

CURRICULUM VITAE

NAME: Mark Samuel Francis **CLARKE** **DATE OF BIRTH:** May 1965

EDUCATION: M.I. Biol. (Honors) (Pharmacology)
Ph.D. (Cell Biology & Biochemistry) **NATIONALITY:** US/UK/EU

PRESENT ADDRESS: University of West Georgia
Chief of Staff
Sanford Hall, 1601 Maple Street
Carrollton, Georgia 30117
Email: mclarke@westga.edu

EDUCATION

Ph.D. (Cell Biology and Biochemistry), Manchester Metropolitan University, Manchester, United Kingdom. (March 1991). Ph.D. dissertation entitled "*The identification of proliferation-related antigens in human endothelial cells as a possible tumor therapy.*" supervised by Professors David C. West and Shant Kumar.

Graduate Studies, Department of Tumor Biology, Christie Hospital and Holt Radium Institute, Manchester, United Kingdom. (1987-1990).

Member, Institute of Biology (Pharmacology) (Honors), Manchester Metropolitan University, Manchester, United Kingdom. (May 1987) - *Specialization in clinical pharmacology and pharmacokinetics.*

Undergraduate Studies, Department of Biological Sciences, Manchester Metropolitan University, Manchester, United Kingdom. (1983-1987).

SENIOR ADMINISTRATIVE POSITIONS

Associate Provost, Faculty Development and Faculty Affairs, Office of the Provost, University of Houston, (2015 – 2023) – Responsibilities: development and implementation of a strategic vision focused on attracting and retaining a diverse, world-class faculty while creating sustainable pathways for student and faculty success. Direct Reports: Office of Faculty Affairs, Office of Faculty Engagement and Development, Council of Department Chairs, UH Measurement and Evaluation Center, University Ombudsperson, Faculty Grievance Committee, Faculty Affairs Committee, Academic Centers and Institutes.

Interim Vice-Provost for Global Engagement, Office of the Provost, University of Houston, (2019-2021) – Responsibilities: equipping UH students with the international knowledge and cultural perspectives required to live, work and succeed in an ever increasingly mobile and interconnected world. Direct Reports: Office of Global Initiatives, Office of Learning Abroad, Passport for Coogs Office, UH Global Advisory Committee.

Interim Dean, College of Technology, University of Houston, (2017). Responsibilities: providing leadership and oversight for the day-to-day operations of the College of Technology while preparing the College for the arrival of a new Dean. During this time, I was responsible for beginning the process of transitioning selected academic programs in the College to their new home at the UH-Sugarland campus, as well as finalizing the design and programming of an additional 120,000 square foot academic and research building to accommodate this expansion.

Associate Vice-Chancellor/Vice-President for Technology Transfer, Division of Research, University of Houston, (2012 –2015) – Responsibilities: establishing a robust and sustainable campus innovation enterprise closely networked to the Greater Houston and regional innovation and entrepreneurship (I&E) ecosystems. Direct Reports: Office of Intellectual Property Management, Office Technology Licensing & Commercialization, UH Innovation Center, UH Laboratory Incubator Facility, UH System Intellectual Property Committee

ACADEMIC AND RESEARCH POSITIONS

Professor, Department of Sport Management, Wellness, and Physical Education, University of West Georgia (2026–present).

Associate Professor, Department of Health and Human Performance, University of Houston, Houston, Texas 77030-3498, USA. (2002–2026).

Founding Director, Laboratory of Integrated Physiology, Department of Health and Human Performance, University of Houston, Houston, Texas 77030-3498, USA. (2004–2012).

Adjunct Professor, Department of Pharmacology and Toxicology, Augusta University (formerly The Medical College of Georgia), Augusta, GA 30912-2000, USA. (1998-2026).

NASA-JSC Science Lead, Urine Measurement System (UMS) Project (2008-2012) Joint UH/NASA-JSC technology development and testing project aboard the International Space Station (ISS) (hardware initially launched to ISS aboard STS-130 in 2009).

Adjunct Professor, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX 77030-3498, USA. (1999-2006).

Senior Staff Scientist, Division of Space Life Sciences, Universities Space Research Association (USRA), NASA/ Johnson Space Center, Houston, Texas 77058, USA. (1996-2002).

National Research Council (NRC) Fellow, Biomedical Operations and Research Branch (SD-4), NASA/Johnson Space Center, Houston, TX 77058, USA. (1994-1996).

Research Fellow, Department of Cell Biology and Anatomy, Medical College of Georgia, Augusta, GA 309122000, USA. (1992-1994).

Instructor/Research Associate, Department of Anatomy and Cellular Biology, Harvard Medical School, Boston, MA 02115, USA. (1991-1992).

NATIONAL LEADERSHIP POSITIONS

Co-Chair, Commission on Economic and Community Engagement (CECE), Association of Public and Land Grant Universities (APLU) (2022 - 2023).

UH Representative, Alliance of Hispanic Serving Research Universities (HSRU), (2021-2023).

Member, Executive Committee, Commission on Economic and Community Engagement (CECE), Association of Public and Land Grant Universities (APLU) (2018 - 2023).

Member, Executive Committee, Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP), Association of Public and Land Grant Universities (APLU) (2013 - 2018)

Related Publication: [Higher Education Engagement in Economic Development: Foundations for Strategy and Practice](#). (2015). APLU/CICEP Position Paper (*Role: Contributor*).

NATIONAL LEVEL AWARDS, MEMBERSHIPS AND SERVICE

Fellow, National Academy of Inventors (NAI) (*Elected 2020*)

Senior Member, National Academy of Inventors (NAI) (*Elected 2019*)

National Academy of Inventors (NAI), Fellow Selection Committee (2023, 2024)

National Academy of Inventors (NAI), Senior Member Selection Committee (2020, 2022, 2025)

Certificate of Distinction, Association of Public and Land Grant Universities (APLU) (2018)

Certificate of Appreciation (*for service as CECE Co-Chair*), Association of Public and Land Grant Universities (APLU) (2024)

National Research Council (NRC) Fellow (1994-1996)

SHARED GOVERNANCE ROLES AS A FACULTY MEMBER

Member, Internal Advisory Board, Consortium for Translational and Precision Health (CTPH), Baylor College of Medicine/University of Houston (2025 – date)

Grant Reviewer, Consortium for Translational and Precision Health (CTPH), Baylor College of Medicine/University of Houston (2024 – date)

Chair, HHP Annual Performance Review Committee (2024-date)

Member, HHP Promotion and Tenure Committee (2024 – date)

Member, HHP Graduate Research Degree Committee (2024-date)
Chair, UH System Intellectual Property Committee (2011-2012)
Chair, University Faculty Governance Committee (2011)
UH Faculty Senate President (2010)
UH Faculty Senate President-Elect (2009)
Chair, University Faculty Affairs Committee (2007-2009)
Chair, College of Education Graduate Studies Committee (2007-2009)
Chair, HHP Departmental Promotion and Tenure Committee (2006-2012)
Member, College of Education Graduate Studies Committee (2005-2009)
Chair, HHP Graduate Research Degree Committee (2003-2008)

SHARED GOVERNANCE ROLES AS AN ADMINISTRATOR

Chair, Envisioning the Classroom of the Future Committee (2021–2023)
Chair, Multimodal Classroom Implementation Committee (2021-2022)
Chair, Committee on Micro-Credential Programs (2021–2022) Co-
Chair, President’s New Normal Taskforce (2020–2022)
Provost Representative, UH Faculty Senate Faculty Affairs Committee (2015-2023)
Provost Representative, University Campus Planning & Facilities Committee (2015–2023)
Provost Representative, University Maintenance Project Evaluation Committee (2015–2023)
Member, President’s Fiscal Task Force (Spring 2020)
Member, UH Research Conflict of Interest Committee (2012-2016)
Division of Research Representative, UH Faculty Senate Research and Scholarship Committee (2012-2015)

PROFESSIONAL HONORS AND AWARDS

President, Phi Kappa Phi (PKP) Honor Society (Chapter 54, University of Houston) (2015-2016)
President's Leadership Award for Outstanding Faculty Leadership, University of Houston (2011)
Full Member, Phi Kappa Phi (PKP) Honor Society (Chapter 54, University of Houston) (2015-present)
NASA Innovation Space Act Award: Microgravity-Compatible Sweat Collection and Analysis Device. (2011)
NASA Innovation Space Act Award (2007) Production of Stable Aqueous Dispersions of Carbon Nanotubes.
NASA Innovation Space Act Award (2003) Directional Acceleration Vector Driven Displacement of Fluids.
NASA Innovation Space Act Award (1999) Development of a Centrifuge Operated Slide Stainer.

NASA Innovation Space Act Award (1998) Method and Device for Cytoplasmic Loading of Macromolecules.

NASA Innovation Space Act Award (1997) Development of a Unilateral/Unidirectional Cell Stretching Device.

NASA Innovation Space Act Award (1997) Impact Mediated Loading (IML) Device for Cell Transfection.

National Research Council (NRC) Fellowship tenable at NASA-Johnson Space Center (1994-1996)

The Young Investigator Award, 16th Gray Conference, Vasculature as a Target in Tumor Therapy. (1990)

RESEARCH AND SCHOLARSHIP METRICS

◆ **GOOGLE SCHOLAR PROFILE:** <https://scholar.google.com/citations?user=kAIRrFMAAAAJ&hl=en>

H-index = **24**; i10 Index = **36**; Total Citations = **3025**; Incites™ Average Journal Impact Factor =

4.1. Total Research Funding Received as Principal Investigator or Co-Investigator: **\$ 5.5 million**

◆ **POST-DOCTORAL FELLOWS AND GRADUATE STUDENT ADVISEES**

Graduate Students Mentored at NASA-JSC

Marcas M. Bamman, Ph.D. (1998-2000, University of Alabama-Birmingham)

Post-Doctoral Fellows Mentored at UH

Antonios Kyparos, Ph.D. (2002 – 2007, Aristotle University of Thessaloniki)

Graduated Ph.D. and M.Sc. Students Mentored at UH

Lyle Babcock, Ph.D. (graduated from UH in 2019, Baylor College of Medicine)

Stuart Lee, Ph.D. (graduated from UH in 2015, NASA-Johnson Space Center)

Boon Ang, Ph.D. (graduated from UH in 2013, National University of Malaysia)

Meghan Everett, Ph.D. (graduated from UH in 2012, NASA- Johnson Space Center)

Mark Knoblauch, Ph.D. (graduated from UH in 2011, Baylor College of Medicine and UH)

Andrew Strickler, M.S. (graduated from UH in 2011, Lexitas Pharmaceuticals)

Tianna Smith, M.S. (graduated from UH in 2007, UT- Health Science Center)

Research Advisor/Committee Member at UH

Sourashish Arin Nag, Ph.D. (graduated 2018, UH-Pharmacology)

Douglas Diak, Ph.D. (graduated 2015, University of Arizona)

Xin Zhang, Ph.D. (graduated 2015, UH-Physics)

Alexander Hutchinson, Ph.D. (graduated 2007, Lady of the Lake University)

Patricia Starling, M.S. (Texas Medical Center)
Allan Hallet, M.S. (Texas Medical Center)
Boaz Blake, M.S. (Empyrean Benefit Solutions)

◆ ACADEMIC CLASSES DEVELOPED AND TAUGHT AS A FACULTY MEMBER

KIN 1352 Foundations of Kinesiology, Health and Fitness
PEP 8306 Scientific Enquiry in the Health Professions
PEP 8314 Research Methods and Design
PEP 6301 Physiology of Exercise
PEP 8302 Advanced Topics in Muscle Physiology
PEP 7397 Laboratory Skills in the Health Professions
PEP 7398 Advanced Topics in Human Performance

U.S. PATENTS AND INTELLECTUAL PROPERTY

New Invention (*pending*): Reusable modular face mask (**Clarke, M.S.F.**, Feng, F and Grandi, F.) (U.S. Patent Application # 29/734,796).

New Invention: Mineralized three-dimensional bone constructs (2013) (**Clarke, M.S.F.**, Sundaresan, A and Pellis, N.R.) (U.S. Patent # 8,557,576).

New Invention: Development of a human colloidal bone graft material (2013) (Sundaresan, A, **Clarke, M.S.F.**, and Brinker, M.) (U.S. Patent # 8,506,982).

New Invention: Three-dimensional bone constructs (2012) (**Clarke, M.S.F.**, Sundaresan, A and Pellis, N.R.) (European Patent # EP2013730-A2).

New Invention: Mineralized Three-Dimensional Bone Constructs (2011) (**Clarke, M.S.F.**, Sundaresan, A and Pellis, N.R.) (U.S. Patent # 8,076,136).

New Invention: Stable Aqueous Dispersions of Carbon Nanotubes (2011) (**Clarke, M.S.F.** and Feedback, D.L.) (US Patent # 7,968,073).

New Invention: Spatial Localization of Dispersed Single Wall Carbon Nanotubes into Useful Structures (2010) (**Clarke, M.S.F.**) (U.S. Patent # 7,731,929).

New Invention: Isolation and Purification of Single Wall Carbon Structures (2010) (Nikolaev, P., Arepalli, S., **Clarke, M.S.F.** and Feedback, D.L.) (U.S. Patent # 7,763,229).

New Invention: Isolation and Purification of Single Wall Carbon Structures (2007) (Nikolaev, P., Arepalli, S., **Clarke, M.S.F.** and Feedback, D.L.) (U.S. Patent # 7,166,266).

New Invention: Spatial Localization of Dispersed Single Wall Carbon Nanotubes into Useful Structures (2005) (**Clarke, M.S.F.**) (U.S. Patent # 6,896,864).

