - American Society for Gravitational and Space Biology
1989-1990	Long Range Planning - American Society for Gravitational and Space Biology 1990-
1995	Publications Committee - American Society for Gravitational and Space Biology 1990-
1994	NASA Life Sciences Musculoskeletal Working Group
1990-1991	President - American Society for Gravitational and Space Biology 1991-
1995	Space Station Science and Applications Advisory Subcommittee
2005-2012	Biochemistry Poster Judge, Annual Biomedical Research Conference for Minority Students; Chair 2008,09 2010-
2012	Travel Award Committee, Annual Biomedical Research Conference for Minority Students

Community Service

1992-1995	Board of Directors for Arizona Space Initiative
1996-2002	Board of Directors Hillel Foundation
1996-2014	Jewish Community Fndn: Grant Committee: Chair deliberations: 2000-05; 2009-10; Chair oversight: 2003-11
1997-2006	Jewish Community Foundation: Tucson Hebrew Academy Scholarship Fund Committee
1997-2002	Tucson Hebrew Academy Science Education Committee
1997-04, 06-09	Jewish Community Foundation Board/ Executive Committee [2002-04]
1999-2002	Tucson Hebrew Academy Board
2001-02,04-06	Jewish Federation of Southern Arizona, Compelling Needs Grants Committee
2014-2015	Board of Directors, Gaitway Therapy
2014-2020	Arizona Sickle Cell Foundation – treasurer, chair Medical Education Committee

PEER-REVIEWED PUBLICATIONS

1. **Tischler ME,** Fisher RR (1973) Oxidation of reduced nicotinamide hypoxanthine dinucleotide by intact rat liver mitochondria. Biochim Biophys Acta **292**:39-49.
2. **Tischler ME,** Fisher RR (1973) Oxidation of reduced nicotinamide hypoxanthine dinucleotide phosphate by intact rat liver mitochondria. Biochim Biophys Acta **305**:199-205.
3. Park WD, **Tischler ME,** Dunlap RB, Fisher RR (1973) Two new spectrophotometric assays for carrot phosphotransferase. Anal Biochem **54**:495-501.
4. LaNoue KF, **Tischler ME** (1974) Electrogenic characteristics of the mitochondrial glutamate-aspartate antiporter. J Biol Chem **249**:7522-7528.
5. **Tischler ME**, Pachence J, Williamson JR, LaNoue KF (1976) Mechanism of glutamate-aspartate transport across the mitochondrial inner membrane. Arch Biochem Biophys **173**:448-462.
6. **Tischler ME**, Hecht P, Williamson JR (1977) Effect of ammonia on mitochondrial and cytosolic NADH and NADPH systems in isolated rat liver cells. FEBS Letters **76**:99-104.
7. **Tischler ME**, Hecht P, Williamson JR (1977) Determination of mitochondrial/cytosolic metabolite gradients in isolated rat liver cells by cell disruption. Arch Biochem Biophys **181**:278-292.
8. **Tischler ME**, Friedrichs D, Coll K, Williamson JR (1977) Pyridine nucleotide distributions and enzyme mass action ratios in hepatocytes from fed and starved rats. Arch Biochem Biophys **184**:222-236.
9. Meijer AJ, Gimpel JA, Deleeuw G, **Tischler ME**, Tager JM, Williamson JR (1978) Interrelationships between gluconeogenesis and ureogenesis in isolated hepatocytes. J Biol Chem **253**:2308-2320.
10. Murphy E, Coll KE, Viale RO, **Tischler ME**, Williamson JR (1979) Kinetics and regulation of the glutamate-aspartate translocator in rat liver mitochondria. J Biol Chem **254**:8369-8376.
11. Goldberg AL, **Tischler ME**, DeMartino G, Griffin G (1980) Hormonal regulation of protein degradation and synthesis in skeletal muscle. Fed Proc **39**:31-36.
12. **Tischler ME**, Goldberg AL (1980) Amino acid degradation and effect of leucine on pyruvate oxidation in rat atrial muscle. Am J Physiol **238**:E480-E486.
13. **Tischler ME**, Goldberg AL (1980) Production of alanine and glutamine by atrial muscle from fed and fasted rats. Am J Physiol **238**:E487-E493.
14. **Tischler ME**, Goldberg AL (1980) Leucine degradation and release of alanine and glutamine by adipose tissue. J Biol Chem **255**:8074-8081.
15. **Tischler ME** (1980) Is regulation of proteolysis associated with redox state changes in rat skeletal muscle? Biochem J **192**:963-966.
16. **Tischler ME** (1981) Hormonal regulation of protein degradation in skeletal and cardiac muscle. Life Sci **28**:2569-2576.
17. **Tischler ME**, Desautels M, Goldberg AL (1982) Does leucine, leucyl t-RNA, or some metabolite of leucine regulate protein synthesis and degradation in skeletal and cardiac muscle? J Biol Chem **257**:1613-1621.
18. **Tischler ME**, Fagan J (1982) Relationship of the reduction-oxidation state to protein degradation in skeletal and atrial muscle. Arch Biochem Biophys **217**:191-201.
19. **Tischler ME**, Fagan JM (1983) Response to trauma of protein, amino acid and carbohydrate metabolism in injured and uninjured rat skeletal muscles. Metabolism **32**:853-868.
20. **Tischler ME**, Cammisa H (1984) Metabolism of protein, amino acids and glucose and their response to insulin in atria and cardiac myocytes of traumatized rats. Metabolism **33**:515-520.
21. **Tischler ME**, Ost AH, Spina B, Cook PH, Coffman J (1984) Regulation of protein turnover by glucose, insulin and amino acids in adipose tissue. Am J Physiol **247**:C228-C233.
22. **Tischler ME**, Coffman J, Cammisa H, Ost AH (1984) Metabolism of amino acids, protein and glucose, and their response to insulin in epididymal fat pads of traumatized rats. Life Sci **35**:449-454.
23. Jaspers SR, **Tischler ME** (1984) Atrophy and growth failure of rat hindlimb muscles in tail-cast suspension. J Appl Physiol **57**:1472-1479.
24. Jaspers SR, Fagan JM, **Tischler ME** (1985) Biochemical response to chronic shortening in unloaded soleus muscles. J Appl Physiol **59**:1159-1163.
25. **Tischler ME**, Allen DA (1986) Comparison of thioltransferase (glutathione: disulfide oxidoreductase) from various rat tissues. Enzyme **34**:220-223.
26. Jaspers SR, Jacob S, **Tischler ME** (1986) Metabolism of amino acids by the atrophied soleus of tail-casted, suspended rats. Metabolism **35**:216-223.
27. Jaspers SR, **Tischler ME** (1986) Role of glucocorticoids in the response of rat leg muscles to reduced activity. Muscle Nerve **9**:554-561.
28. Fagan JM, **Tischler ME** (1986) Reduction-oxidation state and protein degradation in skeletal muscles of growing rats. Growth **50**:139-146.
29. Fagan JM, **Tischler ME** (1986) Reduction-oxidation state and protein degradation in skeletal muscle of fasted and refed rats. J Nutr **116**:2028-2033.
30. Henriksen EJ, **Tischler ME**, Johnson DG (1986) Increased response to insulin of glucose metabolism in the six day unloaded rat soleus muscle. J Biol Chem **261**:10707-10712.

31. **Tischler ME**, Ost AH, Coffman J (1986) Protein turnover in adipose tissue from fasted or diabetic rats. Life Sci **39**:1447-1452.
32. Fagan JM, Satarug S, Cook P, **Tischler ME** (1987) Rat muscle protein turnover and redox state in progressive diabetes. Life Sci **40**:783-790.
33. Jaspers SR, Fagan JM, Satarug S, Cook P, **Tischler ME** (1988) Effects of immobilization on rat hind limb muscles under non-weight-bearing conditions. Muscle Nerve **11**:458-466.
34. **Tischler ME**, Henriksen EJ, Cook PH (1988) Role of glucocorticoids in increased muscle glutamine production in starvation. Muscle Nerve **11**:752-756.
35. Jaspers SR, **Tischler ME** (1988) Insulin effect on amino acid uptake by unloaded rat hindlimb muscles. Horm Metab Res **20**:125-126.
36. Henriksen EJ, **Tischler ME** (1988) Time course of the response of carbohydrate metabolism to unloading of the soleus. Metabolism **37**:201-208
37. Henriksen EJ, **Tischler ME** (1988) Regulation of skeletal muscle glucose uptake: effect of acute unloading and subsequent reloading of the rat soleus muscle. J Appl Physiol **64**:1428-1434.
38. Jaspers SR, Henriksen EJ, Jacob S, **Tischler ME** (1989) Metabolism of branched- chain amino acids in unloaded leg muscles from intact and adrenalectomized rats. Metabolism **38**:109-114.
39. Jaspers SR, Henriksen EJ, Satarug S, **Tischler ME** (1989) Effects of stretching and disuse on amino acids in muscles of rat hind limbs. Metabolism **38**:303-310.
40. Fagan JM, **Tischler ME** (1989) Effects of oxygen deprivation on incubated rat soleus muscle. Life Sci **44**:677-681.
41. Henriksen EJ, Kirby CR, **Tischler ME** (1989) Glycogen supercompensation in rat soleus muscle during recovery from non-weight-bearing. J Appl Physiol **66**:2782-2787.
42. **Tischler ME**, Cook P, Hodsden S, McCready S, Wu M. (1989) Ecdysteroids influence growth of the dorsolongitudinal flight muscle in the tobacco hornworm (*Manduca sexta*). J Insect Physiol **35**:1017-1022.
43. **Tischler ME**, Satarug S, Eisenfeld SH, Henriksen EJ, Rosenberg S (1990) Insulin effects in innervated and denervated non-weight-bearing rat soleus muscle. Muscle Nerve **13**:593-600.
44. **Tischler ME**, Rosenberg S, Satarug S, Henriksen EJ, Kirby CR, Tome M, Chase P (1990) Different mechanisms of increased proteolysis in atrophy induced by denervation or unweighting of rat soleus muscle. Metabolism **39**:756-763.
45. **Tischler ME**, Wu M, Cook P, Hodsden S (1990) Ecdysteroids affect in vivo protein metabolism of the tobacco hornworm (*Manduca sexta*). J Insect Physiol **36**:699-708.
46. Kirby CR, **Tischler ME** (1990) Beta-adrenergic effects on carbohydrate metabolism in the unweighted rat soleus muscle. J Appl Physiol **69**:2113-2119.
47. Munoz KA, **Tischler ME** (1991) The effect of a space food bar diet on body and muscle mass in normal and hind limb suspended rats. Aviat Space Environ Med **62**:875-878.
48. Kirby CR, Woodman CR, Woolridge D, **Tischler ME** (1992) Cyclic AMP accumulation and ß-adrenergic binding in unweighted and denervated rat soleus muscle. Metabolism **41**:793-799.
49. Toth A, **Tischler ME**, Pal M, Koller A, Johnson PC (1992) A multipurpose instrument for quantitative microscopy. J Appl Physiol **73**:296-306.
50. Munoz KA, Satarug S, **Tischler ME** (1993) Time course of the response of myofibrillar and sarcoplasmic protein metabolism to unweighting of the soleus muscle. Metabolism **42**:1006-1012.
51. **Tischler ME**, Henriksen EJ, Munoz KA, Stump CS, Woodman CR, Kirby CR (1993) Spaceflight on STS-48 and earth-based unweighting produce similar effects on skeletal muscle of young rats. J Appl Physiol **74**:2161-2165.
52. Henriksen EJ, **Tischler ME**, Woodman CR, Munoz KA, Stump CS, Kirby CR (1993) Elevated interstitial fluid volume in soleus muscles unweighted by spaceflight or suspension. J Appl Physiol **75**:1650-1653.
53. Munoz KA, Aannestad A, **Tischler ME**, Henriksen EJ (1994) Skeletal muscle protein content and synthesis after voluntary running and subsequent unweighting. Metabolism **43**:994-999.
54. Payne CM, Glasser L, **Tischler ME**, Wyckoff D, Cromey D, Fiederlein R, Bohnert O (1994) Programmed cell death of the normal human neutrophil: an in vitro model of senescence. Microscop Res Tech **28**:327-344.
55. Henriksen EJ, Munoz KA, Aannestad A, **Tischler ME** (1994) Cardiac protein content and synthesis after voluntary running or head-down suspension. J Appl Physiol **76**:2814-2819.
56. **Tischler ME** (1994) Effect of the antiglucocorticoid RU38486 on protein metabolism in unweighted soleus muscle. Metabolism 43:1451-1455.
57. Wu M, **Tischler ME** (1995) Utilization of [^{14}C]phenylalanine derived from arylphorin or free amino acid in Manduca sexta pharate adults. Arch Insect Biochem Physiol **28**:257-272.
58. Toth A, Miklos P, **Tischler ME**, Johnson PC (1996) Are there oxygen-deficient regions in resting skeletal muscle? Am J Physiol **270**:H1933-H1939.
59. Fogt DL, Slentz MJ, **Tischler ME**, and Henriksen EJ (1997) GLUT-4 protein and citrate synthase activity in distally or proximally denervated rat soleus muscle. Am J Physiol **272**:R429-R432.
60. **Tischler ME**, Satarug S, Aannestad A, Munoz KA and Henriksen EJ (1997) Insulin attenuates atrophy of unweighted soleus muscle by amplified inhibition of protein degradation. Metabolism 46: 673-679.

61. Weinstein RB, Slentz MJ, Webster K, Takeuchi J and **Tischler ME** (1997) Lysosomal proteolysis in distally or proximally denervated rat soleus muscle. Am J Physiology 273:R1562-R1565.
62. Weinstein RB, Eleid N, LeCesne C, Durando B, Crawford CT, Heffner M, Layton C, O'Keefe M, Robinson J, Rudinsky S, Henriksen E, and **Tischler ME** (2002) Differential half-maximal effects of human insulin and its analogs for in situ glucose transport and protein synthesis in rat soleus muscle. Metabolism 51:1065-1070.
63. O'Keefe MP, Perez FR, Sloniger JA, **Tischler ME**, and Henriksen EJ (2004) Enhanced insulin action on glucose transport and insulin signaling in 7-day unweighted rat soleus muscle. J Appl Physiol 97:63-71.
64. O'Keefe MP, Perez FR, Kinnick TR, **Tischler ME**, and Henriksen EJ (2004) Development of whole-body and skeletal muscle insulin resistance after one day of hindlimb suspension Metabolism 53:1215-1222.

OTHER PUBLICATIONS

1. **Tischler ME** (1973) Elucidation of a new mechanism for the mitochondrial oxidation of cytosolic reduced nicotinamide adenine dinucleotide. Master's thesis, Univ. South Carolina.
2. **Tischler ME**, Land JM, Williamson JR (1976) Inhibitors of mitochondrial enzyme and transport systems. In Cell Biology (Altman PL, Katz DD, eds), pp. 195-207, Fed. Amer. Soc. Exptl. Biol., Bethesda.
3. LaNoue KF, **Tischler ME** (1976) Comparison of electroneutral and electrogenic transport in mitochondria. In Mitochondria (Packer L, Gomez-Puyou A, ed), p61-78, Acad. Press, NY.
4. LaNoue KF, **Tischler ME** (1976) Mechanism and kinetics of the aspartate translocation in isolated rat liver mitochondria. In Use of Isolated Liver Cells and Kidney Tubules in Metabolic Studies. (Tager JM, Soling HD, Williamson JR, eds), pp. 106-109, North-Holland Publ. Co., Amsterdam.
5. **Tischler ME**, Viale R, Coll K, Murphy E, Williamson JR (1977) Compartmentation of metabolites between cytosol and mitochondria in rat liver cells. In Alcohol and Aldehyde Metabolizing Systems Vol. 3 (Thurman RG, Drott H, Williamson JR, Chance B, eds) pp. 231-242, Academic Press, New York.
6. **Tischler ME** (1977) Investigation of the glutamate-aspartate translocator in rat liver mitochondria and a technique for its study in isolated rat liver cells. PhD Diss., Univ. Penn.
7. Williamson JR, **Tischler ME** (1979) Ethanol metabolism in perfused liver and isolated hepatoytes and associated methodologies. In Pharmacology of Ethanol Vol. 1 (Majchrowicz R, Noble EP, eds), pp. 167-189, Plenum, New York.
8. Zuurendonk PF, **Tischler ME**, Akerboom TPM, Van der Meer R, Williamson JR, Tager JM (1979) Rapid separation of particulate and soluble fractions from isolated cell preparations (digitonin, cell cavitation procedures). Methods Enzymol. **56**:207-223.
9. Goldberg AL, **Tischler ME**, Libby P (1980) Regulation of protein degradation in skeletal muscle. Biochem. Soc. Trans. **8**:497.
10. Goldberg AL, **Tischler ME** (1981) Regulatory effects of leucine on carbohydrate and protein metabolism. In Metabolic and Clinical Implications of Branched-Chain Amino and Ketoacids (Walser M, Williamson JR, eds) pp. 205-216 Elsevier, Amsterdam.
11. **Tischler ME**, Goldberg AL (1981) Leucine catabolism and production of glutamine and alanine by adipose tissue. In Metabolic and Clinical Implications of Branched-Chain Amino and Ketoacids (Walser M, Williamson JR, eds) pp. 283-288 Elsevier, Amsterdam.
12. **Tischler ME**, Jaspers SR (1982) Synthesis of amino acids in weight bearing and non-weight bearing leg muscles of suspended rats. Physiologist **25**:S155-S156.
13. **Tischler ME**, Jaspers SR, Fagan JM (1983) Prevention of metabolic alterations caused by suspension hypokinesia in rats. Physiologist **26**:S98-S99.
14. Grimes WJ, **Tischler ME**, Kettel LJ (1983) Medical education in biochemistry. Ariz. Med. **XL**:182-183.
15. **Tischler ME** (1984) Metabolic responses of muscle to trauma. In: Branched- Chain Amino and KetoAcids in Health and Disease (Adibi SA, Fekl W, Langenbeck U, Schauder P, eds.), S. Karger A G, Basel, pp. 361-383.
16. **Tischler ME**, Fagan JM, Allen D (1985) Relationship of the redox state to muscle protein degradation. In: Fifth International Symposium on Intracellular Protein Catabolism (Khairallah EA, Bond JS, Bird JWC, eds.) Alan R. Liss Inc., New York, pp. 363-372.
17. **Tischler ME**, Henriksen EJ, Jacob S, Cook PH (1985) Responses of amino acids in hindlimb muscles to recovery from hypogravity and unloading by tail-cast suspension. Physiologist **28**:S191-S192.
18. **Tischler ME**, Jaspers SR, Henriksen EJ, Jacob S (1985) Responses of skeletal muscle to unloading-a review. Physiologist **28**:S13-S16.
19. **Tischler ME**, Henriksen EJ, Jacob S, Cook P, Jaspers S (1985) Response of rat hindlimb muscles to 12 hours of recovery from tail-cast suspension. Physiologist **28**:S129-S130.
20. Henriksen EJ, **Tischler ME** (1985) Possible mechanism for changes in glycogen metabolism in unloaded soleus muscle. Physiologist **28**:S131-S132.
21. Henriksen EJ, **Tischler ME**, Jacob S, Cook PH (1985) Muscle protein and glycogen responses to recovery from hypogravity and unloading by tail-cast suspension. Physiologist **28**:S193-S194.

22. **Tischler ME** (1986) Relationship of branched-chain amino acids to the synthesis of alanine and glutamine. In: Problems and Potential of Branched Chain Amino Acids in Physiology and Medicine (Odessey R, ed.), Elsevier, Amsterdam, pp. 107-134.
23. **Tischler ME**, Leng E, Al-Kanhal M, Mnichowicz J, Reiser J, Norton LW (1986) Metabolic response of muscle to trauma: Altered control of protein turnover. In: Clinical Nutrition and Metabolic Research (Dietze G, Grunert A, Kleinberger G, Wolfram G, eds.) S. Karger AG, Basel, pp. 40-53.
24. **Tischler ME** (1987) Muscle protein degradation and its regulation. In: Nutrition '87 (Olleander A, ed.) American Institute of Nutrition, Bethesda, pp. 135-140.
25. Henriksen EJ, Satarug S, **Tischler ME**, Furst P (1988) Responses of lysosomal and non-lysosomal proteases to unloading of the soleus. In: Proteases II. Potential Role in Health and Disease (Horl WH, Heidland, A, eds.) Plenum Press, New York, pp. 235-242.
26. Morey-Holton E, **Tischler ME** (1988) NASA Workshop on Biological Adaptation. NASA Technical Memorandum 89468.
27. **Tischler ME**, Henriksen EJ, Jacob S, Satarug S, Cook PH (1988) Problems in analysis of data from muscles of rats flown in space. Physiologist **31**:S10-S13
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37. Halstead, TW, **Tischler ME** (eds) (1995) ASGSB Bulletin - Abstract Issue Vol 9(1).
38. Halstead, TW, **Tischler ME** (eds) (1996) Gravitational and Space Biology Bulletin - Abstract Issue Vol 10(1).
39. Haussler MR, **Tischler ME** (1996) Transformation of the University of Arizona medical biochemistry course. *The Academic Resource* (The University of Arizona Health Sciences Center) **7**:1-2
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41. Halstead, TW, **Tischler ME** (eds) (1997) Gravitational and Space Biology Bulletin - Abstract Issue Vol 11(1).
42. **Tischler ME** (1997) Space Travel (Biochemistry and Physiology). In: Encyclopedia of Human Biology, Vol. 8 (Dulbecco R, ed.), Academic Press, New York, pp 97-106
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47. Janson LW, **Tischler, ME** (2012) Medical Biochemistry: The Big Picture, McGraw-Hill Medical
48. Cross H, **Tischler ME** (2017) Hereditary Ocular Disease (http://disorders.eyes.arizona.edu/); disease graphics contributor [410 graphics] University of Arizona
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ABSTRACTS

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2. **Tischler ME**, Fisher RR (1972) Mitochondrial oxidation of reduced nicotinamide hypoxanthine dinucleotide. SE Amer Chem Soc, Abst 15.
3. O'Neal SG, Winyard CK, **Tischler ME**, Fisher RR (1973) Evidence for mitochondrial carrier mediated transport of reduced nicotinamide hypoxanthine dinucleotide. Southeast Amer Chem Soc, Abst. 168.
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6. **Tischler ME**, Pachence J, LaNoue KF (1975) Assymetry of the glutamate- aspartate exchange in mitochondria. Biophysical Soc., Abst W-POS-B15
7. LaNoue KF, **Tischler ME** (1975) Kinetic analysis of mitochondrial aspartate transport. Fed Proc **34**:557.
8. LaNoue KF, **Tischler ME**, Land JM (1975) Kinetics of the exchange of aspartate and glutamate across the mitochondrial membrane. FEBS 10th Meeting, Abst 1149.
9. **Tischler ME** (1976) Determination of intracellular metabolite distribution by cell cavitation. Fed Proc **35**:1458.
10. **Tischler ME**, Hecht P, Viale R, Williamson JR (1977) Contribution of the malate-aspartate cycle to removal of cytosolic reducing equivalents in rat liver cells. Biophysical Society.
11. Williamson JR, **Tischler ME** (1977) Nicotinamide adenine dinucleotide phosphate redox potentials in cytosol and mitochondria of rat liver cells. Fed Proc **36**:902.
12. Williamson JR, **Tischler ME** (1977) Towards a molecular understanding of cellular metabolism. Hoppe-Seyler's Z Physiol Chem **358**:1300.
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15. Goldberg AL, **Tischler ME** (1980) Regulation of protein and glucose metabolism by leucine. Intl Symp Metab Clin Implications of Branched Chain Amino and Ketoacids, Abst. S1.
16. **Tischler ME**, Goldberg AL (1980) Leucine catabolism and production of glutamine and alanine by adipose tissue. Intl Symp on Metab and Clin Implications of Branched Chain Amino and Ketoacids. Abst. P27.
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37. Henriksen EJ, **Tischler ME** (1985) Possible mechanism for changes in glycogen metabolism in unloaded soleus muscle. Physiologist **28**:312.
38. Henriksen EJ, **Tischler ME**, Jacob S, Cook PH (1985) Muscle protein and glycogen responses to recovery from hypogravity and unloading by tail-cast suspension. Physiologist **28**:376
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49. **Tischler ME**, Cook P, Hodsden S, McCready S, Wu, M (1989) In vivo protein metabolism of developing flight muscle of tobacco hornworm (Manduca Sexta). FASEB J **3**:A264.
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62. Johnson PC, Pal M, Toth A, **Tischler ME**, Ping P (1992) Local measurement of NADH in skeletal muscle during regulatory adjustments of blood flow. APS Conference: Integrative Biology of Exercise.
63. Munoz KA, Satarug S, **Tischler ME** (1992) Time course of the response of myofibrillar and sarcoplasmic protein metabolism to unweighting of the soleus. ASGSB Bull **6**:34.

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65. **Tischler ME**, Henriksen EJ, Munoz, KA, Stump CS, Woodman C, Kirby CR (1992) Spaceflight and earth-based unweighting produce similar effects on muscle of young rats. ASGSB Bull **6**:57.
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67. Henriksen EJ, Munoz KA, Aannestad A, **Tischler ME** (1993) Increases in protein content and protein synthesis in heart and plantaris of voluntary running rats. ACSN Annual Meeting
68. Henriksen EJ, Munoz KA, Aannestad A, **Tischler ME** (1993) Effects of unweighting on protein content and in vivo protein synthesis in skeletal muscles of trained vs. sedentary rats. ASGSB Bull **7**:48.
69. **Tischler ME**, Slentz M (1994) Impact of weightlessness on muscle function. ASGSB Bull **8**:46.
70. **Tischler ME**, Slentz M, Aannestad A, Siman R, Farah J (1995) Slowing atrophy of unweighted soleus using protease inhibitors.
71. **Tischler ME**, Keller JL, and Leadem C (1996) A description and evaluation of Arizona College of Medicine's first summer preprofessional program. Acilomar Meeting
72. Webster-McElvogue K, Bayomi S, Ochoa M, O'Connor D, Peterson E, Polanco R, **Tischler ME** (1996) Use of BRIC hardware to study adult development of the tobacco hornworm (*Manduca sexta*) (Abstract). Grav Space Biol Bull **10**:48
73. **Tischler ME**, Satarug S, Aannestad A, Munoz KA, Henriksen EJ (1996) Insulin reduces unweighting atrophy of soleus by amplified inhibition of protein degradation. Grav Space Biol Bull **10**:59
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PRESENTATIONS

Seminars

1977 Lab. voor Veterinaire Bioc., Rijksuniversiteit, Utrecht, the Netherlands.
Nuffield Dept. of Surgery, Oxford Univ., Oxford, England.
Lab. voor Bioc., B.C.P. Jansen Inst., Univ. van Amsterdam, the Netherlands Biochemisches Inst., Univ. Basel, Basel, Switzerland.
Inst. fur Physiol. Chem., Physik. Bioc. Zellbiol., Univ. Munchen, W Germany Cardiovascular Div., Peter Bent Brigham Hosp., Boston.

1979 Mass. Gen. Hosp., Boston.
Dept. of Physiology, Tufts Med. School, Boston. Merck Sharp & Dohme Research Lab., Rahway, NJ.

1980 Dept. of Pharmacology, Univ. of Arizona.
Dept. of Med., Medical Univ. of S. Carolina, Charleston.
Dept. of Biochemistry, Brigham Young Univ., Provo, UT.
Dept. of Biology, Univ. of Utah, Salt Lake City.

1981 Dept. of Animal Physiology, Univ. of Arizona.
NASA-Ames Res. Center, Moffett Field, CA.
Dept. of Chemistry, Brigham Young Univ., Provo, UT.
Dept. of Chemistry and Biochemistry, Utah St. University, Logan. Dept. of Chemistry, Univ. of Utah, Salt Lake City.

1982 Merck Sharp & Dohme Res. Labs, Rahway, NJ.
Diabetes Res. Center, Univ. of Pennsylvania, Philadelphia PA.
Dept. of Pharmacology, Johns Hopkins School of Medicine, Baltimore, MD.

1983 Surgical Grand Rounds, Univ. of Arizona.
Emer. Care Update V, Univ. of Arizona.
Fourth Ann. Sports Medicine Symp., Univ. of Arizona. Dept. of Physiology, Harvard Med. School, Boston.
Dept. of Biochemistry, Univ. of Connecticut, Storrs.
Merck Sharp & Dohme Res. Labs, Rahway, NJ.
Dept. of Physiology, Univ. of Mass. School of Medicine, Worcester, Univ. of Utrecht, Utrecht, The Netherlands.
John B. Pierce Found., Yale Univ., New Haven, CT.

1984 Dept. of Physiology and Biophysics, Univ. of Louisville. Dept. of Physiology, Univ. of Texas Health Sciences Center, Dallas, TX

1985 Dept. of Chemistry, Univ. of South Carolina, Columbia.
Dept. of Physiology, Univ. of Arizona.
1986 Dept. of Internal Medicine, Univ. of Arizona.
Dept. of Pediatrics, Univ. of Arizona.
1987 Dept. of Neurology, Univ. of Maryland, Baltimore, MD
1988 Dept. of Chemistry, Univ. of South Carolina, Columbia.
1989 Exercise and Sports Science, Univ. of Arizona.
Dept. of Animal Sciences, Iowa State Univ., Ames. Dept. of Physiology, Univ. of New Mexico, Albuquerque
Dept. of Experimental Zoology, Univ. of Utrecht, Utrecht
1990 Bionetics Corporation, Kennedy Space Center
1991 Department of Nutrition and Food Science, Univ. of Arizona
NASA - Ames Research Center, Moffett Field, CA
1992 Department of Exercise and Sport Sciences, Univ. of Arizona
1993 Center for Insect Science Hexapodium
1994 Cephalon Inc. - Pennsylvania 1995
Honors Forum - Univ. of Arizona

Symposia invitations

1983 Branched Amino and Ketoacids in Health and Disease - Gottingen, FRG.
International Commission on Gravitational Physiology, Moscow, USSR
1984 International Symp. on Intracellular Protein Catabolism - Airlie, VA,
International Heart Research Symposium - Oklahoma City, OK.
1985 American Society of Enteral and Parenteral Nutrition - Miami Beach, FL.
Amer. Physiological Soc. Workshop on Space Biology - Niagra Falls, NY.
International Society of Gravitational Physiology - Niagra Falls, NY.
European Society of Enteral and Parenteral Nutrition - Munich, FRG.
American Society of Zoologists - Baltimore, MD.
1986 FASEB Summer Conference on Space Biology - Copper Mountain, CO.
1987 Poultry Nutrition Conference - Washington, D.C.
Amer. Physiological Society Symposium on Space Biology - Washington, D.C.
Space Life Sciences Symposium: Three Decades of Life Science Research in Space - Washington, D.C. 9th Annual IUPS Commission on Gravitational Physiology; Nitra, Czech.
International Symposium on Proteolysis; Shimoda, Japan.
1989 American Society of Enteral and Parenteral Nutrition - Miami Beach, FL.
International Society of Myochemistry - Nice, France
1990 12th Annual IUPS Commission on Gravitational Physiology; Leningrad, USSR
1992 17th Annual Primary Care Update - University of Arizona
World Space Congress - Washington, DC
1993 State of Arizona Minority Education Forum - Phoenix, AZ
1994 FASEB Symposium - Anaheim, CA
American Society for Gravitational and Space Biology - San Francisco, CA
1997 Mini-medical School Program Phoenix
1998 Mini-medical School Program Phoenix and Tucson
1999 Mini-medical School Program Phoenix and Tucson
2000 Mini-medical School Program Phoenix and Tucson
2001 Mini-medical School Program Phoenix
2002 Mini-medical School Program Phoenix
2003 Mini-medical School Program Phoenix
2004 Faculty lecture series – University of Arizona
2004 Mini-medical School Program Phoenix and Tucson
2005 Mini-medical School Program Tucson
2011 Curriculum development workshop, Southwest College of Naturopathic Medicine, Tempe
2012 Use of lecture and clinical path conference to create an interactive session, Faculty Development workshop, College of Medicine

GRANTS*

Federal

NASA: Muscle Symposium - $2000; 11/82-6/83.
NIH (AM 28647): Regulation of Protein Degradation in Muscle; $175,964; 7/81-6/84.
NASA (NAGW-227): Skeletal Muscle Metabolism in Hypokinetic Rats; $110,013; 7/81-10/85
NASA (NAG2-384): Skeletal Muscle Metabolism in Hypokinetic Rats; $391,689; 11/85-12/93
NASA: Recovery of Rat Skeletal Muscle Subjected to Unloading; $35,500, 7/86 - 6/88.
NSF (DCB8712458): Regulation and Role of Insect Protein Turnover; $147,586; 12/87-11/90
NASA (NGT 88-076): Adrenergic Influence on Carbohydrate Metabolism in Atrophic Muscle; $58,000; 8/88-7/91
NIH (HL 17421): Regulation and Exchange in the Microcirculation; project 2. $35,000; 9/89-8/94
NASA (NGT 70203): Muscle Protein Metabolism in Unweighting Atrophy; Direct $66,000; 7/90-6/93
NASA (NAGW 3197): Insect Development in Altered Gravity Environment; $164,972; 9/92-8/96
NASA (NAG10-0134): Effect of Microgravity on Manduca Sexta in Metamorphosis; $230,183; 3/94-9/98
NIH (1F32AR08382-C1): Mechanism of Skeletal Muscle Atrophy; $82,200, 6/96-5/99 (Postdoc. fellowship)
NASA (NAG2-1187): Influence of Unweighting on Insulin Signal Transduction in Muscle; $282,407; 5/98-4/02
NIH (GM08718): MARC/Biomedical Research and Training Program; PI; $568,000; 6/99-5/02
NIH (GM08718): MARC/Biomedical Research and Training Program; PI; $1,571,360; 6/02-5/07
NIH (AI031951): Regulation of Digestion in Blood-Sucking Insects; consultant; 4/02 - 03/05
NIH (GM050008): Lipid and Lipoprotein Metabolism in Insects; consultant; 7/02 -6/05
NIH (AI46541): Regulation of Energy Metabolism in Mosquitos; consultant; 2/03 - 1/06
NIH (GM08718): MARC/Biomedical Research and Training Program; PI; $2,000,430; 6/07-5/12
NIH (GM08718): MARC/Biomedical Research and Training Program; co-PI; $2,412,070; 6/12-5/17
NIH (T34GM0008718): MARC/Biomedical Research and Training Program PI/co-PI; $2,288,785; 6/17-5/22

