BIOGRAPHICAL SKETCH

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NAME: Monty Montano

eRA COMMONS USER NAME (credential, e.g., agency login): MontyMontano

POSITION TITLE:

Associate Professor, Harvard Medical School

Director, Muscle and Aging Interventions, Brigham and Women's Hospital

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of California, Berkeley	B.S.	05/1987	Biochemistry
Stanford University School of Medicine	Ph.D.	01/1995	Genetics
Harvard T. H. Chan School of Public Health	Postdoctoral	09/1996	Molecular Epidemiology

A. Personal Statement

Monty Montano, PhD (PI) is on the faculty at Harvard Medical School and is the Director of Muscle and Aging Interventions at Brigham and Women's Hospital. He is a translational researcher in muscle healthspan, genetics of lifespan, biomarker discovery, and inflammation. Dr. Montano's research in muscle regenerative biology, muscle fibrosis and inflammation and accelerated muscle aging in chronic infection and age-associated sarcopenia has been supported by NIH-funded grants. He has written several papers directly relevant to this proposal including a paper describing anabolic response in muscle from HIV patients with wasting (1), a study describing age differences in anabolic response based on serum profiling (2), a manuscript demonstrating accelerated muscle aging in the context of HIV infection (3) and decline in physical function in association with inflammation and chronic HIV infection (4). Dr. Montano also recently authored a book "***Translational Biology in Medicine***" (5) on the use of translational models to study biomedical disease, with a focus on aging. His translational expertise in muscle and aging, his leadership role as Director of the research program in Muscle and Aging, and collaborative relationship with the OAIC leadership and muscle and aging researchers across the participating institutions make him particularly suitable to co-lead the PESC with Dr. Kiel.

1. Montano MA, Flanagan J, Rarick M, Sebastiani P, Bhasin S. Differential gene profiling of testosterone-regulated genes in the skeletal muscle of HIV-infected men experiencing weight loss. *Journal of Clinical Endocrinology and Metabolism*, Jul;92(7):2793-802 (2007).
2. Banerjee C, Ulloor J, Dillon EL, Dahodwala Q, Franklin B, Storer T, Sheffield-Moore M, Urban RJ, Bhasin S, Montano M. (2011) Identification of serum biomarkers for aging and anabolic response. *Immun Ageing* Jun 20;8(1):5.
3. Kusko R, Long KK, Banerjee C, Darcy A, Otis J, Sebastiani P, Melov S, Tarnopolsky M, Bhasin S, Montano M. (2012) Premature expression of a muscle fibrosis axis in chronic HIV infection. *Skeletal Muscle*; 2012 2(1):10.

4. Baranoski AS, Harris A, Michaels D, Miciek R, Storer T, Sebastiani P, Montano M. Relationship between poor physical function, inflammatory markers, and comorbidities in HIV-infected women on antiretroviral therapy. *J Womens Health*. 2014 Jan;23(1):69-76.
5. Montano, Monty. Translational models, methods and concepts in studies of aging and longevity. *Translational Biology in Medicine: models from aging, muscle regeneration and infection*. Woodhead Publishing Series in Biomedicine Series, #41. October, 2014.

B. Positions and Honors

List in chronological order previous positions, concluding with the present position. List any honors. Include present membership on any Federal Government public advisory committee.

2003 - present	Principal Investigator, Department of Medicine, Boston Medical Center
2003 - present	Executive Member of the Institutional Review Board, Boston Medial Center
2008 - present	Director of Pilot Studies Core at Boston OAIC Pepper Center
2009 - present	Chairman, Education Committee at Program in Genetics and Genomics
2011 - 2015	NIH study section (chartered member of AIDS and Clinical Epidemiology: ACE)
2012 - present	Consultant, PLoS Medicine (Freelance Associate Editor)
2013 - present	Founder, MyoSyntax. DUNS number 0784446990000
2014- present	Associate Professor of Medicine, Harvard Medical School

Honors, Awards, Committees

1992	Smithsonian Institute, Film, "Inventing the cell sorter," Participant, Stanford University
1994	Dean's Fellowship, Stanford University
1994	NSF Travel Fellowship
1994	Immunobiology Fellowship, Grant AI 07290, Stanford University
1995	MBL Molecular Evolution workshop, Woods Hole, MA
1999	Designed onsite laboratory, Botswana, Africa
2007	MBL Molecular Biology of Aging workshop, Woods Hole, MA
2011	MBL Frontiers in Stem Cell Biology workshop, Woods Hole, MA
2011- 2015	Chartered member, NIH study section: ACE (AIDS Clinical and Epidemiology)

C. Contribution to Science

Prior to antiretroviral therapy (ART), HIV infection was described as a "slim disease", a profound muscle wasting resembling age-associated loss in muscle mass and function, i.e., sarcopenia. In the current era of effective ART, and despite viral suppression, frailty and functional decline is more commonly observed in the infected than in age-matched uninfected individuals. Chronic infection increases the risk for comorbidities associated with the elderly, raising the possibility of an accelerated aging process. How infection compromises muscle homeostasis leading to wasting in acute infection and frailty in chronic infection is the narrative that drives my research program.

Dr. Montano's funded research reflects a translational program of excellence to understand HIV pathogenesis as the epidemic has matured. Dr. Montano's first R01 (**2003-2007**) evaluated host innate immune profiles in HIV infection and cell-associated transmission in Africa. His second R01 (**2007-2013**), which received a first percentile score, evaluated crosstalk between immune regulators and muscle tissue homeostasis in the context of infection. Dr. Montano's third R01 is enrolling a longitudinal cohort of adults to evaluate biomarkers for muscle function and aging in the context of chronic HIV infection (**2014-2019).** Dr. Montano's laboratory is also keenly interested in HIV eradication efforts and was the first to discover a novel pathway for reactivating latent HIV as a rationale for purging hidden viral reservoirs, the subject of an R56 (**2013-2015**).

Dr. Montano has enjoyed participation in course instruction at the medical, graduate and undergraduate level. I have published 50+ papers and chapters (http://scholar.harvard.edu/mamontano/publications) and mentored nine scholars. He recently authored a book on translational medicine – drawing from my own research, as well as recent advances, with an emphasis on overlap. The book is entitled, "***Translational Biology in Medicine: Models from aging, muscle regeneration and infection***", published in August 2014. My goal is to use this textbook as the basis for a course at HMS and online in models and methods in translational medicine.

Dr. Montano is currently the Director of Muscle and Aging Interventions and organize a symposium series designed as a forum to build alliances focused on improving muscle function in the context of aging and chronic infection. He has served as the Director of the Pilot Studies Core within the Boston Pepper Center, wherein he oversees funding for clinical and basic science studies focused on function promotion. He is a chartered member of an NIH study section **(ACE, 2011-2015)**, wherein He regularly review R-series applications, both international and national. Overall, Dr. Montano has established an academic identity and track record of independence with broad visibility among local and national health organizations.

D. Research Support

List both selected ongoing and completed research projects for the past three years (Federal or non-Federally-supported). *Begin with the projects that are most relevant to the research proposed in the application.* Briefly indicate the overall goals of the projects and responsibilities of the key person identified on the Biographical Sketch. Do not include number of person months or direct costs.

ACTIVE

1 R56 AI102844-01A1 (Montano) 2013- 2015
NIH/NIAID,
Simultaneous latent HIV activation and cytokine gene suppression.
This proposal seeks to identify mechanisms for reactivating latent HIV as a strategy for eradication.
Role: PI

1 R01 DA036444-01A1 (Montano) 2014- 2019
NIH/NIAID
Biomarkers for muscle function and aging in chronic HIV infection (The MATCH Study)
This proposal is focused on muscle biology and function in the context of treated HIV infection.
Role: PI

1R43HL124679-01 (Montano) 2014-2015
NIH/NHLBI,
A prototype diagnostic for cellular fetal hemoglobin in sickle cell disease.
This proposal focuses on building a diagnostic infrastructure.
Role: Co-I (Previous PI but relinquished upon move to Harvard Medical School).

COMPLETED IN LAST THREE YEARS

5 R01AR055115-05 (Montano) 08/28/2007 – 06/30/2012 (NCE thru 12/31/12)
NIH / NIAMS
Macrophage-Muscle Precursor Cell Interaction in the Context of HIV Infection
This proposal focused on crosstalk between immune cells and skeletal muscle in HIV infection.
Role: PI