

Jamie Jennifer Newman

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CURRENT POSITION

September 2013 - Present Assistant Professor of Biological Sciences
Louisiana Tech University
Department of Biological Sciences

APPOINTMENTS

July 2017 – Present Chair of Molecular and Biomedical Biology Section
Louisiana Academy of Sciences

September 2016 – Present Board of Directors, Visual Integration of Science of Through Art
(VISTA) & Pre-Medical Illustration Concentration, Louisiana Tech
University

September 2013 – Present Founder & Organizer New Frontiers in Biomedical Research Seminar
Series, Louisiana Tech University

September 2014-August 2021 Scott Weathersby Endowed Professor in Zoology/Premedicine

EDUCATION

September 2005 – May 2010 Massachusetts Institute of Technology
Ph.D. in Biology
“Control of Gene Regulation and Cell State in Embryonic Stem Cells”
Laboratory of Dr. Richard A. Young

September 1999 – May 2003 Amherst College
B.A. in Biology, Cum Laude with Distinction
“The Role of DG17 in *Dictyostelium discoideum*”
Laboratory of Dr. David Ratner

PUBLICATIONS

Beadle EP, Straub JA, Bunnell BA, **Newman JJ**. MED31 Involved in Regulating Self-Renewal and Adipogenesis of Human Mesenchymal Stem Cells. *Molecular Biology Reports*. July 2018.

Sandel DA*, Liu M*, Ogbonnaya N, **Newman JJ**. Notch3 Regulates Induction of Human Adipose Stem Cell Adipogenesis. *Biochimie*. April 2018

*Authors contributed equally to the work

Whitehead AK, Barnett H, Caldorera-Moore ME, **Newman JJ**. Poly (Ethylene Glycol) Hydrogel Elasticity Influences Human Mesenchymal Stem Cell Behavior. *Regenerative Biomaterials*. April 2018.

Newman JJ, Caldorera-Moore ME, Bustamante N. Digital Painting and an Introduction to Medical Illustration. Louisiana Academy of Science Proceedings. 2018. In press March 2018.

Patel NR, Whitehead AK, **Newman JJ**, Caldorera-Moore ME. Poly(ethylene glycol) Hydrogels with Tailorable Surface and Mechanical Properties for Tissue Engineering Applications. *American Chemical Society Biomaterials Science & Engineering*. August 2016

Newman JJ & Caldorera-Moore M. Interdisciplinary Seminar Series: Increasing Awareness for Research, Recognition of the University, and Professional Development Opportunities. American Society for Engineering Education Annual Meeting Conference Proceedings. 2016

Newman JJ, Patel N, Caldorera-Moore M. *Engineered Stem Cell-Based Scaffolds and Patches for Heart Disorders*. Chapter 14 in: Microscale Technologies for Stem Cells Engineering. Springer, 2016

Joshi C, Karumuri B, **Newman JJ**, DeCoster MA. Cell Morphological Changes Combined with Biochemical Assays for Assessment of Apoptosis and Apoptosis Reversal. Current Microscopy Contributions to Advances in Science and Technology. Ed. Mendez-Vilas A. p.756-762. Formatex Research Center. 2012.

Mullen AC, Orlando DA, **Newman JJ**, Loven J, Kumar RM, Bilodeau S, Reddy J, Guenther MG, DeKoter R, Young RA. Master Transcription Factors Determine the Gene Targets of the TGF- β Pathway. *Cell*. October 2011.

Newman JJ and Young RA. Connecting Transcriptional Control to Chromosome Structure and Human Disease. *Cold Spring Harbor Symposia on Nuclear Structure and Function*. 2010.

Kagey MH*, **Newman JJ***, Bilodeau S*, Zhan Y, Orlando DA, van Berkum NL, Ebmeier CC, Goosens J, Rahl PB, Levine SS, Taatjes DJ, Dekker J, Young RA. Mediator and Cohesin Connect Gene Expression and Chromatin Architecture. *Nature*. August 2010.

*Co-first authors

Marson A, Levine SS, Cole MF, Frampton GM, Brambrink T, Johnstone S, Guenther MG, Johnston WK, Wernig M, **Newman J**, Calabrese M, Dennis LM, Volkert TL, Gupta S, Love J, Hannett N, Sharp PA, Bartel DP, Jaenisch R, Young RA. Connecting microRNA Genes to the Core Transcriptional Regulatory Circuitry of Embryonic Stem Cells. *Cell*. August 2008.

Cole MF*, Johnstone SJ*, **Newman JJ***, Kagey MH, Young RA. Tcf3 is an Integral Component of the Core Regulatory Circuitry of Embryonic Stem Cells. *Genes and Development*. March 2008.

*Co-first authors

Ventura A, Young AG, Winslow MM, Lintault L, Meissner A, Erkeland SJ, **Newman J**, Bronson RT, Crowley D, Stone JR, Jaenisch R, Sharp PA, Jacks T. Targeted Deletion Reveals Essential and Overlapping Functions of the miR 17-92 Family of miRNA Clusters. *Cell*. March 2008.

Ventura A, Kirsch DG, McLaughlin ME, Tuveson DA, Grimm J, Lintault L, **Newman J**, Reczek EE, Weissleder R, Jacks T. Restoration of p53 Function Leads to Tumor Regression in vivo. *Nature*. Feb 2007.

Flores ER, Sengupta S, Miller JB, **Newman JJ**, Bronson R, Crowley D, Yang A, McKeon F, Jacks T. Tumor Predisposition in Mice Mutant for p63 and p73: Evidence for Broader Tumor Suppressor Functions for the p53 Family. *Cancer Cell*. April 2005.

PATENTS

Mediator and cohesion connect gene expression and chromatin architecture. Richard A. Young, Michael H. Kagey, **Jamie J. Newman**, Steve Bilodeau. US20130109737A1. Filed February 9, 2011.

FUNDED RESEARCH & EQUIPMENT PROPOSALS (PRINCIPAL INVESTIGATOR UNLESS OTHERWISE NOTED)

Louisiana Space Consortium (LaSPACE) Undergraduate Research Assistantship (*Student: India Pursell*)
Differentiation of Adipose-Derived Stem Cells on Biomimetic Hydrogels to Induce Myogenesis

Funded: \$6,000 (August 2018-April 2019)

Louisiana Biomedical Research Network

The Role of Mediator in Maintaining and Differentiating Human Mesenchymal Stem Cells

Funded: \$50,000 (May 2018-April 2019)

Louisiana Space Consortium Research Enhancement Award

Influences of Biomaterials in Directing Stem Cell Fate

Funded: \$30,500 (August 2017-July 2018)

Louisiana Space Consortium (LaSPACE) Undergraduate Research Assistantship (*Student: Rachel Eddy*)

Optimization and Characterization of the Osteogenic Differentiation of Human Mesenchymal Stem Cells on Tailorable Hydrogel Scaffolds

Funded: \$6,000 (August 2017-August 2018)

Louisiana Biomedical Research Network

Imaging System Upgrade for the BioTek Cytation5 Plate Reader

Funded: \$56,000 (April 2017)

Louisiana Board of Regents Supervised Undergraduate Research Experience (SURE) (Student: India Pursell)
Differentiation of Mouse Embryonic Stem Cells into Cardiomyocytes for Tissue Engineering

Funded: \$5,000 (January 2017-December 2017)

Louisiana Space Consortium (LaSPACE) Graduate Research Assistantship

Differentiation of Pluripotent Stem Cells into Cardiomyocytes for Cardiac Tissue Engineering

Funded: \$8,000 (August 2016-May 2017)

Louisiana State University Health, Center for Cardiovascular Research

Optimization of Cardiac Muscle Generation for Replacement of Damaged or Weakened Tissue

Co-PIs: Dr. Mary Caldorera-Moore and Dr. Paari Dominic

Funded: \$25,000 (July 2016-May 2017)

Louisiana Biomedical Research Network

Imaging System: BioTek Cytation5 Plate Reader

Funded: \$45,000 (April 2016)

Louisiana Space Consortium (LaSPACE) Undergraduate Research Assistantship (Student: Anna Katherine Whitehead)

Microtopographical Effects on the Differentiation of Mouse Embryonic Stem Cells into Cardiomyocytes

Funded: \$6,000 (August 2015-August 2016)

Louisiana Biomedical Research Network Summer Faculty Program

The Role of Mediator in Maintaining and Differentiating Human Mesenchymal Stem Cells

Funded: \$300,000 (July 2015-June 2018)

Louisiana Board of Regents Enhancement Grant

Fluorescence Imaging for Undergraduate Cell and Molecular Biology

Co-PIs: Dr. Rebecca Giorno & Dr. Patrick Hindmarsh

Funded: \$66,000 (June 2015-May 2016)

Louisiana State University Health, Center for Cardiovascular Research

Optimization of Cardiac Muscle Generation for Replacement of Damaged or Weakened Tissue

Co-PIs: Dr. Mary Caldorera-Moore and Dr. Paari Dominic

Funded: \$25,000 (June 2015-May 2016)

Louisiana Board of Regents Supervised Undergraduate Research Experience (SURE) (Student: Demi Sandel)
The Role of Notch Signaling in Mesenchymal Stem Cells

Funded: \$5,000 (January 2016-December 2016)

LaSPACE Minority Research Scholar for Undergraduate Student Research (Student: Camtrang Tran)
Cardiomyocyte Generation for Cardiac Tissue Repair

Funded: \$4,500 (October 2014-April 2015)

Louisiana Biomedical Research Network Summer Faculty Program

The Role of Mediator in Maintaining and Differentiating Human Mesenchymal Stem Cells

Funded: \$19,000 (May 2014-August 2014)

Louisiana Board of Regents, Pilot Fund Proposal
The Role of Mediator in Regulating the Cell State of Mesenchymal Stem Cells
Funded: \$10,000 (January 2014-December 2014)

FUNDED EDUCATION & PROFESSIONAL DEVELOPMENT PROPOSALS (PRINCIPAL INVESTIGATOR UNLESS OTHERWISE NOTED)

Summer 2016 Louisiana Tech University Lagniappe Ladies Award
Art & Science Collaboration for Medical Illustration
Funded \$5,000

Summer 2015 Lincoln Health Foundation Grant
Community Lectures on Cancer & Diabetes
Funded \$3,020

Fall 2014 Lincoln Health Foundation Grant
Community Lectures on Cancer & Diabetes
Funded \$2,121

Fall 2014 ADVANCEing Women in Science Networking Grant
Co-PI: Dr. Mary Caldorera-Moore
Funded \$1,305

Fall 2013 Louisiana Tech University Innovative Instruction Grant
"Graduate Student Research Ethics Course"
Co-PI: Dr. Erica Murray
Funded: \$1,935

Fall 2013 Lincoln Health Foundation Grant
Community Lectures on Cancer
Funded \$5,630

Fall 2013 ADVANCEing Women in Science Networking Grant
Co-PI: Dr. Teresa Murray
Funded \$2,570

REVIEWER

2016-Present NSF Graduate Research Fellowship Program (GRFP) Reviewer

INVITED SEMINARS

International Society for Disease Surveillance Conference. "University-Community Partnership to Enhance Public Health Communication" January 2019

Louisiana Biomedical Research Network Annual Meeting. "MED12 is a Transcriptional Regulator of Adipogenesis" January 2019

Louisiana Biomedical Research Network Annual Meeting. "The Role of Mediator in Regulating Stem Cell State" January 2018

Louisiana Space Consortium Annual Meeting. "Influence of Biomaterials on Cell State" November 2017

Louisiana Biomedical Research Network Annual Meeting. "The Role of Med31 in Regulating Stem Cell State" January 2017

Girls Learning About Math & Sciences (GLAMS). "Learning about DNA" April 2016

Louisiana Biomedical Research Network Annual Meeting. "The Role of Mediator in Mesenchymal Stem Cells" January 2016

International Federation of Adipose Therapeutics and Science, New Orleans, LA "The Role of Mediator in Regulating Stem Cell State" November 2015

Industry Day, Shreveport, LA "Optimization of Cardiac Muscle Generation for Replacement of Damaged or Weakened Tissue" September 2015

Girls Learning About Math & Sciences (GLAMS). "Learning about DNA" April 2015

LBRN Annual Meeting. "The Role of Mediator in Mesenchymal Stem Cells" January 2015

LA SiGMA Professional Development Workshop for Community College Teachers. "Stem Cells & Gene Expression." October 2013.

Rotary Clubs of Ruston, LA. "Stem Cells: Their Potential in Research & Medicine." March 2013

University of Mississippi Medical Center Cancer Institute. "The Role of Environment on Genome Structure & Function." November 2012.

Distinguished Lecture Series. Center for Biomedical Engineering & Rehabilitation Sciences, Louisiana Tech University. "Understanding & Manipulating Murine Embryonic Stem Cells." May 2012.

Northwestern State University Scholar's College. "Control of Aromatase Expression in Breast Cancer." April 2011

Louisiana State University Health Sciences Center, Shreveport. Cellular Biology and Anatomy Department Seminar. "Transcriptional Control of Aromatase: The Role of SIRT1 in Breast Cancer." November 2010.

Amherst College Biology Department Seminar. "Using Embryonic Stem Cells to Understand Gene Regulation and Cell Fate." September 2009.

RELEVANT TEACHING EXPERIENCE (* DEVELOPED NEW COURSE)

Stem Cell Biology (LA Tech BISC450C/516C)*

The Human Genome (LA Tech BISC450C/516C)*

Medical Ethics/Bioethics (LA Tech BISC470/570, MSNT657)

Undergraduate Senior Seminar (LA Tech BISC480)

Graduate Research Methods (LA Tech BISC/MSNT 502)

Stem Cells & Regenerative Medicine (LA Tech BIEN 450C/557 & BISC 450C/516C)*

UNIVERSITY, DEPARTMENTAL, AND PROFESSIONAL SERVICE

November 2018 – Present	Lead effort in establishing Student Ambassadors for School
September 2018 – Present	School of Biological Sciences Director's Advisory Committee
September 2018 – December 2018	Strategic Planning IMPACT Subcommittee for TECH 2030 Strategic Planning, Louisiana Tech University
September 2018 – Present	Graduate Council, Louisiana Tech University

February 2018 – Present	Sponsored Projects Working Group, Louisiana Tech University
September 2017 – Present	Co-Founder and Co-Director of VISTA and Minor in Pre-Medical Illustration, Louisiana Tech University
September 2017 – Present	Section Chair, Molecular and Biomedical Research, Louisiana Academy of Sciences
September 2017 – Present	Work-Life Policy Committee, Louisiana Tech University
September 2015 – Present	Waggoner Center Fellow, Louisiana Tech University
September 2013 – Present	Founder New Frontiers in Biomedical Research Seminar Series, Louisiana Tech University
December 2017 – March 2018	Health Information and Informatics Director Position Search Committee
September 2016 – January 2018	Biological Sciences Tenure-Track Faculty Search Committee
Summer 2015	Biological Sciences Lecturer Search Committee
September 2014-August 2016	Faculty Advisory Council to the Dean, College of Applied and Natural Sciences, Louisiana Tech University
January 17-19, 2014	Junior Sciences & Humanities Symposium Louisiana State University, Baton Rouge Judge at state high school science competition
November 2012 – May 2013	Stem Cells & Biomedical Research Seminar Series Organized seminar series with speakers from Louisiana Louisiana Tech University Department of Biomedical Engineering

AWARDS

2018	Louisiana Tech University Virgil Orr Undergraduate Junior Faculty Award Recipient
2018	Nominated by College of Applied and Natural Sciences for Virgil Orr Undergraduate Junior Faculty Award
2018	Best Full Project Presentation , Louisiana Biomedical Research Network
2017	National Recognition Award , College of Engineering and Science, for enhancing recognition of the University through the New Frontiers in Biomedical Research Seminar Series
2017	Nominated by College of Applied and Natural Sciences for Virgil Orr Undergraduate Junior Faculty Award
2017	Scholarly Activity Award , College of Applied and Natural Sciences, Louisiana Tech University
2016	Nominated by College of Applied and Natural Sciences for Virgil Orr Undergraduate Junior Faculty Award

- 2016 **Research Award**, College of Applied and Natural Sciences, Louisiana Tech University
- 2015 **Teaching Award for 300 Level and Above Courses**, College of Applied and Natural Sciences, Louisiana Tech University

SCIENTIFIC SOCIETY MEMBERSHIP

- 2010-Present Full Member, Sigma Xi
- 2015-2018 Sigma Xi Chapter Treasurer, Louisiana Tech University
- 2013-2015 Sigma Xi Chapter President, Louisiana Tech University
- 2003-2010 Associate Member, Sigma Xi