State

Biomedical Research Support: Regulation of Muscle Proteolysis: $5000, 10/79-10/80 Biomedical
Research Support: Muscle Innervation in Unloading and Stretch; $6000, 1/86-6/87. Biomedical
Research Support: Shared use of Fluorometer: $6000 7/87-6/88
Graduate College: Promoting retention of minority students in biological sciences, $5400, 1989
Graduate College: Promoting retention of minority students in biological sciences, $3750, 1990
Graduate College: Promoting retention of minority students in biological sciences, $3000, 1991
VPR Office: pre-Minority Access to Research Careers program; $9,000; 5/09-9/12

Industry

Merck Sharp & Dohme Research Labs: Muscle Symposium - $1500; 9/82-6/83.
Merck Sharp and Dohme Research Labs: Muscle Proteolysis in Trauma; $4,730, 10/83-3/85 Merck
Sharp & Dohme Research Labs: Regulation of Muscle Proteolysis; $10,000, 3/81-2/88.
Cephalon: Protease Inhibitors and Cell Protein Breakdown; Direct $30,302; Total $37,877; 8/93-6/97.
Research Corporation for Science Advancement: pre-Minority Access to Research Careers program; $12,000; 5/09-9/11

Foundations

Muscular Dystrophy Association: Amino Acid Metabolism in Muscle: $24,000; 7/77-6/79
Amer Heart Assoc (AZ): Cardiac Metabolism of Protein and Amino Acids in Trauma: Direct $24,000, 7/80-6/82.
AHA Established Investigatorship: Protein/Amino Acid Metabolism in Cardiac and Skeletal Muscle; Direct $177,000, 7/82-6/87
Holy Land Trust: Mechanisms of Skeletal Muscle Wasting; Direct $19,000, 1/95-12/96

TEACHING ACTIVITIES

Courses Taught

FALL 1980	Medical Biochemistry (Bioc 801 5 U-[100 h]; 20% effort, 88 students)
FALL 1981	Medical Biochemistry (Bioc 801 5 U-[100 h]; 25% effort, 88 students)
FALL 1982	Metabolic & Hormonal Control of Cell Function (Bioc 572 3 U-[42 h], 50%, 40)
	Intermediate Medical Biochemistry (Bioc 804 5 U-[100 h], 40%, 25 students)
FALL 1983	Intermediate Medical Biochemistry (Bioc 804 5 U-[100 h], 40%, 25 students)

FALL 1984	Metabolic Hormonal Control of Cell Function (Bioc. 572 3 U-[42 h], 50%, 40)
	Interm. Medical Biochemistry (Bioc 804 5 U-[100 h], 40%, 25 students) **Coordinator**
	Graduate Student Lab Rotations (Bioc 681, 3 U, 2 students)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 2 students)
SPRG 1985	Graduate Student Lab Rotations (Bioc 681, 3 U, 1 student)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 2 students)
FALL 1985	Intermediate Medical Biochemistry (Bioc 804 5 U-[100 h], 10% effort, 25 students)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student)
SPRG 1986	Graduate Student Lab Rotations (Psio 610, 3 U, 2 students)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student)
FALL 1986	Interm. Medical Bochemistry (Bioc 804 5 U-[100 h], 30%, 20 students) **Coordinator**
	Medical Biochemistry (Bioc 801 5 U-[100 h], 20% effort, 70 students)
	Biochemical Techniques (Bioc 575 3 U-[42 h], 13% effort, 25 students)
	Undergraduate Proseminar (Bioc 496, one presentation)
SPRG 1987	Metabolic Hormonal Control of Cell Function (Bioc. 572 3 U-[42 h], 50%, 10)
FALL 1987	Intermed. Medical Biochemistry (Bioc 804 5 U-[100 h], 30%, 18) **Coordinator**
	Medical Biochemistry (Bioc 801 5 U-[100 h], 30% effort, 70 students) **Coordinator**
	Undergraduate Proseminar (Bioc 496, one presentation)
	Graduate Student Lab Rotations (Bioc. 681, 3 U, 1 student)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student)
SPRG 1988	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student)
FALL 1988	Medical Biochemistry (Bioc. 801 5 U-[100 h], 70% effort, 73 students)
	Intermed. Medical Biochemistry (Bioc. 804 5 U-[100 h], 15%, 16) **Coordinator**
	Graduate Student Lab Rotations (Bioc 681, 3 U, 1 student)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 2 students)
SPRG 1989	Undergraduate Proseminar (Bioc 496, one presentation; 47 students)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 2 students)
	Seminar-Biological Chemistry (Chem 296, one presentation; 48 students) FALL 1989
	Medical Biochemistry (Bioc 801 5 U-[40 h], 15%, 84 students) **Coordinator**
	Undergraduate Proseminar (Bioc 496, 1 U, 44 students, 7% effort)
SPRG 1990	Medical Biochemistry (Bioc 801 5 U-[75 h], 33% effort, 83 students) **Coordinator**
	Seminar-Biological Chemistry (Chem 296, 1 U, 14 students, 7% effort)
FALL 1990	Undergraduate Proseminar (Bioc 496, 1 U, 41 students, 7% effort)
SPRG 1991	Medical Biochemistry (Bioc 801 5 U-[87 h], 33% effort, 92 students)
	Seminar-Biological Chemistry (Chem 296, one presentation; 86 students)
	Graduate Student Lab Rotation (Bioc. 681, 3 U, 1 student)
FALL 1991	Undergraduate Proseminar (Bioc 496, 1 U, 57 students, 7% effort)
	Independent study (Bioc 499-2 U)
SPRG 1992	Medical Biochemistry (Bioc 801 5 U-[73 h], 33% effort, 88 students)
	Biochemistry (Bioc 462b/562b 3 U-[42 h], 40% effort, 92/46 students)
	Seminar-Biological Chemistry (Chem 296, one presentation; 19 students)
SUMR 1992	Independent Study (Bioc 199 - 3 U)
FALL 1992	Opportunities in Biological Sciences (Bioc 295 - 1 U, 24 students)
	General Biochemistry (Bioc 460/560 5 U-[76 h], 33% effort, 174/11 students)
	Undergraduate Proseminar (Bioc 496, 1 U-51 students, 7% effort)
	Methods in Nutrition (Nusc 605, 1 U-7 students, 7% effort)
	Biology Honors (Bioc 181H, 1 U-7 students 7% effort)
	Graduate Student Lab Rotations (Bioc. 681, 3 U-1 student; 50% effort)
SPRG 1993	Medical Biochemistry (Bioc 801 6 U-[73 h], 30% effort, 92 students)
	Improving Presentation Skills (Bioc 502X 1 U -[15 h], 100% effort, 11 students)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 students)
FALL 1993	General Biochemistry (Bioc 460/560 5 U-[76 h], 33% effort, 161/15 students)
	Improving Presentation Skills (Bioc 502 1 U-[15 h], 100% effort, 6 students)
	Opportunities in Biological Sciences (Bioc 295 - 1 U, 27 students)
	Undergraduate Proseminar (Bioc 496, 1 U - 78 students, 7% effort)
	Graduate Student LaRotations (Bioc. 681, 3 U-1 student; 50% effort)
	Biology Honors (Bioc 181H, 1 U-7 students 7% effort)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 2 students)
SPRG 1994	Medical Biochemistry (Bioc 801 6 U, 24 h lecture (40% of total), 12 h small group; 96 students)
	Seminar-Biological Chemistry (Chem 296, one presentation; 33 students)

FALL 1994	General Biochemistry (Bioc 460 5 U-[72 h], 33% effort, 205 students)
	Opportunities in Biological Sciences (Bioc 295 - 1 U, 24 students)
	Undergraduate Proseminar (Bioc 496, 1 U - 81 students, 7% effort)
	Biology Honors (Bioc 181H, 1 U-10 students 7% effort)
	Methods in Nutrition (Nusc 605, 1 U-10 students, 7% effort)
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student)
SPRG 1995	Medical Biochemistry (Bioc 801 7 U, 24 h lecture (40%), 12 h small group; 100 students; **Course Coordinator**
	Undergraduate Lab Practicum (Bioc 494, 3 U, 1 student) Opportunities
	in Biological Sciences (Bioc 295 - 1 U, 24 students)
SUMM 1995	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 1995	General Biochemistry (Bioc 460 5 U-[72 h], 33% effort, 267 students)
	Opportunities in Biological Sciences (Bioc 295 - 1 U, 19 students)
	Biology Honors (Bioc 181H, 1 U-10 students 7% effort)
	Methods in Nutrition (Nusc 605, 1 U-11 students, 7% effort)
	Independent Study (Bioc 399/498/499; 3 U-6 students)
SPRG 1996	Medical Biochemistry (Bioc 801 7 U, 29 h lecture (48%), 97 students; 12 h small group; **Course Coordinator**
	Undergraduate Proseminar (Bioc 496, 1 U - 78 students, 7% effort)
SUMM 1996	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 1996	General Biochemistry (Bioc 460 5 U-[72 h], 33% effort, 307 students)
	Opportunities in Biological Sciences (Bioc 295 - 1 U, 22 students)
	Biology Honors (Bioc 181H, 1 U-10 students 7% effort)
SPRG 1997	Medical Biochemistry (Bioc 801 7 U, 24 h lecture (40% of total), 104 students; 12 h small group
SUMM 1997	Director, Medical Student Bridge Program (16 students; 54 contact hours)
FALL 1997	General Biochemistry (Bioc 460 3 U, 2 sections; 50% effort, 523 students); **Coordinator**
SPRG 1998	Medical Biochemistry (Bioc 801 7 U, 24 h lecture (40% of total), 103 students; 8 h small group)
	Medical Problem Based Learning - 10 h small group facilitator; 8 students
SUMM 1998	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 1998	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 491 students); **Coordinator**
	Opportunities in Biology (Bioc 295a 1 U; 100% effort, 18 students)
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 15 students)
SPRG 1999	Medical Biochemistry (Bioc 801 7 U, 24 h lecture (40% of total), 99 students; 12 h small group; **Coordinator**
	Medical Problem Based Learning - 12 h small group facilitator; 8 students
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 9 students)
SUMM 1999	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 1999	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 414 students); **Coordinator**
	Opportunities in Biology (Bioc 295a 1 U; 100% effort, 17 students)
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 16 students)
SPRG 2000	Medical Biochemistry (Bioc 801 7 U, 24 h lecture (40% of total), 100 students; 15 h small group) **Coordinator**
	Medical Problem Based Learning - 12 h small group facilitator; 8 students
SUMM 2000	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 2000	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 380 students); **Coordinator** Careers
	in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 19 students)
	Biotechnology (Bioc 195b 1 U; 2 sections; 20% effort, 33 students)
SPRG 2001	Medical Biochemistry (Bioc 801 7 U, 21 h lecture (37% of total), 99 students; 60% of total) **Coordinator**
SUMM 2001	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 2001	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 345 students); **Coordinator**
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 13 students)
	Opportunities in Biology (Bioc 195g 1 U; 100% effort, 12 students)
SPRG 2002	Medical Biochemistry (Bioc 801 7 U, 99 students; 26 h lecture; 14 h tutorials **Coordinator**
SUMM 2002	Director, Medical Student Bridge Program (24 students; 54 contact hours)
FALL 2002	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 407 students); **Coordinator**
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 11 students)
	Opportunities in Biology (Bioc 195g 1 U; 100% effort, 15 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 23 students)
SPRG 2003	Medical Biochemistry (Bioc 801 7 U, 100 students; 42h lecture, 12h small group; 8h tutorials **Coordinator**
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 46 students)
SUMM 2003	Director, Medical Student Bridge Program (24 students; 40 contact hours)
FALL 2003	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 488 students); **Coordinator**
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 11 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 55 students)
SPRG 2004	Medical Biochemistry (Bioc 801 7 U, 113 students; 43h lecture, 12h small group, 8h tutorials **Coordinator**
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 68 students)

SUMM 2004	Director, Medical Student Bridge Program (24 students; 40 contact hours)
FALL 2004	General Biochemistry (Bioc 460 3 U - 2 sections; 50% effort, 480 students); **Coordinator**
	Careers in Math & Science for Minority Professionals (Bioc 195e 1 U; 100% effort, 9 students)
	Opportunities in Biology (Bioc 195g 1 U; 100% effort, 8 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 66 students)
SPRG 2005	Medical Biochemistry (Bioc 801 7 U, 118 students; 43 h lecture, 12 h small group **Coordinator**
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 50 students)
SUMM 2005	Director, Medical Student Bridge Program (26 students; 40 contact hours)
FALL 2005	Careers in Math & Science for Minority Professionals (Bioc 195e);
	Opportunities in Biology (Bioc 195g) (combined 1 U; 100% effort, 12 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 56 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 13 students)
SPRG 2006	Medical Biochemistry (Bioc 801 7 U, 113 students; 40 h lecture 12 h small group) **Coordinator**
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 65 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 15 students)
SUMM 2006	General Biochemistry (Bioc 460 3 U; 33% effort, 48 students)
	Director, Medical Student Bridge Program (24 students; 40 contact hours)
FALL 2006	Medical Biochemistry Problem Solving (Bioc 401 – 16 students)
	Opportunities in BMB (Bioc 195g 1 U; 100% effort, 6 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 56 students)
	Musculoskeletal block (MED 814; 3 lectures; 114 students)
SPRG 2007	DMH I (MED 820-I; CBI facilitator; TL facilitator; lecturer; 110 students) **Block director**
	Cardiovascular, Pulmonary, Renal Block (MED 818; 3 lectures; 114 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 54 students) Medical
	Biochemistry Problem Solving (Bioc 401 – 12 students)
SUM 2007	General Biochemistry (Bioc 460 3 U; 50% effort, 49 students)
	Medical Student Bridge Program (30 students; 40 contact hours) **Director**
FALL 2007	DMH II (MED 820-II; CBI facilitator; TL facilitator; grand rounds facilitator; lecturer; 110 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 54 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 10 students)
SPRG 2008	DMH I (MED 820-I; CBI facilitator; team learning facilitator; lecturer; 110 students) **Block director;**
	Musculoskeletal block (MED 814; 3 lectures; 1 CBI 110 students)
	Cardiovascular, Pulmonary, Renal Block (MED 818; 3 lectures; 1 CBI; 110 students)
	Cancer and Advanced Topics blocks (CBI facilitator; 40 h; 8 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 65 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 18 students)
SUM 2008	General Biochemistry (Bioc 460 3 U; 50% effort, 49 students)
	Medical Student Bridge Program (28 students; 40 contact hours) **Director**
FALL 2008	DMH II (MED 820-II; 110 students) 120 hours committed **Block director;**
	Foundations (MED 813; TL facilitator; 110 students)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 49 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 18 students)
SPRG 2009	DMH I (MED 820-I; CBI facilitator – 8 h; team learning facilitator – 6 h; 1 lecture; 110 students) **Block director**
	Advanced Topics (MED 824; 110 students) **Associate block director**
	Musculoskeletal block (MED 814; 3 lectures; 1 CBI; 110 students)
	Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 110 students)
	Metabolic Biochemistry (Bioc 462b; 13 lectures; 110 students) **Course coordinator**
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 45 students) Medical
	Biochemistry Problem Solving (Bioc 401 – 18 students)
SUM 2009	General Biochemistry (Bioc 460 3 U; 50% effort, 49 students)
	Director, Medical Student Bridge Program (28 students; 40 contact hours)
FALL 2009	DMH II (MED 820-II; CBI facilitator – 24 h; team learning facilitator – 24 h; 110 students) **Block director**
	Foundations (MED 813; 4 lectures; TL facilitator – 3 h; 115 students)
	Intersessions (MED 827; small group facilitator – 2 h)
	Minority Biomedical Research Colloquium (Bioc 395a 1 U; 37 students)
	Medical Biochemistry Problem Solving (Bioc 401 – 14 students)
SPRG 2010	DMH I (MED 820-I; CBI facilitator – 8 h; team learning facilitator – 6 h; 1 lecture; 115 students) **Block director**
	Advanced Topics (MED 824; CBI; team learning and CPC facilitator 115 students) **Associate block director**
	Musculoskeletal block (MED 814; 3 lectures; 1 CBI; 115 students)
	Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 115 students)
	Intersessions (MED 827; small group facilitator - 4 h)

Metabolic Biochemistry (Bioc 462b; 13 lectures; 150 students)
Minority Biomedical Research Colloquium (Bioc 395a 1 U; 28 students)
Medical Biochemistry Problem Solving (Bioc 401 – 15 students)

SUM 2010 General Biochemistry (Bioc 460 3 U; 50% effort, 54 students)
Director, Medical Student Bridge Program (28 students; 40 contact hours) (396 total to date)

FALL 2010 DMH II (MED 820-II; team learning facilitator – 21 h; 27 lectures; 110 students) **Block director**
Foundations (MED 813; 4 lectures; TL facilitator – 3 h; 115 students)
Minority Biomedical Research Colloquium (Bioc 395a 1 U; 45 students) Medical Biochemistry Problem Solving (Bioc 401 – 18 students)

SPRG 2011 DMH I (MED 820-I; team learning facilitator – 6 h; 1 lecture; 115 students) **Block director**
Advanced Topics (MED 824; 115 students) **Associate block director**
Musculoskeletal block (MED 814; 3 lectures; 1 CBI authorship; 115 students)
Life Cycle block (MED 821; 5 CBI facilitations; 8 students
Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 115 students)
Minority Biomedical Research Colloquium (Bioc 395a 1 U; 47 students) Medical Biochemistry Problem Solving (Bioc 401 – 14 students)

SUM 2011 General Biochemistry (Bioc 460 3 U; 50% effort, 65 students)
Director, Medical Student Bridge Program (28 students; 40 contact hours) (424 total to date)

FALL 2011 DMH II (MED 820-II; team learning facilitator – 21 h; 32 lectures; 115 students) **Block director**
Foundations (MED 813; 4 lectures; TL facilitator – 3 h; 115 students)
Minority Biomedical Research Colloquium (Bioc 395a 1 U; 45 students)
Medical Biochemistry Problem Solving (Bioc 401 – 15 students)

SPRG 2012 Digestion, Metabolism, Hormones I (MED 820-I; 115 students) **Block director**
Advanced Topics (MED 824; lecture; TL; CPC; 115 students) **Associate block director**
Musculoskeletal block (MED 814; 3 lectures; 115 students)
Life Cycle block (MED 821; CBI facilitator; lecture; 8 students
Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 115 students)
Minority Biomedical Research Colloquium (Bioc 395a 1 U; 45 students)

SUM 2012 Director, Medical Student Bridge Program (28 students; 40 contact hours) (452 total to date)

FALL 2012 Digestion, Metabolism, Hormones II (MED 820-II; 115 students) **Block director**
Foundations (MED 813; TL facilitator – 3 h; 115 students)

SPRG 2013 Digestion, Metabolism, Hormones I (MED 820-I; 115 students) **Block director**
Advanced Topics (MED 824; lecture; TL; CPC; 115 students) **Assistant block director**
Musculoskeletal block (MED 814; 3 lectures; 115 students)
Life Cycle block (MED 821; CBI facilitator; lecture; 8 students
Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 115 students)

FALL 2013 Digestion, Metabolism, Hormones II (MED 820-II; 115 students) **Block director**
Foundations (MED 813; TL facilitator – 3 h; 115 students)

SPRG 2014 Digestion, Metabolism, Hormones:A (MED 820A; 115 students) **Block director**
Advanced Topics (MED 824; lecture; TL; CPC; 115 students) **Associate block director**
Musculoskeletal block (MED 814; 3 lectures; 115 students)
Life Cycle block (MED 821; CBI facilitator; 2 lectures)
Cardiovascular, Pulmonary, Renal Block (MED 818; 2 lectures; 115 students) FALL

2014 Digestion, Metabolism, Hormones II (MED 806B; 115 students) **Block director**
Foundations (MED 802; TL facilitator – 3 h; 115 students)

SPRG 2015 Digestion, Metabolism, Hormones:A (MED 806A; 115 students) **Block director**
Advanced Topics (MED 809; lecture; TL; CPC; 115 students) **Associate block director**
Musculoskeletal block (MED 804; 3 lectures; 115 students)
Life Cycle block (MED 808; CBI facilitator; 2 lectures)
Cardiovascular, Pulmonary, Renal Block (MED 805; 2 lectures; 115 students)
Mechanisms of Human Disease (Path 515; 1 lecture; 25 students)

FALL 2015 Digestion, Metabolism, Hormones II (MED 806B; 115 students) **Block director**
Foundations (MED 802; TL facilitator – 3 h; 115 students)

SPRG 2016 Digestion, Metabolism, Hormones:A (MED 806A; 115 students) **Block director** Advanced Topics (MED 809; lecture; TL; CPC; 115 students) **Associate block director**
Musculoskeletal block (MED 804; 3 lectures; 115 students)
Life Cycle block (MED 808; CBI facilitator; 2 lectures)
Cardiovascular, Pulmonary, Renal Block (MED 805; 2 lectures; 115 students)
Mechanisms of Human Disease (Path 515; 1 lecture; 25 students)

FALL 2016 Digestion, Metabolism, Hormones II (MED 806B; 115 students) **Block director**
Foundations (MED 802; TL facilitator – 3 h; 132 students)
Metabolic Biochemistry (Bioc 385; 75%; 249 students)

SPRG 2017	Digestion, Metabolism, Hormones:A (MED 806A; 132 students) **Block director**
	Advanced Topics (MED 809; 115 students) **Associate block director**
	Musculoskeletal block (MED 804; 3 lectures; 132 students)
	Life Cycle block (MED 808; CBI facilitator; 2 lectures)
	Cardiovascular, Pulmonary, Renal Block (MED 805; 2 lectures; 132 students)
FALL 2017	Digestion, Metabolism, Hormones II (MED 806B; 132 students) **Block director**
	Foundations (MED 802; 3 lectures; TL facilitator – 3 h; 120 students)
	Musculoskeletal block (MED 804; 3 lectures; 120 students)
	Metabolic Biochemistry (Bioc 385; 50%; 185 students)
	Scientific Writing (BIOC 395b, 7 students)
SPRG 2018	Digestion, Metabolism, Hormones (MED 806,; 118 students) **Block director**
	Life Cycle block (MED 808; CBI facilitator; 2 lectures; 132 students)
	Cardiovascular, Pulmonary, Renal Block (MED 805; 2 lectures; 132 students)
FALL 2018	Foundations (MED 802; 5 lectures; TL facilitator – 3 h; 115 students)
	Life Cycle block (MED 808; CBI facilitator; 2 lectures; 115 students)
	Musculoskeletal block (MED 804; 1 lecture; 115 students)
	Scientific Writing (BIOC 395b, 7 students)
SPRG 2019	Digestion, Metabolism, Hormones (MED 806,; 118 students) **Associate Block director**
FALL 2019	Foundations (MED 802; 5 lectures; 115 students)
	Life Cycle block (MED 808; CBI facilitator; 2 lectures; 115 students)
	Musculoskeletal block (MED 804; 1 lecture; 115 students)
	Medical Biochemistry (BIOC 537, 12 students)
	Scientific Writing (BIOC 395b, 7 students)
SPRG 2020	Digestion, Metabolism, Hormones (MED 806,; 118 students)
	Metabolic Biochemistry (Bioc 462b; 50%,; 71 students)
FALL 2020	Foundations (MED 802; 8 lectures; 120 students)
	Life Cycle block (MED 808; CBI facilitator; 2 lectures; 115 students)
	Musculoskeletal block (MED 804; 1 lecture; 115 students)
	Medical Biochemistry (BIOC 537, 14 students)
	Scientific Writing (BIOC 395b, 7 students)
SPRG 2021	Digestion, Metabolism, Hormones (MED 806;)
FALL 2021	Foundations (MED 802; 120 students)
	Life Cycle block (MED 808; CBI facilitator; 2 lectures;)
	Musculoskeletal block (MED 804; 1 lecture)
	Medical Biochemistry (BIOC 537,)
	Scientific Writing (BIOC 395b,)
SPRG 2022	Digestion, Metabolism, Hormones (MED 806;)

(undergrad taught to F20 = 8306) (med students taught including AY21-22 = 4412) (grad students taught to F20 = 213) (total to S22 = 12,931)

Other Contributions To Teaching

Medical Student Bridge Program: July 1995-2021; Director – 653 total students

Course and curriculum development

1980:	Development of advanced graduate course in biochemistry (BIOC 572)
1981:	Development of course in Intermediate Medical Biochemistry (BIOC 804)
1989:	Revision of Medical Biochemistry (801)
1992:	Development of colloquium "Opportunities in Biological Sciences" (BIOC 295a)
1992:	Revision of Biochemistry 462b
1993:	Development of Graduate Presentation Skills Course (BIOC 502)
1993-94:	Dean's Teaching Scholars Program
1994-95:	Integration of Medical Biochemistry with Molecular and Medical Genetics
1994-95:	CCAPP Appraisals Task Group
1994-95:	Development of Medical Student Bridge Program for Matriculating Medical Students
1998:	Freshman Colloquium - Careers in Math and Science for Minority Professionals (BIOC 195e)
2004-08	College of Medicine Curriculum Reform; Chair Integration Team, Curriculum Reform Steering Committee; Block Designer, Block Director
2005	Developed undergraduate course in Medical Biochemistry Problem Solving
2005-07	Development and design of Digestion, Metabolism and Hormones (MED 820) block in new medical curriculum
2008-10	Development and Design of Intersessions (MED 827) block in medical curriculum
2008-10	Development and design of Advanced Topics (62 h) block in medical curriculum

2009-10 Development and design of Metabolic Biochemistry course (Bioc 385)
2014-17 Redesign of Basic Science Medical curriculum

Student Training And Committees

Postdoctoral fellows trained

Mohammad Al-Kanhal	1984	Riadh University
Stephan Jacob	1984-1985	University of Heidelberg
Randi Beth Weinstein	1995-1998	U. California at Berkeley

Min Wu, M.S. 1989 (Nutrition and Food Science): *In Vivo Protein Turnover and the Influence of Ecdysteroids in Flight Muscle of the Tobacco Hornworm, Manduca Sexta.*
Michael Slentz, M.S. 1995 (Nutrition and Food Science): *Effects of Proteasome Inhibitors on Unweighted Muscle and Effects of Neurotropic Factors on Protein Metabolism in Denervated Muscle.*

Dissertations completed

Julie Fagan, Ph.D. 1983 (Animal Physiology): *Regulation of Muscle Proteolysis: Interrelationships with the NAD, NADP, and Glutathione Redox Couples*
Stephen Jaspers, Ph.D. 1984 (Biochemistry): *Metabolic Responses of Skeletal Muscle to Hypokinesia-Hypodynamia*
Erik Henriksen, Ph.D. 1987 (Biochemistry): *Effect of Unloading by Tail-cast Suspension on Carbohydrate Metabolism in Skeletal Muscle*
Soisungwan Satarug, Ph.D. 1987 (Biochemistry): *Responses of Skeletal Muscle Protein Turnover and Amino Acid Concentration to Unloading, Denervation and Immobilization*
Christopher R. Kirby, Ph.D. 1990 (Physiology): *Carbohydrate Metabolism and the Beta-adrenergic System in Atrophying Soleus*
Min Wu, Ph.D. 1993 (Biochemistry): *The Role of Arylphorin, an Insect Storage Hexamer, in Tobacco Hornworm, Manduca Sexta.*
Kathryn Munoz, Ph.D. 1993 (Nutritional Sciences): *Protein Metabolism in Atrophying Skeletal Muscle*

Graduate students - postgraduate placement

Helen Cammisa, M.S., 1982 - Postgraduate: technician position
Alan Ost, M.S., 1983 - Postgraduate: Univ. of Virginia Medical School; MD 1988
Julie Fagan, Ph.D. 1983 - Postgraduate: postdoctoral, Dept of Physiology, Harvard Medical School
Stephen Jaspers, Ph.D. 1984 - Postgraduate: postdoctoral, Dept of Biochemistry, U. Mass. Sch. Med.
Dwain Allen - did not complete degree
Erik Henriksen, Ph.D. 1987 - Postgraduate: postdoctoral, Dept of Int. Med., Washington U. St. Louis
Soisungwan Satarug, Ph.D. 1987 - Postgraduate: Asst. Prof. of Biochemistry, Khon-Kaen Univ., Thailand
Min Wu, M.S. 1989 - continued for Ph.D.
Christopher Kirby, Ph.D. 1990 - Postgraduate: postdoctoral, Univ. of Texas at Houston
Kathryn Munoz, Ph.D. 1993 - Postgraduate: postdoctoral, National Cancer Institute
Min Wu, Ph.D. 1993 - Postgraduate: postdoctoral, Case Western Reserve Univ.

Graduate student awards

Erik Henriksen -	NASA Graduate Student Researcher Program award (1986-88) German Academic Exchange Service Scholarship (1986) Young Investigator Award in Environmental Physiol (1988)
Christopher Kirby -	NASA Graduate Student Researcher Program award (1988-90) Top student presentation; Annual Meeting of ASGSB (1989)
Kathryn Munoz -	NASA Graduate Student Researcher Program award (1990-93) 2nd place presentation; Annual Meeting of ASGSB (1991) 1st place presentation; SWARM meeting (1992)
Min Wu -	Fellowship from Center for Insect Science (1991-92)

Dissertation committees

Biochemistry:		Other Departments:	
Mary Lou Armstrong	1980-w/drew	Gary Sertich	1981-1983
Robert O'Malley	1981-1982	Robert Donaldson	1982-1987
Donald Sheer	1981-1984	Yvonne Hodges	1982-1986
David Mangelsdorf	1982-1987	John Rock	1982-1986

Ellie Osir	1982-1985	Randy Widelitz	1982-1986
Michael Kelly	1982-1986	Bess Maxwell	1983-l985
Ralph Martel	1986-1991	Roberta Murphey	1984-1989
Linda Okerlund	1988-1991	Craig Stump	1987-1992
Julia Meyer	1988-1992	Gwo-Shing Sun	1990-1994
Margaret Tome	1989-1996	Chris Woodman	1992-1995
Tomas Wroblewski	1992-w/drew	Matt O'Keefe	2000-05
Dale Woolridge	1993-1998	Vitoon Saengsirisuwan	2000-05
		Betsy Dokken	2002-07

Preliminary examination committees

Anjan Bhattacharyya	1980	Raul Martinez	1989
Yun-tien Chen	1981	Jian Yao	1991
Alan Smrcka	1982	Kathryn Lawson	1993-94
Catherine Radebaugh	1986		
Xiao-Yu Wang	1986		

Medical students trained

Bart Carter	1982
Jody Reiser	1985
Peter Chase	1989

Undergraduate students trained (ital = minority graduated)

1980-82	Julia Coffman, B.S. 1982 - Postgraduate: Peace Corps
1981-82	Steve Feckley, B.S. 1982 - Postgraduate: Salesman for VWR scientific
1982-84	Bill Spina, B.S. 1984 - Postgraduate: Medical School at Univ. of Az.
1982-84	Jean Mnicowicz, B.S. 1984 - Postgraduate: Medical School at Univ. of Az.
1984-85	Ellen Leng, B.S. 1985 - Postgraduate: Medical School at Univ. of Texas
1984-85	John Strom, B.S. 1985
1984-86	Steve Eisenfeld, B.S. 1986 - Postgraduate: Medical School at Univ. of Az.
1985-89	Sara Rosenberg, B.S. 1988 - Postgraduate: Public Health at Univ. of San Diego
1987-89	Wendy Hartshorne, B.S. 1989 - Postgraduate: Medical School at Univ. of Va.
1987-89	Susan McCready, B.S. 1989 - Postgrad: Physical Therapy; Hahnemann Med School
1988	Cynthia Yee, B.S. 1989
1988-90	*Lisa Springer, B.S. 1989 - Postgraduate: Univ. of Arizona in Physiology*
1988-89	*Shirley Hodsden, B.S. 1989 - Postgraduate: Univ. of Arizona in Entomology*
1988-90	David Kleiner, B.S. 1990 - Postgraduate: Medical School at Univ. of Az.
1990	*Helena Frank - Navajo Community College (UA/NCC Undergrad Research Program)*
1990	*Maurice Grant, B.S. 1993 - Univ of Indiana (Project Access); Med. Sch/Univ of IN*
1990-92	*Sonia Rodriguez, B.S. 1992 - Undergraduate Biology Research Program*
1991-93	*Teresa Isaias, B.S. 1994 - Undergrad Biol Res Program; Univ. of Az Med. School*
1991-92	Zhen Fan, B.S. 1992 - Undergrad Biol. Res. Program; Univ. of Az Med. School
1991	*Marina O'Leary - B.S. 1992*
1991-92	*Pamela Begay - UA/NCC Undergrad Res Program; Undergrad Biol Res Program*
1991-92	Steve White - NASA Space Grant Undergraduate Intern
1992-93	Anders Aanestaad, B.S. 1993 - UBRP; U of A Law School
1992	*Michael Truesdell - Minority Fellowship Program; Univ. of Az Medical School*
1992-93	Sean Shelby
1992-93	Christopher App, B.S. 1994 - NASA Space Grant Undergraduate Intern
1992-96	*Monica Ochoa - NASA Space Grant Undergraduate Intern; industrial position*
1993	Kristin Struble, B.S. 1994 - Undergraduate Biology Research Program; UA Med. School
1993-94	Kirk Smith, B.S. 1994 - Senior thesis, NASA Space Grant Undergraduate Intern
1993-94	Kerri Rak
1994-96	Erik Peterson, B.S. 1996
1994-96	Thomas Burns, B.S. 1996
1994-95	*Ernesto Archuleta - NASA Space Grant Undergraduate Intern*
1994-95	Amina Shaukat, B.S. 1994 - Senior thesis
1995-97	Dawn O'Connor - NASA Space Grant Intern; UBRP; Univ of Wisconsin Medical School; thesis
1996-99	Julie (Takeuchi) Crawford - NASA Space Grant Undergraduate Intern; UBRP; senior thesis; UA Med School
1997	*Tommy Seaton - UBRP, Native American Bridge Program; Southeastern Utah State*
1997-99	*Abram Aguilar - Univ. of Az Medical School*

1997-00 Noura Eleid - NASA Space Grant Intern; UBRP; senior thesis; MS. Physics program – Univ. of Az
1998-99 Michelle Heffner - UBRP; Univ. of Az Medical School; senior thesis
1999-00 Jennifer Robinson – UBRP; Univ. of Az Medical School; senior thesis
1999-01 Bianca Durando – UBRP; senior thesis; Univ of Pittsburgh Medical School
1999-02 Catherine LeCesne – UBRP; Univ. of Az Medical School
1999-00 Olu Ajayi
2000-02 Chrystle Layton – UBRP; Stanford, Medical School (13)
2000-01 Sweta Batni – UBRP; senior thesis
2001-02 Susan Rudinsky – UA Medical School

High school students trained

Kim Dong 1993 (Salpointe)
Robin Polanco 1994 (Pueblo)
Melissa Bernstein 1997 (Pueblo)
Sarah Vidal 1998 (Pueblo)

Teachers trained

Shari Bayomi 1994 (6th grade - Hohokam Middle School) Minority

Access to Research Careers trainees mentored (italics = graduated)

1999-00 Herson Quinones - Graduate Program, University of Texas Southwestern (Dallas) 1999-01
Tori Matthews – Postbaccalaureate – Mayo Grad; PhD Univ of Alabama-Birmingham
1999-01 Orlantha Whitehair – University of Arizona College of Medicine
1999-01 James Aguilar - research technician; medical school- Caribbean
1999-01 Francisco Villa – Graduate Program, University of California, San Diego
1999-01 Felipe Perez – University of Arizona College of Medicine
2000-01 David Morales – Graduate Program, University of California Berkeley, University of Arizona
2000-02 Jullyn Chargualaf – Univ of Southern California College of Medicine
2000-02 Kelli Randon - Postbaccaluareate - Mayo
2000-02 Anthony Beas - Graduate Program, Univ of California San Diego
2000-02 Paul Hoover - NIH Academy, MD/PhD program Stanford University
2000-02 Celeste Lopez – Harvard Medical School
2001-02 Clarita Lefthand- Microbiology, Tufts University; MS Environmental Sci, Univ Washington; PhD Pathobiology
2001-02 Santiago Canez – Mathematics Graduate Program, Univ of California Berkeley
2001-03 Irene Alvarez – Pharmacology-Toxicology Graduate Program, Univ of Arizona
2001-03 Alexandrina Barela – NIH IRTA program Phoenix (16)
2001-03 Humberto Sirvent
2001-03 Nanibaa' Garrison - Graduate Program, Stanford University
2001-03 Jennifer Thompson - Graduate Program, Univ of California Berkeley
2002-04 Linda Mobula – MD, Univ California, San Francisco
2002-04 Rowena Campbell – Cancer Biology Grad Program, Univ of Arizona
2002-04 Chris Cabello – Chemistry Grad Program, Univ of Michigan; PhD Univ Az, Med. Chem
2002-04 Tiffany Davis – postbaccalaureate program, UC San Diego; U Az Medical School
2002-04 Autumn Sky Watson – research technician
2000-04 Veronica Placencio- Biomedical Sciences PhD program, Vanderbilt
2003-04 Veronica Gonzalez– Pharmacology-Toxicology Graduate Program, Univ of Arizona
2003-05 Mia Henderson – Teach for America; MD-PhD Washington Univ St. Louis (2007)
2003-05 Brittany Martin – NIH Academy; Univ of Colorado, Molec Biol PhD Program
2003-05 Salomon Carlos Leija – Biotech company
2003-05 Albert Gutierrez – Mayo MD/PhD program
2003-05 Kristin Robinson
2004-05 Mindy Escobar – Neurosciences Graduate Program, Univ of Arizona
2004-06 Mohammed Abdelwahab (DNG)
2004-06 Andrea Aguirre (UA-MD/PhD)
2004-06 Olivia Brown – PharmD, Univ of Arizona
2004-06 Karl Calderon
2004-06 Omar Contreras – NIH Academy, MPH, Univ Az
2004-06 Charles Martinez – Biomedical Sciences Graduate Program, Vanderbilt Univ
2004-06 Garrett Pacheco – UA Med School

2005-07 *Adrian Begaye – MD, Stanford*
2005-07 *Sara Bustamante – Cancer Biology PhD, Univ Az*
2005-07 *Rachel Diaz – MSTP, Univ Iowa*
2005-07 *Arturo Guzman – MD, Univ Az*
2005-07 *Nicholas Harrell – MD Howard*
2006-07 *Bee Vu*
2005-08 *Roman Covarrubias - Biomedical Sciences Graduate Program, Vanderbilt Univ*
2006-08 *Jessica Aguilar – Speech, Hearing PhD program Univ Az*
2006-08 *Tara Archuleta- Biomedical Sciences Graduate Program, Vanderbilt Univ*
2006-08 *Adam Bastidas – Biochemistry Grad Program, UC San Diego*
2006-08 *Nina Castro – MD, Univ Washington*
2006-08 *Ryan Delgado – MSTP, UC San Fransisco*
2006-08 *Elyse Paluscio – Microbiology Grad Program, Wash U St Louis*
2006-08 *Stephanie Schnell – MSTP, Columbia Univ*
2007-08 *Jason Espinoza* (w/drew 8-08) *– MD Prizer*
2007-08 *Zeke Gebrekidane* (w/drew 8-08)
2007-09 *Alysia Lozano – Pharmacology Grad Program, Univ Az*
2007-09 *Marwan Mustafa – MSTP, Univ Iowa*
2007-09 *Erika Starks – MD/PhD, Univ Wisconsin*
2007-08 *Danyel Wynn* (w/drew 6-08) *– Vet School, Colorado*
2008-09 *Lilian Patron – Neurosci Grad Program, Univ Az*
2008-09 *Kelvin Dan – Postbacc U Michigan; BMCB Grad Program, Univ Az*
2008-09 *Elise Madrid – NIH Acdemy (60)*
2008-10 *Cassandra Andrade – Health Science Grad Program, Univ Wisconsin*
2008-09 *Jessica Brown – MD Program – Howard University*
2008-11 *Alberto Bryan – Michigan postbacc*
2008-09 *Androuw Carrasco – MD Program – Univ Arizona*
2008-09 *David Durazo*
2008-10 *Danah Huerta*
2008-10 *Kevin Keys – Applied Math Grad Program, UCLA*
2009-11 *Gabby Winston-McPherson – Grad Program U Wisc - Chemistry*
2009-11 *Cayla Baynes – PhD Program UA – Biomed Engineering*
2009-11 *Jeannie Camarillo – Grad Program Vanderbilt – Biomed Sciences*
2009-10 *Kate Hacker –PhD Program , Yale - Epidemiology*
2009-11 *Britney Lizama – PhD Program – Vanderbilt – Biomed Sciences*
2009-11 *Angela Reese – PhD Program Stanford – Molec Biol.*
2009-11 *Cynthia Sandoval – PhD Program UA – Cancer Biol*
2009-11 *Jose Marc Techner – MD/PhD Program Northwestern*
2009-10 *Keila Gutierrez –PhD Program, Univ Texas - Psychology*
2009-10 *Claudia Meece Pharm D, Univ of Arizona*
2010-12 *Brad Bowman*
2010-12 *Michelle Redhair -–PhD Program, Univ Washington – Molecular Biology*
2010-12 *Sabrina Dumas - PhD Program, Univ Wisconsin - Nutrition*
2010-12 *Ese Adun - MS Program Physiology Univ of Arizona*
2010-12 *Rene Begaye - MD*
2010-12 *Bianca Barcelo, MD/PhD UA*
2010-12 *Wana Mathieu*
2011-13 *Jose Quiroz – MD/PhD, Albert Einstein*
2011-13 *Miles Lucero MS/PhD Program, Univ Colorado Biostatistics*
2011-13 *Madeline Hart- PhD Program, Univ Washington – Molecular Biology*
2011-13 *Karen Peralta PhD, Univ Arizona, Speech Language Pathology*
2011-13 *Erica Persell PhD , Univ Chicago*
2011-13 *Christine Bischoff – MHS Johns Hopkins*
2011-13 *Lauren O'Neill – PREP program*
2012-14 *Bianca Demara*
2012 *Matthew Gomez*
2012-14 *Sandra Gonzalez; Biomedical/Medical Engineering PhD Program, Georgia Institute Technology/Emory Univ*
2012-14 *Adam Orendain;*
2012-14 *Adrian Ramirez*
2012-14 *Roberto Reyes*
2012 *Nicole Williams*
2013-14 *Jorge Alvarez*

2013-14	*Karen Rico*
2013-15	*Si'Ana Coggins*
2013-15	*Yael Escobar*
2013-15	*Daniella Espiritu*
2013-15	*Joshua Kochanowsky*
2013-14	*Gaby Lacy*
2013-15	*Brianna Moon*
2013-15	*Jose Valdez*
2014-16	*Lauren Edwards*
2014	*Joseph Agosttini*
2014-16	*Joseph Bower*
2014-16	*Mary Figueroa*
2014-16	*Martina Sepulveda*
2014-16	*Mackenzie Steinbach*
2014-16	*Frank Valdes*
2015-17	*Katherine Andersh*
2015-17	*Daniel Carrera*
2015-17	*Jeffry Granados*
2015-17	*Justin Lopez*
2015-17	*Kyle Lopez*
2015-17	*Elise Munoz*
2015-17	*Eric Simental*
2015-17	*Daniom Tecle*
2016	Emanuel Bustamante
2016-17	Sophia Aguirre
2016-18	Marisa Becerra
2016-18	Jose Celaya-Alcala
2016-18	Olivia Gorushi
2016-18	Daniel Osorio
2017-18	Jacob Croft
2017-18	Tyler Espinoza
2017-18	Alexandre Cavalcante
2017-19	Jayme Jackson
2017-19	Marianne Madias
2017-19	Mariajose Franco
2017-19	Nadia Ingabire
2017-19	Brittany Williams
2017-19	Heber Lara
2018-19	Ashley Flores
2018	Sundance Kemp
2018-20	Jordan Dasen
2018-20	Alana Gonzales
2018-20	Meucci Ilunga
2018-20	Corinne Meinhausen
2018-20	Andres Sanchez
2018-20	Frank Servin
2019-20	Ricardo Lira
2019-20	Isabel Forlastro
2019-21	Lillian Delacruz
2019-21	Ryan Ochoa
2019-21	Daniela Ortiz
2019-21	Nicolai Pena
2019-21	Jocelyne Rivera
2019-21	Christa Imrich
2019-21	Naya Ibrahim
2020-22	Leamon Crooms
2020-22	Aaron Judkins
2020-21	Shane Mustafa
2020-22	Sydney Field
2020-22	Carlos Urrea De La Puerta
2020-22	Anakaren Romero Lozano
2021-22	Brown, Ellie

2021-22 Cruz, Lauren
2021-22 Foster-Malave, Tiffany Love
2021-22 Hala'ufia, Elizabeth Grace
2021-22 Linden, Brooke
2021-22 King, Shyanne
2021-22 Orozco, Eva

Undergraduate students mentored (ital = minority graduated)

1994-96 Edward Shapiro, B.S. 1996; Maine Osteopathic School - graduated 2000
1994-96 Bobby Bonillas, B.S. 1996; - Univ. of Az Medical School - graduated 2000
1994-96 Antonio Robles, B.S. 1996
1995-97 Andy Moriarty, B.S. 1997 – Physical Therapy: Northern Arizona University
1996-98 Sandra Saldana; BS 1998; to MS program in Epidemiology
1996-97 Christina Werkhoven (withdrew from school)
1996-97 Antonio Carr, B.S. 1997; Univ. of Az Medical School – graduated 2001
1996-01 Oscar Serrano, B.S. 2001; Stanford Medical School (2001)
1996-02 *Shirley Peters – U of Washington law school*
1996-98 Mark Zeitzer; Univ. of Az Medical School (1998)
1996-00 Amber Kyle; Univ. of Michigan Medical School
1996-06 Dani DuBois – Law - University of Arizona
1997-99 April Robaina B.S. 2000
1997-01 Mariel Velez, B.S. 2001; Stanford Medical School (2001)
1997-99 Anish Donda B.S. 2000
1997-99 Molly Reuben B.S. 1999; Univ. of Az Medical School (1999)
1997-00 Ryan Chirnomas, B.S. 2000
1998-99 Jeff Henderson; BS, 1999; Univ. of Az Medical School (2000)
1998-99 Vlada Groysman; Univ. of Az Medical School (2001)
1998-02 Elisa Wershba B.A. 2000 - George Washington Medical School
1998-99 Lisa Levy B.S. 1999; Yale – School of Public Health (2001)
1998-00 Shahnaz Kazi B.S. 2000
1997-00 Gia Leonetti B.S. 2000
1998-00 LuAnn Juarros; B.S. 2000; Univ of Iowa Medical School (2002)
1998-00 Svetlana Reznikova, B.S. 2000; Univ. of Az Medical School (2002)
1998-02 *Carla Escobar – BU law school*
1999-00 *Daniela Lipovic; B.S. 2000; Mayo College of Osteopathic Medicine (2001)*
1999-00 Dustin Rayhorn - Univ of Az Medical School
1999-02 Jennifer Reece B.S. 2003; Univ. of Az Medical School (2003)
1999-01 Lori-Ann Tracy B.S. 2001; Univ. of Az Medical School (2001)
1999-01 Sherry Bucina B.S. 2001; Univ. of Az Medical School (2001)
1999-00 Dennis Serrano
1999-02 April Newell - grad
1999-03 Stephanie Berman, B.S. 2003, Albert Einstein Medical School (2003)
1999-04 Catherine Lecesne, B.S. General Biology, 2002; MPH Program, UA and MD, UA, 2010
2000-01 Jeanne Cronshaw
2000-02 Chandan Kundavaram - UA
2000-03 Sarah Bannister B.S. 2003
2000-02 *Ada Dieke*
2001-02 Jared Chase
2001-02 Karen Barry, B.S. 2002
2001-02 Katie Wilkinson B.S. 2003
2000-02 Mack Eleid – Creighton
2001-02 Meghan McCann - pharmacy
2001-04 Hung Tran, B.S. 2004; accepted to M.S. Biochemistry Program, Univ of Arizona
2001-03 Liv Aanestad B.S. 2002
2001-03 Naomi Young, B.S., 2003 (NIH postbacc; UA postbacc programs); MD, UA
2002-04 Vanessa Klee, B.S., 2004; Univ. of Az Medical School (2004)
2002-06 Caroline Killian B.S. 2003; Univ. of Az Medical School (2005)
2003-04 Camille Reliford, B.S. 2004; Univ. of Az Pharmacy School (2004)
2003-04 Kristen Oretga, B.S. 2003; Univ. of Colorado Dental School (2006)
2003-04 Justin Batz, B.S. 2005 –Dental School, UCSF (2004)
2003-04 Bret Becker, B.S. 2005 – Dental school (2006)

2003-04 *Nicole Nelson*
2003-07 Julianna Padavan – B.S., 2007, UA Medical School
2003-05 Sara Risner-Adler B.S. 2005; Vanderbilt Univ. Medical School (2005)
2003-05 Alison Knapp
2003-05 *Leah Penrod - Applied Pathobiology Master's Program UA*
2003-05 *Jose Anaya B.S. 2005; Univ. of Az Medical School (2005)*
2003-05 Mayron Lichterman B.S. 2005, Osteopathic Medical School (2006)
2003-05 Mansi Sarihan B.S. 2005; Univ. of Az Medical School (2005)
2003-05 Gautam Aggarwal U of Arizona
2003-06 Bijiibaa' Garrison Harvard
2003-07 Yolanda Mercer; UA Med
2003-07 *Ishmail Sillah, B.S. 2007; UA MPH Program (2007-09)*
2004-05 Brittany Horn
2004-05 Douglas Kern – UNLV (Dental)
2004-06 Anna Quatrapponi – PharmD – Univ So California
2004-06 Soroosh Beshad UA Medical School
2004-06 Chandra Wienecke
2004-06 Aaron Goldman, UA cancer Biology
2004-07 Natalie Budak (MPH)
2005-06 Karren Seely, B.S. 2006; UA Medical School
2005-06 Leo Bartik, B.S. 2006; Johns Hopkins
2005-06 Alison Schiefer, Midwestern
2005-06 Sarah Joslin Mayo
2005-07 *Chinenye Anako (MD) – UA*
2005-07 *Jaire Saunders (MD)*
2005-13 Anindita Das, B.S., 2008, MD program UA
2006-07 *Amanda Valles UA Medical School*
2006-08 Scott Kirkorsky (MD) – UA
2006-09 Alice Ferng, UA medical, PhD
2006-09 *Cassia Payne, B.S. 2008*
2006-09 Michelle Brandon (PharmD)
2006-07 Daniel Szewczyk
2006-08 *Aluvia Escalante, B.S. 2008; UA Medical School*
2006-08 *Abbas Tulie, B.S. 2008; UA MPH program (2008-09); Duke MD (2009-) (17)*
2006-07 Isabela Matey – withdrew
2007-09 Jan Weichsel, UA MD program
2007-09 Talya Lepow (MD) – UA
2007-10 *Sterling Udom – Duke MD program*
2008-09 *Carolina Morales*
2008-14 Jose VargasTon
2008-09 Marvin Oktech-Oliveira (pre-MARC)
2008-09 Brieanna Flores
2008-09 Korena Garcia
2008-09 Lizbeth Hernandez
2008-09 Mariana Aranguren
2008-09 Victoria Hernandez (pre-MARC)
2008-10 *Chioma Nnamdi - MD*
2008-10 Sarah Levine – UA MD program
2008-11 Andrea Galaviz
2009-10 Michael Christopher – UA MD program
2009-10 *Robert Blackwell*
2010-13 Annalisa Medina pre-MARC
2011-12 Esther Quintero
2011-12 Andi Akpan
2011-13 Niam Hameed
2011-13 Tania Perez
2011-13 Victor Arias
2011-14 Haley Stein
2011-13 Niko Ramos
2011-13 Nicole Sayers
2011-15 Kenneth Brooks, MD, Univ Az Tucson
2011-14 *Alfonso Ayala, MD, Univ Az Tucson*

2011-12	*Danielle Olla – MD, Univ Az Phoenix*
2011-13	Mae Rouhani
2011-18	Kelly Hager. MD, Univ Az Tucson
2009-13	Ashley Vergara
2012-14	Eleanor Stilson
2012-14	Aileen Leyva
2012-16	Ashley Maitland
2012-14	*Agnes Ewongwo*
2012-13	Avonna Formalejo
2012-14	Amber Tsang
2012-16	*Filipa Miranda dos Santos*
2012-14	Alexa Friedrich
2012-14	Iris Mora
2013-15	Briana Dohogne
2013-15	Laveena Sullhan
2013-15	Veronica Young
2013-14	Christian Daite
2013-14	Hoon Pyon
2013-15	Kelechi Abarikwu
2013-16	Ashwini Kaveti, MD, Univ Az Tucson
2014-16	Iliana Manjon
2014-16	Christelle Feliciano
2014-16	Corina MacIsaac
2014-16	Jay Patel
2014-17	*Sophia Aguirre*
2014-15	Thane Rosette (URM)
2014-15	Connor White
2014-16	Axel Gomez
2014-18	Eleni Moschonas
2015-16	Yahaira Garcia
2015-16	Sheila Allison
2015-20	Meghana Bandlamuri
2016-19	Bill Estes
2017-20	Madeline Morrow
2017-21	Rose Purtell
2018-19	Kayleigh Porritt
2018-21	Denali Keefe
2018-19	Angel Shigley
2018-19	Ivana de la Rosa
2018-20	Smita Armstrong
2019-21	Isaac Saedi
2018-20	Madeline Sands
2020-21	Stephen Lopez
2020-22	Akanye Sawasato (akanes)
2020-22	Grace Parekh (gparekh)
2020-22	Sun Woo Kim (sunwookim1218)
2020-22	Farah Alqaraghuli (farahalqaraghuli)

OUTREACH ACTIVITIES

1986,87	Seniors Group at Tucson Jewish Community Center
1988	Tully Elementary School; Tucson, AZ
1991	Potomac Elementary; Potomac, MD
1991-95	Nogales High School Students; Tucson, AZ
1991	Mountain View High; Tucson, AZ
1992	Castle Hill Elementary; Tucson, AZ
1992	Wright Elementary; Tucson, AZ
1993, 94, 95	Tucson Space Camp
1993	Ironwood Elementary School
1994, 1995	Hohokam Middle School
1995	Roberts Elementary
1995	Drachman Elementary

1995, 96, 98-01	Tucson Hebrew Academy
1995	Manzenita Elementary
1995	Science Connection
1995	Students for the Exploration and Development of Space
1996	Molecular and Cellular Biology Club
1996	San Juan Community College, Farmington, NM
1996	Navajo Community College, Tsaile, AZ
1997-04	Mini-medical School Program Phoenix
1997	Tucson High School
1997	Agua Caliente Elementary School
1997	Greenfields Country Day School - 3 workshops
1998-00, 04-05	Mini-medical School Program Tucson
2002	Thornydale Elementary
2021-	Happy Equine Acres Rescue and Therapy of Tucson volunteer