New Invention: Production of Stable Aqueous Dispersions of Carbon Nanotubes (2005) (**Clarke, M.S.F.** and Feedback, D.L.) (U.S. Patent # 6,878,361).

New Invention: Directional Acceleration Vector Driven Displacement of Fluids (DAVD-DOF) (2004) (Clarke, M.S.F. and Feedback, D.L.) (U.S. Patent # 6,743, 632).

New Invention: Impact mediated loading of macromolecules (1997) (Clarke, M.S.F., Lucas-Dean, R.G., Feedback, D.L., Vanderburg, C.R. and Withey, M.M. (U.S. Patent # 6,221,666).

New Invention: Unidirectional Cell Stretching Device (1998) (Feedback, D.L. and Clarke, M.S.F.) (U.S. Patent # 6,107,081).

New Invention: Centrifuge-Operated Specimen Staining Method and Apparatus (1999) (Clarke, M.S.F. and Feedback, D.L.) (U.S. Patent # 6,008,009).

◆ FUNDED RESEARCH PROJECTS

Association of College and University Educators (ACUE)/Bill & Melinda Gates Foundation (2022-2024) The impact of high-quality professional development for faculty instructors for promoting student engagement and persistence, while improving student achievement and closing equity gaps. (Snow, M. – Study PI; Clarke, M.S.F.: Role in the Project: UH PI/Campus Lead) (Total Amount - \$200,000)

Department of Energy/Office of Economic Impact and Diversity (2017-2021) Training the Next Generation of Energy Entrepreneurial Managers (Clarke, M.S.F.: Role in Project: Co-Principal Investigator) (Total Amount - \$520,000).

National Science Foundation, Innovation Corps (I-CORPS) Site Award (2015-2021) STEM-Business (STEM-Biz): The fifth element of technology transfer. (Clarke, M.S.F.: Role in Project: Principal Investigator) (Total Amount - \$299,853).

NASA-NRA-Human Research Program (2012-2021) Research and Technology Development to Support Crew Health and Performance in Space Exploration Missions (Laughlin, M.S. - PI; Clarke, M.S.F.: Role in the Project: Co-Investigator) (Total Amount: \$866,431).

NASA-NRA-Human Research Program (2011-2016) Effects of Long-Term Exposure to Microgravity on Salivary Markers of Innate Immunity. (Simpson, R. - PI; Clarke, M.S.F.: Role in the Project: Co-Investigator) (Total Amount: \$712,411).

Joe W. King Orthopedic Institute (2009-2014) Clinical and translational methods and outcomes in orthopedic surgery. (O'Connor, D.P. - PI; Clarke, M.S.F.: Role in the Project: Co-Investigator) (Total Amount: \$804,000).

OsteoSphere, Inc. (2010-2011) "Generation and Characterization of Demineralized OsteoSphere Material – Phase 1 Animal Studies. (Clarke, M.S.F.: Role in the Project: Principal Investigator) (Total Amount: \$44,000).

NASA-NRA-Human Research Program (2008 -2012) "Monitoring of Bone Loss Bio-Markers in Human Sweat – a non-invasive, time efficient means of monitoring bone resorption markers under micro and partial gravity loading conditions. (Clarke, M.S.F. and O'Connor, D.P.: Role in the Project: Principal Investigator) (Total Amount: \$719,200).

NIA/NIH R03 Program “TLR4 Signaling: A Link between Obesity and Chronic Inflammation.” (McFarlin B.K., Jackson, A.S., **Clarke, M.S.F.** and Bray, M.S.; Role in Project: Co-Investigator) (Total Amount: \$150,000).

Texas Institute for Research and Rehabilitation/UT Medical School Research Grant “The effect of dynamic foot stimulation on skeletal muscle function in spinal cord injury patients.” (**Clarke, M.S.F.**; Role in Project: Principal Investigator) (Total Amount - \$69,428).

ISSO Postdoctoral Fellowship Program, (2004-2007) Project: Subtractive Proteomic Profiling of Control, Atrophied and Protected Rat Skeletal Muscle by Dynamic Foot Stimulation (DFS). (**Clarke, M.S.F.**, Franchek, M and Feedback, D.L.; Role in Project: Principal Investigator) (Total Amount - \$120,000).

NASA-Johnson Space Center Research Grant Program “Development and Characterization of a Three-Dimensional Tissue Culture Model of Bone” (**Clarke, M.S.F.**; Role in Project: Principal Investigator) (2004-2006) (Total Amount - \$94,932).

ISSO Technology Development Mini-Grant Program, “Development of a Microgravity-Compatible Slide Staining Device” (**Clarke, M.S.F.**; Role in Project: Principal Investigator) (2004) (Total Amount - \$15,000).

University of Houston - Grants to Enhance and Advance Research (GEAR) “Development of New Technologies for Assessing the Effects of Physical Activity on Skeletal Muscle Function and Physical Fitness in Field-Based Situations. (**Clarke, M.S.F.**, Bush, J.A., Layne, C.S., Tremblay, L.); Role in Project: Principal Investigator) (2003-2004) (Total Amount - \$23,284).

UH Faculty Research Opportunity Award “The effect of circulating levels of cholesterol and omega-3 fatty acids on learning and memory (**Clarke, M.S.F.**; Role in Project: Principal Investigator) (2003-2004) (Total Amount - \$2,412).

NASA-Johnson Space Center Small Research Grant Program “The use of near-infrared Spectroscopy (NIRS) as a non-invasive measure of muscle vascular function”. (**Clarke, M.S.F.** and Bush, J.A; Role in Project: Principal Investigator) (2002) (Total Amount - \$11,150).

NASA-Johnson Space Center Directors Discretionary Fund: Advanced Technology Design Initiative. “Development of a micro-fabricated material for collection and volumetric measurement of human sweat” (Feedback, D.L. and **Clarke, M.S.F.**; Role in Project: Co-Principal Investigator) (2002) (Total Amount - \$50,000).

DARPA MTO Program “HI-MEMS Technology Development and Service in LIGA”. **Project:** MEMS Application – a biological sensor using the DAVD-DOF technology. (Role in Project: Principal Investigator) (2001-2002) (Total Amount - \$107,500).

The Institute for Space Systems Operations, University of Houston/NASA-JSC (2001-2003) Project: Using Dynamic Foot Pressure as a Countermeasure to Muscle Atrophy (NASA Johnson Space Center – Co-Investigator) (Total Amount - \$120,000).

NASA NSCORT Award to Rice University-NASA/JSC Research Consortium (1998-2000) **Project:** The effect of mechanical unloading upon human myofiber sarcolemma cholesterol content: a potential site

for the initiation of muscle atrophy. (Feedback, D.L. and **Clarke, M.S.F.**; Role in Project: Co-Principal Investigator) (Total Amount - \$97,900).

NASA-JSC Center Director's Discretionary Fund, NASA/JSC. (1996-1998) **Project:** Mechanically-induced membrane wounding in microgravity. (Feedback, D.L. and **Clarke, M.S.F.**; Role in Project: Co-Principal Investigator) (Total Amount - \$146,000).

NASA NSCORT Award to Rice University-NASA/JSC Research Consortium (1996) **Project:** Mechanical loading, growth factor release and regulation of skeletal muscle mass: a potential site for the application of microgravity-induced muscle atrophy countermeasures. (Feedback, D.L. and **Clarke, M.S.F.**; Role in Project: CoInvestigator) (Total Amount - \$42,000).

◆ RECENT UNFUNDED PROPOSALS

National Science Foundation, I-Corps Hub Program: Project: South-Central Alliance (SCALE) Hub (2023). **Role in Project:** Consortium Co-Investigator, UH Principal Investigator. (Total Consortium Funding Requested; \$15 million over five years; UH portion \$2.6 million over five years).

Minority Business Development Agency (MBDA), U.S. Department of Commerce (2023) **Project:** Space City Innovation for Historically Underrepresented Businesses (SCI-HUB) (**Clarke, M.S.F.** and Taylor, C.S.) Role in Project: Principal Investigator, 5% effort) (Total Amount - \$1,399,385).

◆ MANUSCRIPTS IN REVIEW OR PREPARATION (* denotes post-doctoral fellow or graduate student involvement)

*Snodgrass-Rangel, V.W., Turcotte, P.A., Robinson, S.M., Soeharto, N., McPherson, R.H. and **Clarke, M.S.F.** (2026) Rethinking Bias in Student Evaluations at the Intersection of Gender and STEM. (*in review, AERA*).

Clarke, M.S.F. (2025) Enhanced Osteogenic Potential of Demineralized Bone Matrix Prepared from Actively Remodeling In Vitro Bone Constructs. *Journal of Bone and Mineral Metabolism* (*in review*).

*Babcock, L. and **Clarke, M.S.F.** (2025). Differential membrane cholesterol content modulates insulin stimulated glucose uptake in highly differentiated skeletal muscle myotubes. (*in preparation*).

Clarke, M.S.F. and Vanderburg, C.R. (2025). Sarcoplasmic reticulum membrane cholesterol content increases during obesity (*in preparation*).

◆ **PUBLISHED RESEARCH ARTICLES** (* denotes post-doc or student involvement)

*Madera, J, Spitzmueller, C., Yu, H.C., Edema-Sillo, E., and **Clarke, M.S.F.** (2024) External review letters in academic promotion and tenure decisions are reflective of reviewer characteristics. Research Policy 53(2):104939.

*Babcock, L.W., Knoblauch, M. and **Clarke, M.S.F.** (2015) The Role of Myostatin and Activin Receptor IIB in the Regulation of Unloading Induced Myofiber Type-specific Skeletal Muscle Atrophy. J Appl Physiol 119(6):633-42. PMID: 26205544.

***Clarke, M.S.F.**, Sundaresan, A., Vanderburg, C.R., Banigan, M.G and Pellis, N.R. (2013) A three-dimensional tissue culture model of bone formation utilizing rotational co-culture of human adult osteoblasts and osteoclasts. Acta Biomaterialia 9(8):7908-7916. PMID: 23664885.

Vanderburg, C.R. and **Clarke, M.S.F.** (2013) Laser capture microdissection of metachromatically stained skeletal muscle allows quantification of fiber type specific gene expression. Mol Cell Biochem 375:159-170. PMID: 23196635.

*Knoblauch, M.A., O'Connor, D.P. and **Clarke, M.S.F.** (2013) Obese mice incur greater myofiber membrane disruption in response to mechanical load compared to lean mice. Obesity 21: 135-43. PMID: 23505178.

Clarke, M.S.F. (2012) Proteomic analysis of skeletal muscle using SELDI-TOFMS: application to disuse atrophy. In SELDI-TOF Mass Spectrometry: Methods and Protocols (Methods in Molecular Biology) (ed: Clarke, CH and McCarthy, D.L.), Humana Press, p131-141. PMID: 22083821

*Lee SM, **Clarke M.S.F.**, O'Connor DP, Stroud L, Ellerby GE, Soller BR. (2011) Near infrared spectroscopy-derived interstitial hydrogen ion concentration and tissue oxygen saturation during ambulation. Eur J Appl Physiol 111:1705-14. PMID: 21212975

*Knoblauch, M.A, O'Connor, D.P and **Clarke, M.S.F.** (2010) Capillary and venous samples of total creatine kinase are similar after eccentric exercise. J. Strength & Conditioning. J Strength Cond Res 24:3471-5. PMID: 21132860

Gazda, D., Rutz, J., Schultz, J., and **Clarke, M.S.F.** (2010) "Liquid Metering Centrifuge Sticks (LMCS): A Centrifugal Approach to Metering Known Sample Volumes for Colorimetric Solid Phase Extraction (C-SPE)," SAE Technical Paper 2007-01-3216.

Jones, J.J., Riggs, P.K., Yang, T.C., Pedemonte, C.H., **Clarke, M.S.F.**, Feedback, D.L. and Au, W.A. (2007) Ionizing radiation-induced bioeffects in space and strategies to reduce cellular injury and carcinogenesis. *Aviation, Space and Environmental Medicine* 78 (4): 67-78. PMID: 17511301

*Hutchison, A.T. and **Clarke, M.S.F.** (2006) An Isometric Strength Testing Device for Use with the Elderly: Validation Compared with Isokinetic Measures. *Physical and Occupational Therapy in Geriatrics*. 25(2):1-12.

*Sotiriadou, S. Kyparos, A., Albani, M., Arsos, G., **Clarke, M.S.F.**, Sidiras, G., Angelopoulou, N. and Matziari, C. (2006) Soleus muscle force following downhill running in ovariectomized rats treated with estrogen. *Applied Physiology, Nutrition and Metabolism (formerly Canadian JAP)* 31 (4): 449-59.

Singh, V., Desta, Y., Datta, P., Guy, J., Goettert, J., **Clarke, M.S.F.** and Feedback, D.L. (2005) "A Hybrid Approach for Fabrication of Polymeric BioMems Devices." *Microsystem Technologies*, 13 (3): 396-377.

Carterson AJ, Honer zu Bentrup K, Ott CM, **Clarke MSF**, Pierson DL, Vanderburg CR, Buchanan KL, Nickerson CA, Schurr MJ. (2005) A549 lung epithelial cells grown as three-dimensional aggregates: alternative tissue culture model for *Pseudomonas aeruginosa* pathogenesis. *Infection & Immunity*. 73(2):1129-40.

*Kyparos, A., Feedback, D.L., Layne, C.S., Martinez, D.A. and **Clarke, M.S.F.** (2005) Mechanical stimulation of the plantar foot surface attenuates soleus muscle atrophy induced by hindlimb unloading in rats. *J. App. Physiol.* **99**:739-46. Epub 2005 Apr 7.

Clarke, M.S.F. (2004) Effects of exercise on skeletal muscle in the aged. *J. Musculoskeletal and Neuron Interactions*. 4: 175-178. PMID: 15615120

Clarke, M.S.F., Vanderburg, C.R. and Feedback, D.L. (2002) The effect of acute microgravity upon mechanically induced membrane damage and membrane-membrane fusion. *J. Grav. Physiol.*, **8**:37-47.

Nickerson, C.A., Goodwin, T., Terlonge, J., Ott, C. Mark, **Clarke, M.S.F.**, Buchanan, K.L., Uicker, W.C., Emami, K., Cedor, C.L., Ramamurthy, R., Hammond, T. and Pierson, D.L. (2001) Novel Tissue Assemblies: Models for Enteric Pathogenesis. *Infection & Immunity*. 69:7106-7120.

Clarke, M.S.F., Vanderburg, C.R., Bamman, M.M., Caldwell, R.W. and Feedback, D.L. (2000) In situ localization of cholesterol in skeletal muscle using a monoclonal antibody. *J. Appl. Physiol.* **89**: p731-741.

Clarke CH, Norfleet AM, **Clarke MSF**, Watson CS, Cunningham KA and Thomas ML. (1999) Perimembrane localization of the estrogen receptor a protein in neuronal processes of cultured hippocampal neurons. *Neuroendocrinology* **71**:34-42.

Clarke, M.S.F., Prendergast, M.A. and Terry, A.V. (1999) Plasma membrane ordering agent Pluronic F-68 (PF-68) reduces neurotransmitter uptake and release and produces learning and memory deficits in rats. *Learning & Memory* **6**: 634-649.

*Bamman, M.M., **Clarke, M.S.F.**, Talmadge, R.J. and Feedback, D.L. (1999) Enhanced protein electrophoresis technique for separating human skeletal muscle myosin heavy chain isoforms. *Electrophoresis* **20**: 466-468.

***Clarke, M.S.F.**, Bamman, M.M. and Feedback, D.L. (1998) Bedrest decreases mechanically induced myofiber wounding and consequent wound-mediated FGF release. *J. Appl. Physiol.* **85**: 593-600.

*Bamman, M.M., **Clarke, M.S.F.**, Feedback, D.L., Talmadge, R.J., Stevens, B.R., Leiberman, S.A. and Greenisen, M.C. (1997) Impact of resistance exercise during bed rest on skeletal muscle sarcopenia and myosin isoform distribution. *J. Appl. Physiol.* **84**:157-163.

Clarke, M.S.F. and Feedback, D.L. (1996) Mechanical load induces sarcoplasmic wounding and FGF release in differentiated human skeletal muscle cells. *The FASEB Journal* **10**: 502-509.

Clarke, M.S.F., Pritchard, K.A., Medows, M. S. and McNeil, P.L. (1995) An atherogenic level of native LDL increases endothelial cell vulnerability to shear-induced plasma membrane wounding and consequent release of basic fibroblast growth factor. *Endothelium* **4**: p127-139.

Clarke, M.S.F., Caldwell, R.W., Chiao, H., Miyake, K. and McNeil, P.L. (1995) Contraction induced cell wounding and release of fibroblast growth factor in rat heart. *Circulation Research* **76**; 927-934.

Clarke, M.S.F., Vanderburg, C.R., Hay, E.D. and McNeil, P.L. (1994) Cytoplasmic loading of dyes, protein and plasmid DNA using an impact-mediated procedure. *Biotechniques* **17 (6)**; p 1118-1125.

Terry, A.V. and **Clarke, M.S.F.** (1994) Nicotine stimulation of nerve growth factor receptor expression. *Life Sciences* **55**; PL 91-98.

Clarke, M.S.F., Khakee, R. and McNeil, P.L. (1993) Loss of cytoplasmic basic fibroblast growth factor from physiologically wounded myofibers of normal and dystrophic muscle. *J. Cell Science* **106**; p121-133.

Clarke, M.S.F. and McNeil, P.L. (1992) Syringe loading introduces macromolecules into living mammalian cell cytosol. *J. Cell Science* **102**; p533-541.

Clarke, M.S.F. and West, D.C. (1991). The identification of proliferation and tumor-induced proteins in human endothelial cells: A possible target for tumor therapy. *Electrophoresis* **12**; p500-508.

Clarke, M.S.F., Kiff, R.S., Kumar, S., Kumar, P. and West, D.C. (1991). The identification of proliferation related antigens in human endothelial cells as a possible target in tumor therapy. *Int. J. Radiat. Biol.* **60**; p17-23.

◆ PUBLISHED BOOK CHAPTERS

Clarke, M.S.F. (2015) Skeletal muscle culture under space flight conditions. *Effect of Spaceflight and Spaceflight Analogue Culture on Human and Microbial Cells: Novel Insights into Disease Mechanisms* ed. C. A. Nickerson, N. R. Pellis & C. M. Ott, Springer International Publishing AG, pp 151-174.

Clarke, M.S.F., Feedback, D.L. and Vanderburg, C.R. (2006). Impact-mediated loading of large macromolecules into adherent mammalian cells *In. Cell Biology: A Laboratory Handbook*. ed. J.E. Celis (3rd Edition), Academic Press. pp 5-11.

Clarke, M. S. F., Jones, J.A. and Feedback, D.L. (2006) Syringe Loading: a method for assessing plasma membrane function as a reflection of the mechanically-induced membrane wound response. *In. Cell Biology: A Laboratory Handbook*. ed. J.E. Celis (3rd Edition), Academic Press. pp 233-240.

Clarke, M.S.F., Weinberger, S. and Clarke, C.H. (2002) Detection of protein biomarkers during oxidative stress using Surface Enhanced Laser Desorption/Ionization-Time of Flight (SELDI-TOF) Mass Spectrometry. *In Oxidative Stress and Aging: Advances in Basic Science, Diagnostics and Intervention ed.* R.G. Cutler & H. Rodriguez, World Scientific Publishing Co. pp366-379.

McNeil, P.L., **Clarke, M.S.F.**, and Miyaki, K. (1999). Cell wound assays. *In Current Protocols in Cell Biology* (J.S. Bonifacino, M. Dasso, J.B. Harford, J. Lippincott-Schwartz, and K.M. Yamada, eds.) pp 12.4.1-12.4.15, John Wiley & Sons. New York.

Clarke, M.S.F. and McNeil, P.L. (1998). Syringe Loading: a mechanically-based method for inserting macromolecules into cells. *In. Cell Biology: A Laboratory Handbook*. ed. J.E. Celis (2nd Edition), Academic Press. *Volume 4*. pp. 47 -54.

Clarke, M.S.F., West, D.C., Dias, P., Kumar, S., Kumar, P. and (1997). Isolation and characterization of human brain endothelial cells. *In. Drug Transport Across the Blood-brain Barrier: In vitro and In vivo Techniques*. ed. A.G. DeBoer and W. Sutanto, Harwood Academic Publishers. pp. 99-108.

Clarke, M.S.F. and McNeil, P.L. (1994). Syringe Loading: a method for inserting macromolecules into cells in suspension. *In. Cell Biology: A Laboratory Handbook*. ed. J.E. Celis, Academic Press. pp. 30-36.

◆ **PUBLISHED TECHNICAL REPORTS** (* denotes post-doctoral fellow or graduate student involvement)

Microgravity-Compatible Sweat Collection and Analysis Device. **Clarke, M.S.F.** MSC-23625-1 NASA Tech Briefs (2011).

*Elevated Skin Blood Flow Influences Near Infrared Spectroscopy Measurements During Supine Rest. Lee, S.M.C. and **Clarke, M.S.F.** NASA Technical Report NASA/TP-2004-213149, S-942.

Compact, Automated Centrifugal Slide-Staining System for Use in Microgravity. **Clarke, M.S.F.** and Feedback, D.L., NASA Tech Briefs, June 2004.

*Using Dynamic Foot Pressure as a Countermeasure to Muscle Atrophy (Final Report). Layne, C.S., **Clarke, M.S.F.**, Martinez, D.A., Feedback, D.L. and Kyparos, A. *UH Institute for Space Systems Operations Y2003 Annual Report*, pages 66-73.

Improved Unidirectional Cell-Stretching Device. (MSC-22834) **Clarke, M.S.F.** and Feedback, D.L., NASA Tech Briefs, August 2002.

*Using Dynamic Foot Pressure as a Countermeasure to Muscle Atrophy (Interim Report) Layne, C.S., Clarke, M.S.F. Martinez, D.A., Feedback, D.L. and Kyparos, A. *UH Institute for Space Systems Operations Y2002 Annual Report*, pages 49-55.

Slide-Staining System for Microgravity or Gravity. (MSC-22949) **Clarke, M.S.F.** and Feedback, D.L., NASA Tech Briefs, Jan 2001.

*Using Dynamic Foot Pressure as a Countermeasure to Muscle Atrophy (Interim Report) Layne, C.S., Martinez, D.A., Clarke, M.S.F., Feedback, D.L. and Kyparos, A. *UH Institute for Space Systems Operations Y2001 Annual Report*, pages 50-53.

◆ **REFERRED PROCEEDINGS** (* denotes post-doctoral fellow or graduate student involvement)

Singh, V., Desta, Y., Datta, P., Guy, J., Goettert, J., **Clarke, M.S.F.** and Feedback, D.L. "A Hybrid Approach for Fabrication of Polymeric BioMems Devices." HARMST Conference 2005, Gyeongju, Korea, June 2005.

Clarke, M.S.F., Vanderburg, C.R., Frosch, M.P. and Feedback, D.L. (2004) "Subtractive Proteomic Profiling of Control, Atrophied and Countermeasure Protected Rat Skeletal Muscle." 25th Annual International Gravitational Physiology Meeting, Moscow, Russia, June 6th - 11th, 2004.

*Kyparos A., Layne C.S., Feedback, D.L., Martinez D.A., and **Clarke, M.S.F. (2003)** Dynamic Foot Pressure Attenuates Myofiber Atrophy Induced by Mechanical Unloading. 14th Humans in Space Conference, Banff, Alberta, Canada, May, 2003.

Clarke, M.S.F. and Feedback, D.L. (2003) "Modulation of Skeletal Muscle SERCA Function as A Consequence of Mechanical Unloading". "Living Beings and Environment: Adaptation to Extreme Conditions" hosted by the Russian Academy of Sciences, Moscow, Russia, November, 2003.

Clarke, M.S.F. and D.L. Feedback (2000) Modulation of sarcolemma cholesterol content during muscle unloading (platform session). 13th IAA Humans in Space Symposium, Santorini, Greece, May 2002.

◆ **INVITED PRESENTATIONS**

Unloading-induced Skeletal Muscle Atrophy. Graduate Seminar Program, Department of Exercise Science, Oklahoma University, Norman, OK, March 2012.

Different Approaches for Investigating Bone Loss during Space Flight. Graduate Seminar Program, Department of Exercise Science, Oklahoma University, Norman, OK, November 2011.

Sweat: a potential means of monitoring bone loss. Health and Human Performance Faculty Research Day, University of Houston, Houston, TX, March, 2011.

OsteoSpheres: Bone formation in free-fall ?. The Bone Club of Houston hosted by Baylor College of Medicine/Department of Molecular Biology, Houston, TX, October 2010.

Membrane cholesterol content: implications for calcium channel function in cardiac and skeletal muscle. Pharmacology Seminar Series, Pharmacology and Toxicology, Medical College of Georgia, June 2004.

Resistive exercise effects on skeletal muscle function in the aged human. 4th International Workshop on Musculoskeletal and Neuronal Interactions, Chalkidiki, Greece. May, 2004.

Modulation of Skeletal Muscle SERCA Function as A Consequence of Mechanical Unloading. "Living Beings and Environment: Adaptation to Extreme Conditions", Russian Academy of Sciences, Moscow, Russia, November, 2003.

Muscle Adaptation to Microgravity: A Membrane-Modulated Event? NASA-Johnson Space Center – Universities Space Research Association, Lunch-time Seminar Series, February, 2003.

A biological sensor using the DAVD-DOF technology. USRA/Division of Space Life Sciences, Science Council Meeting, September 2002.

3D Microfluidic Arrays For Biological Sample Analysis November 2001, DARPA Investigators Meeting, Center for Advanced Microstructures and Devices, LSU, Baton Rouge, LA.

Microgravity and Skeletal Muscle Dysfunction: a matter of the membrane?? November, 2001. Seminar Series in Kinesiology, Texas A&M University, College Station, TX.

Identification of Novel Protein Biomarkers of Oxidative Stress Using SELDI Time-of-Flight Mass Spectroscopy. April 2001, 2nd International Conference on Oxidative Stress and Aging, Kahului, Hawaii.
Technology development for liquid handling in microgravity. March 2001, Nanospace 2001, Galveston, TX, USA.

Potential applications of SELDI TOF-MS in the microgravity environment. March 2001, Nanospace2001, Galveston, TX, USA.

The Effects of Space Flight on Bone and Muscle. July 2000, NASA-Headquarters Briefing, NASA-Johnson Space Center.

Technology Development for Microgravity Handling of Liquid Reagents for Biological Testing. USRA Science Council, June 2000.

Modulation Of Sarcolemma Cholesterol Content During Muscle Unloading. May 2000, 13th IAA Humans In Space Symposium, Santorini, Greece.

Microgravity: Muscles, Membranes and Molecules. September 1999, Department of Molecular Physiology and Biophysics Seminar Series, Baylor College of Medicine, Houston, Texas.

Mechanical Load Transduction in Skeletal Muscle: Implications for Space Flight-Induced Atrophy. Rice University, NSCORT Mini-symposium Series, April 1997.

The Effect of Acute Microgravity During Parabolic Flight On Membrane Fusion Events. October, 1995, Department of Physiology Seminar Series, UT-Southwestern, Dallas, Texas.

◆ **PUBLISHED ABSTRACTS AND PRESENTATIONS** (* denotes post-doctoral fellow or graduate student involvement)

*Snodgrass-Rangel, V.W., Turcotte, P.A., Robinson, S.M., Soeharto, N., McPherson, R.H. and **Clarke, M.S.F.** (2025) Rethinking Bias in Student Evaluations at the Intersection of Gender and STEM. *Accepted as a Platform Presentation, 2026 AERA Annual Conference*, April 2026, Los Angeles, USA.

*Laughlin, M.S., Reed, J.T., Layne, C.S., Koryak, Y., **Clarke, M.S.F.**, Tomilovskaya, E., Albracht, K., Shenkman, B., Stäudle, B., Kozlovskaya, I. and Rittweger, J. (2021) Sarcolab-3: Changes in knee and ankle torque generation during a six-month space flight mission. *23rd International Academy of Astronautics (IAA) Conference*, April 2021, Moscow, Russia.

*Reed, J.T., Layne, C.S., Koryak, Y., **Clarke, M.S.F.**, Tomilovskaya, E., Albracht, K., Shenkman, B., Stäudle, B., Rittweger, J., Kozlovskaya, I. and Laughlin, M.S (2018) Sarcolab-3: Changes in knee flexor and extensor torque generation during a six-month space flight mission. *Medicine and Science in Sports & Exercise* 51 (supplement): p. 407

Rittweger, J., Tomilovskaya, E., Albracht, K., Bottinelli, R., Capri, M., Cerretelli, P., **Clarke, M.S.F.**, Flück, M., Franceschi, C., Gelfi, C., Koryak, Y., Layne, C.S., Narici, M., Paloski, W.H., Shenkman, B., Sies, W., Stäudle, B., Laughlin, M. and Kozlovskaya, I. (2018). Early changes in plantar flexor muscle strength during spaceflight: Results from the in-flight Sarcolab3 protocol. *NASA HRP Investigators Annual Meeting*, Galveston, Texas, Jan 2018.

Simpson, R.J., Spielmann, G., **Clarke, M.S.F.**, Lowder, T, O'Connor, D.P., Crucian, Pierson, D. and Mehta, S. (2013) The Effects of Long-Duration Spaceflight on Salivary and Blood Markers of Innate Immunity, *NASA HRP Investigators Annual Meeting*, Galveston, Texas, Feb 2013.

***Clarke, M.S.F.**, Knoblauch, M.A. and O'Connor, D.P. (2011) Monitoring Biomarkers of Bone Loss in Human Sweat, *18th International Academy of Astronautics (IAA) Conference*, Houston, Texas, April 2011.

***Clarke, M.S.F.**, Knoblauch, M.A. and O'Connor, D.L. Bone, Sweat and Biomarkers -can sweat be used to monitor biomarkers of bone loss? (2010) *NASA HRP Investigators Annual Meeting*, Westin-Galleria, Houston, Texas, Feb 2010.

Clarke, M.S.F., Sundaresan, A. and Brinker, M. Manufacturing Human Bone for Use in Orthopedic Applications. *Gulf Coast Innovation Conference and Technology Showcase*, Hilton Americas, Houston, Texas, Oct 2009.

***Clarke, M.S.F.**, Knoblauch, M.A. and O'Connor, D.L. Monitoring of biomarkers of bone loss in human sweat - a non-invasive, time efficient means of monitoring bone resorption markers under micro and partial gravity loading conditions. *NASA HRP Investigators Annual Meeting*, Clearlake, Texas, Jan 2009.

***Clarke, M.S.F.**, Kyparos, A., Layne, C.S, Martinez, D., and Feedback, D.L. Dynamic Foot Pressure (DFS) As an Unloading-Induced Muscle Atrophy Countermeasure. *16th IAA Humans in Space Symposium*, Beijing, China, May 2007).

*Ang, B.S., Feedback, D.L., Leonard, C.T., Sykes, J., Kruger, E. and **Clarke, M.S.F.** "Myotonometry as a Surrogate Measure of Muscle Strength." *28th Annual International Gravitational Physiology Meeting*, San Antonio, TX, April 2007).

Vanderburg, C.R., **Clarke, M.S.F.** Frosch, M.P. and Feedback, D.L. "Laser Micro-dissection of Metachromatically Stained Skeletal Muscle Allows Quantification Of Fiber Type Specific Gene Expression." *Neurodegenerative Diseases: Molecular Mechanisms in a Functional Genomics Framework*, Berlin, Germany, September 2006.

*Hutchison, A.T. and **Clarke, M.S.F.** "An Isometric Strength Testing Device for Use with the Elderly: Validation Compared with Isokinetic Measures." *4th Annual Rocky Mountain Bioinformatics Conference*. Snowmass, CO, December 2005.

*Layne, C.S., Forth, K.E., Abercromby, A.F. and **Clarke, M.S.F.** "Using Patterned Stimuli and Varied Muscle Spindle Input to Modify Neuromuscular Reflexes." *Annual Meeting of the Society for Neuroscience*, New Orleans, LA, November, 2003.

*Kyparos A., Layne C.S., Feedback, D.L., Martinez D.A., and **Clarke, M.S.F.** (2003) "Foot Pressure may Preserve Neuromuscular Function of the Injured Athlete: Preliminary Results from a Rat Model." *7th IOC Congress*. Athens, Greece. October 7-11, 2003.

*Layne C.S., Forth, K.E., Abercromby, A.F., Kyparos A., **Clarke, M.S.F.** and Feedback, D.L. "Proprioceptive and Muscle Maintenance for the Injured Athlete." *7th IOC Olympic World Congress on Sport Sciences*. Athens, Greece. October 7-11, 2003.

*Layne, C.S., Forth, K.E., Abercromby, A.E. and **Clarke, M.S.F.** "Using Patterned Stimuli and Muscle Vibration to Modify Neuromuscular Reflexes" - presented at the *UH Scholarship and Community Conference* - Oct, 2003.

Clarke, M.S.F., Hammond, D.K. and Feedback, D.L. (2002) Modulation Of Sarcoplasmic Reticulum Calcium Pump (SERCA) Function By Membrane Cholesterol During Unloading. *World Space Congress Meeting*, 14th -19th October 2002, Houston, Texas.

*Kyparos, A., Layne C.S., Martinez D.A., **Clarke, M.S.F.** and Feedback, D.L. (2002) Dynamic Foot Pressure As A Countermeasure To Muscle Atrophy. *World Space Congress Meeting*, 14th -19th October 2002, Houston, Texas.

Belozerova, I, Nemirovskaya, T., Feedback, D.L., **Clarke, M.S.**, Shenkman, B. and Kozloovskaya, I. (2002) Structural and Metabolic characteristics of human soleus fibers after long duration space flight. (Platform session). June 2002, *23rd Annual International Gravitational Physiology Meeting*, Karolinska Institute, Stockholm, Sweden.

Clarke, M.S.F. (2002) Technology Development for Liquid Biological Sample Analysis in Microgravity, (platform session), Presented at *NASA/M.D. Anderson Cancer Center Retreat*, January, 25th 2002.

Clarke, M.S.F., Hammond, D., Bamman, M. M., Caldwell, R. W. and D. L. Feedback (2001) Cholesterol-mediated modulation of skeletal muscle membrane calcium pump function during mechanical unloading. (poster session). April 2001, *FASEB '01*, Orlando, USA.

Clarke, M.S.F. and Feedback, D.L. (2001) Technology Development for Handling of Liquid Reagents in Microgravity, (platform session), Presented at *NanoSpace 2001*, Galveston, Texas, March 15th 2001.

Clarke, M.S.F., Potember, R.S., Clarke, C.H. and Feedback, D.L. (2001) Potential Applications of SELDI TOF-MS in the Microgravity Environment, (platform session), *NanoSpace 2001*, Galveston, Texas, March 14th 2001.

***Clarke, M.S.F.**, Bamman, M. M., Caldwell, R. W. and D. L. Feedback (2000) Sarcoplasmic reticulum cholesterol content and calcium channel activity during muscle unloading (poster session). April 2000, *FASEB '00*, San Diego, USA.

***Clarke, M.S.F.**, Bamman, M.M., Caldwell, R.W. and Feedback, D.L. (1999) Modulation of sarcolemma cholesterol content during muscle unloading. *FASEB J.* 13 (4): A415

***Clarke, M.S.F.**, Bamman, M. M., Caldwell, R. W., Taylor, T. A. and D. L. Feedback (1998) Modulation of membrane cholesterol content during muscle unloading (poster session). April 1998, *FASEB '98*, Washington D.C., USA.

Jones, J.A., Riggs, P.K., Yang, T.C., Pedemonte, C.H., **Clarke, M.S.F.**, Feedback, D.L., Szucs, S. and Au, W.W. (1998) Assessment of ionizing space radiation-induced bioeffects and strategies to reduce cellular injury. (platform session) May 1998, *ASMA Meeting*, Seattle, WA, USA.

Clarke, M.S.F., Stowe, R.P. and D. L. Feedback (1998) Modulation of cholesterol-dependent plasma membrane order after microgravity exposure. (platform session) April, 1998, *Gravitational Responses, FASEB '98*, San Francisco, CA, USA.

***Bamman, M.M., Clarke, M.S.F.**, Feedback, D.L., Powers, S.K., and Stevens, B.R (1998) Myosin heavy chain distribution following bed rest with and without resistance exercise. (poster session) *Annual ACSM Meeting*.

Prow, S.J., Gunter, K., **Clarke M.S.F.**, Feedback, D.L. Evaluation of a Microgravity-Operated Clinical Hematology Analyzer. *Grav. Space Biol Bull* 1997; 11:67.

A.V. Terry, A.V., Prendergast, M.A. and **Clarke, M.S.F.** Learning and memory deficits in rats following administration of the plasma membrane ordering agent Pluronic F-68 (PF-68). (poster session) October 1997, *Neuroscience*, New Orleans, LA, USA.

***Clarke, M.S.F.**, Bamman, M.M. and Feedback, D.L. (1997) Myofiber wound-mediated FGF release and muscle atrophy during bedrest. (platform session) June 1997, *12th Man in Space Symposium*, Washington D.C., USA.

Clarke, M.S.F. and Feedback, D.L. (1997) Mechanically-induced membrane wounding during parabolic flight. (platform session) June 1997, *12th Man in Space Symposium*, Washington D.C., USA.

Clarke, M.S.F. and Feedback, D.L. (1996) Mechanically-induced membrane wounding during parabolic flight. *FASEB J.* 10(3): A573.

Clarke, M.S.F. and Feedback, D.L. (1995) Mechanically-induced release of skeletal muscle fibroblast growth factor: A potential site of action for microgravity-induced muscle atrophy. *ASGSB Bull.* 9 (1): 44.

Clarke, M.S.F. and D.L. Feedback (1996) Mechanically-induced membrane wounding in microgravity (platform session) March 1996, *American Institute of Aeronautics and Astronautics Meeting*, Houston, Texas, USA.

Clarke, M.S.F., Pritchard, K.A., Medows, M. S. and McNeil, P.L. (1994) Atherogenic levels of native LDL increases endothelial cell vulnerability to mechanical shear damage. (abstract) Dec. 1994, 34th Annual Meeting of the *American Society for Cell Biology*, San Francisco, California, USA.

Clarke, M.S.F., Caldwell, R.W., Chow, H. and McNeil, P.L. (1993) Contraction-induced release of an acidic FGFlake molecule from rat myocardium. (abstract, hot poster session) Dec. 1993, 33rd Annual Meeting of the *American Society for Cell Biology*, New Orleans, Louisiana, USA.

Clarke, M.S.F. and McNeil, P.L. (1992) A novel mechanism for the release of bFGF in normal and dystrophic muscle. (abstract) Nov. 1992, 32nd Annual Meeting of *The American Society for Cell Biology*, Denver, Colorado, USA.

Clarke, M.S.F., Kiff, R.S., Kumar, S., Kumar, P. and D.C. West (1990) The identification of proliferation related antigens in human endothelial cells as a possible target in tumor therapy. (platform session) September 1990, *16th Gray Conference*, (Vasculature as a Target in Tumor Therapy), Manchester, England.

Clarke, M.S.F., Kiff, R.S. and West, D.C. (1990) The development of a novel immunoadsorption technique for the isolation and purification of human endothelial cells. *VIth International Meeting of the Biology of the Vascular Cell*, Sept. 1990, Paris, France.

Kiff, R.S., **Clarke, M.S.F.** and West, D.C. (1990) The effects of smoker's serum on the growth of cultured human endothelial cells. *International Meeting of the Biology of the Vascular Cell*, Sept. 1990, Paris, France.

Clarke, M.S.F. (1990) An immunoadsorption technique for the isolation and purification of human endothelial cells. *British Society for Cell Biology & Anatomical Society of Great Britain and Ireland* (Joint Meeting), April 1990, Manchester, England.

Clarke, M.S.F. and West, D.C. (1990) Proliferation related proteins in endothelial cells. *British Society for Cell Biology & Anatomical Society of Great Britain and Ireland* (Joint Meeting), April 1990, Manchester, England.