

MICHELLE R. DAWSON

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Molecular Pharmacology, Physiology, & Biotechnology
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Dr. Dawson joined the Brown faculty as MPPB Assistant Professor on July 1, 2016. Previously, Dr. Dawson was an Assistant Professor of Chemical and Biomolecular Engineering at Georgia Institute of Technology. Her research combines expertise in cell biophysics and cancer biology for the quantitative analysis of hundreds of individual cells in tumor and tissue microenvironments. Quantitative microscopy techniques based on transport phenomena are used to characterize the mechanomic signatures of cells important for cell migration, differentiation, and development in normal tissues and tumors. Genomic analysis and small molecule screening are then used to elucidate the molecular pathways controlling these mechanical profiles and to identify molecular targets for therapeutic development.

Dr. Dawson's long-term research goals include: **(1)** developing novel therapies for metastatic cancer, **(2)** improving stem cell homing to tissues, and **(3)** using mechanics to guide in the development of tissue substitutes. Dr. Dawson has received multiple awards for research and teaching, including the Georgia Cancer Coalition Breast Cancer Research Award, the GT Women in Engineering Teaching Excellence Award, and the GT Junior Faculty Undergraduate Research Mentor Award.

ACADEMIC EXPERIENCE

Assistant Professor, Brown University, Molecular Pharmacology, Physiology, & Biotechnology (2016-present)

Assistant Professor, Georgia Institute of Technology, School of Chemical & Biomolecular Engineering (2009-2016)

EDUCATION

2005– 2008 Postdoctoral Research Fellow, Department of Radiation Oncology, Harvard Medical School and Massachusetts General Hospital, Boston, MA. Advisor: Rakesh K. Jain

2000– 2005 Ph.D., Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD. Advisors: Justin Hanes and Denis Wirtz.

1995-1999 B.S., Biomedical Engineering, Louisiana Tech University, Ruston, LA

TEACHING

Heat and Mass Transfer (ChBE 3210), *Biomolecular Engineering of the Cell* (ChBE 4803/6803), *Fluid Mechanics* (ChBE 3200), *Cellular Engineering* Direct-to-Discovery K-12 Outreach Program (more than 50 videoconference lectures).

HONORS AND AWARDS

Georgia Tech Women in Engineering (WIE) Teaching Excellence Award (2013)

Georgia Tech Junior Faculty Outstanding Undergraduate Research Mentor Award (2013)
 Georgia Cancer Coalition Breast Cancer Research Award (2009)
 Ford Foundation Postdoctoral Minority Fellowship (2006)
 CRS-Capsugel/Pfizer Innovative Aspects of Oral Drug Delivery Award (2004)
 International Society for Aerosol Medicine Student Research Award (2003)
 Biophysical Society FASEB MARC Travel Award (2003)
 NSF Graduate Research Fellowship (2001)
 Ford Foundation Predoctoral Minority Fellowship (2001)
 Achievement Rewards for College Students Fellowship (2000)

LIST OF PUBLICATIONS (h-Index 13)

1. McAndrews K, Yi J, McGrail D, Ravikumar N, Dawson M. Mesenchymal Stem Cells Induce Directional Migration of Invasive Breast Cancer Cells through TGF- β . *Scientific Reports* 5: 16,941 (2015). Impact Factor 5.08.
2. McGrail D, Patel K, Khambati N, Pithadia K, Dawson M. Utilizing Temporal Variations in Chemotherapeutic Response to Improve Breast Cancer Treatment Efficacy. *AIMS Bioengineering* 2(4): 310-23 (2015).
3. McGrail D, McAndrews K, Brandenburg C, Ravikumar N, Kieu Q, Dawson M. Osmotic regulation is required for cancer cell survival under solid stress. *Biophysical Journal* 109(7): 1334-7 (2015). Impact Factor 3.97.
4. McAndrews K, Yi J, McGrail D, Dawson M. Enhanced Adhesion of Stromal Cells to Invasive Cancer Cells Regulated by Cadherin 11. *ACS Chemical Biology* 10(8):1932–38 (2015). Impact Factor 3.14.
5. McGrail D, Kieu Q, Iandoli J, Dawson M. Actomyosin Tension as a Determinant of Metastatic Cancer Mechanical Tropism. *Physical Biology* 12(2):026001 (2015). Featured article. Impact Factor 3.14.
6. McGrail D, Qi M, Khambhati N, Patel, K, Dawson M. Alterations in Ovarian Cancer Cell Adhesion Drive Taxol Resistance by Increasing Microtubule Dynamics in a FAK-dependent Manner. *Scientific Reports* 5:9529 (2015). Impact Factor 5.08, 4 Citations.
7. McGrail D, Kieu M, Mezencev R, McDonald J, Dawson M. SNAIL-induced epithelial-to-mesenchymal transition produces concerted biophysical changes from altered cytoskeletal gene expression. *FASEB J* 29(4):1280-9 (2015). Impact Factor 5.48, 13 Citations.
8. Datla S, McGrail D, Lyle A, Pounkova L, Hilenski L, Dawson M, Lassègue B, and Griendling K. Poldip2 Controls Vascular Smooth Muscle Cell Migration by Regulating Focal Adhesion Turnover and Polarization. *Applied Journal of Physiology* 307 (7): H945-57 (2014). Impact Factor 3.48, 3 Citations.
9. McAndrews K, McGrail D, Quach N, Dawson M. Spatially coordinated changes in intracellular rheology and extracellular force exertion during mesenchymal stem cell differentiation. *Physical Biology* 11: 056004 (2014). Impact Factor 3.14. 1 Citation.
10. McAndrews K, Kim F, Lam T, McGrail D, Dawson M. Architectural and Mechanical Cues Direct Mesenchymal Stem Cell Interactions with Cross-Linked Gelatin Scaffolds. *Tissue Engineering Part A*, 20(23-24):3252-60. Impact Factor 4.64, 2 Citations.
11. McGrail D, Kieu Q, Dawson M. The Malignancy of Metastatic Ovarian Cancer Cells is Increased on Soft Matrices Through a Mechanosensitive Rho-ROCK Pathway. *Journal of Cell Science* 127, 2621-2626 (2014). Featured on the Cover. Impact Factor 5.88, 13 Citations.
12. Ghosh D, Lilli L, McGrail D, Matyunina L, McDonald J, Dawson M. TGF- β 1 Induced Stiffening of Mesenchymal Stem Cells Depends on PDGF-BB Signaling, *Stem Cells and Development* 23(3): 245-61 (2014). Impact Factor 4.67, 6 citations.

13. Dawson M, Tseng Y, Lee J, McAndrews K. Intracellular Particle Tracking Rheology. Handbook on Imaging in Biological Mechanics, Edited by Corey Neu and Guy Genin. In press for release in 2014 (Catalog # K20369). CRC Press.
14. Dawson M, Ghosh, D. Mucosal Barriers. Drug Delivery Across Physiological Barriers. Edited by Silvia Muro. In press for release in 2015. Pan Stanford Publishing.
15. Don-Salu-Hewage¹ A; Chan A; McAndrews K; Chetram M; Dawson M; Bethea D; Hinton C. Cysteine (C)-X-C Receptor 4 Undergoes Transportin 1-Dependent Nuclear Localization and is Functional at the Nucleus of Metastatic Prostate Cancer Cells, PLoS ONE 7 (8): e57194 (2013). Impact Factor 3.73, 10 citations.
16. McGrail D, McAndrews K, Dawson M. Biomechanical Analysis Predicts Decreased Human Mesenchymal Stem Cell Function before Molecular Differences, Experimental Cell Research 319: 684-696 (2013). Impact Factor 3.56, 7 citations.
17. McGrail D, Ghosh D, Quach N, Dawson M. Differential Mechanical Response of Mesenchymal Stem Cells and Fibroblasts to Tumor-Secreted Soluble Factors, PLoS ONE 7 (3): e33248 (2012). Impact Factor 3.73, 25 citations.
18. Suk, JS, Lai S, Dawson M, Boylan, N, