

## CURRICULUM VITAE

### **Nicole J. LeCapitaine**

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### **Education:**

#### **Undergraduate**

Lawrence University (1989-1993)

#### **Graduate/Medical**

LSU Health Sciences Center-New Orleans (08/2002-08/2006)

#### **Internship**

N/A

#### **Residency**

N/A

#### **Post-Doctoral Fellowships**

New York Medical College (09/01/2006-08/28/2007)

LSU Health Sciences Center-New Orleans (09/07/2007-08/21/2010)

#### **Clinical Fellowships**

N/A

#### **Other (i.e. MPH, MBA, MHA, Career Development Courses)**

N/A

### **Certification: (if applicable, clinical boards, ECFMG, USMLE, etc)**

BD FACS Aria™ Operator Training and Certification, Billerica, MA, 2008

### **Licensure: (if applicable)**

#### **State, license number, effective dates**

N/A

### **Academic, Professional, and Research Appointments**

Research Instructor, Department of Physiology, LSUHSC, New Orleans, LA (8/2010

– 8/2013)

### **Membership in Professional Organizations**

- 2011-** American Physiological Society
- 2011** Treasurer, Executive Board, Louisiana Chapter, Association for Women in Science
- 2011** Society on NeuroImmune Pharmacology
- 2010-2012** Association for Women in Science
- 2010-** Faculty Advisory Committee, Postdoctoral Association, Louisiana State University Health Sciences Center
- 2010** Executive Committee, Postdoctoral Association, Louisiana State University Health Sciences Center
- 2010** President, Postdoctoral Association, Louisiana State University Health Sciences Center
- 2010** Postdoctoral Representative, Executive Board, Louisiana Chapter Association for Women in Science
- 2009-2010** American Association for the Advancement of Science
- 2009-** Research Society on Alcoholism
- 2009** NIAAA Alcohol Trainee Workshop, Program Committee Member

### **Awards and Honors: (include sabbaticals)**

- 2010** Travel Award, Informatics for Data and Resource Discovery in Addiction Research Workshop, NIH/NIDA
- 2010** Junior Investigator Award, 2010 RSA Scientific Meeting Research Society on Alcoholism
- 2010** First Prize Basic Research, School of Medicine Research Day Louisiana State University Health Sciences Center
- 2009** First Prize Basic Research, School of Medicine Research Day, Louisiana State University Health Sciences Center

### **Teaching Experience/Responsibilities: (must include some narrative description)**

#### **Course/Clerkship/Residency or Fellowship/CME Directorships**

N/A

#### **Curriculum Development/Implementation**

N/A

#### **Creation of Enduring Teaching Materials**

N/A

**Formal Course Responsibilities – Lecture, Lab, Seminar/DxR/Ethics (all schools and all levels, undergraduate, graduate, resident, fellow, post-doctoral instruction; note number of hours/year and number of years involved in aggregate)**

Total Preparation: 60-80 hr/yr      Total Classroom: 15 hr/yr

Theory and Application of Cutting Edge Technology for Biomedical Research

“Luminex: A Bio-plex Technology”

Cardiovascular Physiology

“Angiogenesis”

“HIV and the Cardiovascular System”

Physiology for the Interdisciplinary Program: Endocrine Section

“Satellite Cells: Role in Skeletal Muscle Repair & Regeneration”

Nursing Physiology

2-3 lectures on the vasculature and control of blood flow (2011-2012)

6 lectures on renal physiology (2012-2013)

Physiology for Dental Hygiene (Co-course Director)

“Wound Healing” lecture

3 lectures on renal physiology

**Departmental/Interdisciplinary Conferences – Morning Report, Grand Rounds, Tumor Board, Departmental Seminar Series, etc**

“Mechanisms of Alcohol-accentuated Muscle Wasting in the SIV-infected Host: Inflammation, Oxidative Stress, and Satellite Cells,” Department of Physiology Seminar Series, June 14, 2012

**Special Clinical Rounds – Chairman’s Rounds, Chief’s Conference, etc**

N/A

**Teaching Awards:**

N/A

**Graduate Students Trained: (as Major Professor or Thesis Advisor; do not list all residents supervised during career)**

N/A

**Thesis and Dissertation Committees:**

N/A

**Post-Doctoral or Post-Residency Fellows Trained:**

N/A

**Grants and Contracts: (note role on grant; i.e. PI, co PI, consultant, etc)**

**Funded**

LSUHSC, New Orleans, LA, Translational Research Initiative DeBoisblanc (PI)  
2009 - 2010

***Microparticle Networks in ARDS***

The goals of this research are to determine temporal changes in microparticle profiles in early ARDS and to determine if microparticles from ARDS patients are capable of initiating inflammatory signaling cascades.

Role: Co-Investigator

American Heart Association, Southeast Affiliate (Sponsor: Dr. William Chilian)

July 2005 – June 2007

Predocctoral Fellowship

***Bone marrow stem cell induction of coronary collateral growth.***

The goal of the study was to investigate whether bone marrow stem cells, either mesenchymal or hematopoietic, improve the function of an ischemic heart by participating in coronary collateral growth.

**Pending funding**

N/A

**Non-funded applications (last three years)**

LSU Baton Rouge, Pennington Biomedical Research Center

**Impaired Muscle Progenitor Cell Nutrient Signaling in AIDS-associated Wasting**

Submitted 2011

**Research Review Committee: (NIH study section, etc)**

N/A

**Inventions and Patents:**

N/A

**Papers Presented: (include, and ideally segregate, scientific presentations, plenary lectures, refresher courses, CME or society lectures, etc)**

N/A

**Seminars and Invited Presentations: (include visiting professorships)**

**Plenary lectureships at professional meetings/symposia**

**LeCapitaine NJ**, Bagby GJ, Nelson S, Molina PE. Inflammatory and Oxidative Stress Underlying Skeletal Muscle Wasting in Chronic Alcohol: Implications for Satellite Cell Function. RSA Symposium "Core Mechanisms of Alcohol Induced Multi-Organ & Tissue Injury," 35<sup>th</sup> Annual RSA Scientific Conference, San Francisco, CA, June 26, 2012.

**CME lectures**

N/A

**Editorial Posts and Activities:**

**Journal editorships or associate editorships**

N/A

**Reviewer status**

N/A

**University/Institutional Service: (note leadership responsibilities)**

**Departmental committees**

N/A

**School of Medicine committees**

N/A

**LSUHSC (campus) committees**

Association for Women in Science; past Treasurer and Postdoctoral Representative on Executive board

LSUHSC Postdoc Association, Faculty Advisory Committee Member, 2010-

**Hospital committees**

N/A

**Professional society committees**

N/A

**Special assignments – ad hoc task forces/working groups, projects, etc**

Program Committee Member, Sixth NIAAA Alcohol Trainee Workshop, New Orleans, LA, March 13-15, 2009

**Clinical Service: (may elaborate details further on portfolio)**

**In-patient service activities**

N/A

**Clinic coverage**

N/A

**Call**

N/A

**Administrative Responsibilities: (must include some narrative description)**

**Departmental**

N/A

**School of Medicine**

N/A

**LSUHSC**

N/A

**Hospital**

N/A

**Interdisciplinary/other program (center or program)**

N/A

**Community Service Activities:**

LSU Health Sciences Center/New Orleans Public Schools Science Partnership,  
2003-2004

Career Day, Cranford H. Burns Middle School, February 29, 2008

Career Day, Cranford H. Burns Middle School, April 24, 2009

LSU SVM Phi Zeta Research Day, Invited Judge, 2010

LSUHSC Mentors, 2011-

**Books:**

N/A

**Book Chapters:**

Kajstura J, **LeCapitaine N**, Loreda M, Giorgio M, Mitchell TS, Valentini S, Rotatori F, Pelicci PG. "Cardiac Stem Cells and the Diabetic Cardiomyopathy." Cardiovascular

Regeneration and Stem Cell Therapy. Ed. Leri A, Anversa P, Frishman W. Malden: Blackwell Publishing, 2007.161-169.

**Videos and Multimedia:**

N/A

**Scientific Exhibits:**

N/A

**Journal Publications: (must segregate refereed and non-refereed papers; appended research interest narrative optional)**

Lang IM, **Dana N**, Medda BK, Shaker R. Mechanisms of airway protection during retching, vomiting, and swallowing. *AM J Physiol Gastrointest Liver Physiol*. 2002;283(3):G529-36.

Massey, BT, Simuncak C, **LeCapitaine-Dana N**, Pudur S. Transient lower esophageal relaxations do not result from passive opening of the cardia by gastric distention. *Gastroenterology*. 2006;130(1):89-95.

Rota M, **LeCapitaine N**, Hosoda T, Boni A, DeAngelis A, Padin-Iruegas ME, Esposito G, Vitale S, Urbanek K, Casara C, Giorgio M, Luscher TF, Pelicci PG, Anversa P, Leri A, Kajstura J. Diabetes promotes cardiac stem cell aging and heart failure, which are prevented by deletion of the p66shc gene. *Circulation Research*. 2006;99(1):42-52.

Bearzi C, Rota M, Hosoda T, Tillmanns J, Nascimbene A, DeAngelis A, Siggins RW, **LeCapitaine N**, Cascapera S, Beltrami AP, Zias E, Quaini F, Urbanek K, Bolli R, Kajstura J, Leri A, Anversa P. Human Cardiac Stem Cells. *Proceedings of the National Academy of Sciences*. 2007; 104 (35) 14068-14073.

Tillmanns J, Rota M, Hosoda T, Misao Y, Esposito G, Gonzalez A, Vitale S, Parolin C, Yasuzawa-Amano S, Muraski J, De Angelis A, **LeCapitaine N**, Siggins RW, Loredi M, Bearzi C, Bolli R, Urbanek K, Leri A, Kajstura A, Anversa P. Formation of large coronary arteries by cardiac progenitor cells. *Proceedings of the National Academy of Sciences*. 2008; 105(5):1668-1673.

Siggins RW, Zhang P, Welsh D, **LeCapitaine N**, Nelson S. Stem cells, phenotypic inversion, and differentiation. *International Journal of Clinical and Experimental Medicine*. 2008; 1(1):2-21. PMID: 19079683

Shi X, **LeCapitaine N**, Rudner X, Ruan, S, Shellito J. Lymphocyte apoptosis in murine *Pneumocystis pneumonia*. *Respiratory Research*. 2009; 10 (1):57. PMID: 19558669

**LeCapitaine NJ**, Zhang P, Winsauer P, Walker E, Vande Stouwe C, Porretta C, and Molina PE. Chronic  $\Delta$ -9-tetrahydrocannabinol administration increases lymphocyte CXCR4 expression in rhesus macaques. *J Neuroimmune Pharmacol*. 2011 Dec;6(4):540-5. PMID: 21830069

**LeCapitaine NJ**, Wang ZQ, Dufour JP, Potter BJ, Bagby GJ, Nelson S, Cefalu WT, Molina PE. Disrupted anabolic and catabolic processes may contribute to alcohol-accentuated SAIDS-wasting. *J Infectious Diseases*. 204(8):1246-65. PMCID: PMC3173505. [Available on 2012/10/15]. PMID: 21917898

Molina PE, Amedee A, **LeCapitaine NJ**, Zabaleta J, Mohan M, Winsauer P, Vande Stouwe C. Cannabinoid neuroimmune modulation of SIV disease. *J Neuroimmune Pharmacology*. 2011 Dec;6(4):516-27. Epub 2011 Aug 10. PMID: 21830069

### **Abstracts:**

Staff DM, Gu C, Medda BK, **Dana NJ**, Hogan WH, Massey BT, Kern MK, Shaker R. A new technique for evaluating lower esophageal sphincter compliance. *Gastroenterology*. 118(4):A812, 101<sup>st</sup> Annual Meeting of the American Gastroenterological Association, April 2000; Oral Presentation.

Massey BT, **LeCapitaine Dana N**, Medda BK, Gu C, Lang IM, Shaker R. Reduction of reflux events by blockade of gastric mechanoreceptors: a novel endoscopic approach. *Gastroenterology*. 118(4):A2623, 101<sup>st</sup> Annual Meeting of the American Gastroenterological Association, April 2000; Oral Presentation.

Tillmanns J, Rota T, Hosoda T, Amano S, Rotatori F, **LeCapitaine N**, Siggins RW, Hintze T, Esposito G, De Angelis A, Loredi M, Misao Y, Bearzi C, Urbanek K, Leri A,



Kajstura J, Sonnenblick EH, Anversa P. IGF-1 and HGF Promote the Engraftment of Cardiac Stem Cells, which in Turn Regenerate the Entire Coronary Vasculature and the Dead Myocardium after Infarction in Rats. American Heart Association Annual Meeting, November 2006; Oral Presentation.

Mosna F, Bearzi C, Rota M, Hosoda T, Tillmanns J, Yasuzawa-Amano S, Trofimova I, Siggins RW, **LeCapitaine N**, D'Alessandro DA, Zias E, Quaini F, Urbanek K, Rimoldi O, Michler RE, Bolli R, Kajstura J, Leri A, Frishman WH, Anversa P. Origin and Therapeutic Efficacy of Human Cardiac Progenitor Cells. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Hosoda T, Yasuzawa-Amano S, Amano K, Boni A, Urbanek K, Delucchi F, Padin-Iruegas ME, Gonzalez Miqueo A, Siggins RW, Misao Y, **LeCapitaine NJ**, Iaffaldano G, Sonnenblick EH, Kajstura J, Bolli R, Anversa P, Leri A. Defects in the c-kit-SCF System Have Profound Effects on Myocardial Gene Expression. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Boni A, Nascimbene A, Siggins RW, Urbanek K, Amano K, Delucchi F, Yasuzawa-Amano S, **LeCapitaine N**, Trofimova I, Di Marco A, Vitale S, Small N, Mosna F, Gonzalez A, Rimoldi O, Kajstura J, Anversa P, Leri A. Notch1 Receptor Enhances Myocyte Differentiation of Cardiac Progenitor Cells and Myocardial Regeneration After Infarction. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Delucchi F, Urbanek K, Boni A, Siggins RW, Amano K, Iaffaldano G, Yasuzawa-Amano S, **LeCapitaine N**, Vitale S, Gonzalez A, Di Marco A, Trofimova I, Rizzi R, Misao Y, Anversa P, Kajstura P, Leri A. Notch Regulates Cardiac Progenitor Cell Commitment and Myocyte Formation in the Embryonic Mouse Heart. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Hosoda T, Yasuzawa-Amano S, Amano K, Boni A, Urbanek K, Delucchi F, Arcarese M, Gonzalez Miqueo A, Siggins RW, Misao Y, **LeCapitaine NJ**, Mosna F, Sonnenblick EH, Kajstura J, Bolli R, Anversa P, Leri A. Deregulation of MicroRNAs in the Heart of c-kit-Defective Mice. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Iaffaldano G, Misao Y, **LeCapitaine N**, Bearzi C, Gonzalez A, Hosoda T, Urbanek K, Rota M, Sonnenblick EH, Ottolenghi S, Meggs LG, Leri A, Anversa P, Kajstura J. C-kit Positive Cardiac Progenitor Cells Contribute to the Embryonic Development of the Heart. American Heart Association Annual Meeting, November 2007; Oral Presentation.

Bearzi C, **LeCapitaine N**, Urbanek K, Esposito G, Mosna F, Gatti A, D'Alessandro DA, Michler RE, Rota M, Kajstura J, Leri A, Hintze TH, Frishman WH, Anversa P. Identification of a Human Coronary Vasculature Progenitor Cell. American Heart Association Annual Meeting, November 2007; Oral Presentation.

**LeCapitaine N**, Bearzi C, Urbanek K, Mosna F, Gatti A, Rota M, Bolli R, Michler RE, D'Alessandro DA, Leri A, Kajstura J, Anversa P. The Mammalian Heart Contains Vascular and Myocyte Niches. American Heart Association Annual Meeting, November 2007; Oral Presentation.

**LeCapitaine NJ**, Zhang P, Siggins RW, Porretta C, Nelson S, Bagby GJ, Shellito J, Welsh DA. Flow Cytometric Analysis of Microparticles Reveals Distinct Size Populations. Department of Medicine Research Day, January 2009; Oral Presentation.

**LeCapitaine NJ**, Zhang P, Siggins RW, Porretta C, Nelson S, Shellito J, Welsh DA. Acute Alcohol Intoxication Alters Blood Microparticle Content. NIAAA Trainee Workshop, March 2009; Poster Presentation.

**LeCapitaine NJ**, Zhang P, Siggins RW, Porretta C, Nelson S, Shellito J, Welsh D. Flow Cytometric Analysis of Microparticles Reveals Distinct Size Populations. Gulf Coast Physiological Society Meeting, April 2009; Poster Presentation.

**LeCapitaine NJ**, Zhang P, Siggins RW, Porretta C, Nelson S, Shellito J, Welsh DA. Acute Alcohol Intoxication Decreases Total Blood Microparticle Content. Research Society on Alcoholism, June 2009; Poster Presentation.

**LeCapitaine NJ**, Siggins RW, Zhang P, DeBoisblanc B, Welsh DA. Plasma Microparticles Contain Functional Mitochondria. Department of Medicine Research Day, January 2010; Oral Presentation.

**LeCapitaine NJ**, Siggins RW, Zhang P, DeBoisblanc B, Welsh DA. Plasma Microparticles Contain Functional Mitochondria. The Southern Regional Meeting of the SSCI, February 2010; Poster Presentation.

**LeCapitaine NJ**, Wang ZQ, Bagby GJ, Nelson S, Cefalu W, Molina P. Chronic Alcohol Exacerbates the Negative Impact of Simian Immunodeficiency Virus on Muscle Protein Turnover. Research Society on Alcoholism, June 2010; Poster Presentation.

**LeCapitaine NJ**, Zabaleta J, Amedee A, Zhang P, Winsauer P, Molina PE. Systems biology analysis of gut-specific mechanisms underlying chronic  $\Delta$ -9-THC modulation of Simian Immunodeficiency Virus. Society on NeuroImmune Pharmacology, April 2011; Poster Presentation.

**LeCapitaine NJ**, Zabaleta J, Amedee A, Zhang P, Winsauer P, Molina PE. Systems biology analysis of gut-specific mechanisms underlying chronic  $\Delta$ -9-THC modulation of Simian Immunodeficiency Virus. Gulf Coast Physiological Society, May 2011; Poster Presentation.

**LeCapitaine NJ**, Zabaleta J, Nguyen D, Kolls J, Bagby GJ, Nelson S, Molina PE. Epigenetic mechanisms of chronic binge alcohol accentuated skeletal muscle wasting in simian immunodeficiency virus infection. Research Society on Alcoholism, June 2011; Poster Presentation.

**LeCapitaine NJ**, Grant KA, Molina PE. Chronic alcohol decreases gene expression of key transcription factors regulating adipogenesis. Research Society on Alcoholism, June 2011; Poster Presentation.

**LeCapitaine NJ**, Bagby GJ, Nelson S, Molina PE. Inflammatory and Oxidative Stress Underlying Skeletal Muscle Wasting in Chronic Alcohol: Implications for Satellite Cell Function. RSA Symposium "Core Mechanisms of Alcohol Induced Multi-Organ & Tissue Injury," 35<sup>th</sup> Annual RSA Scientific Conference, San Fransisco, CA, June 26, 2012.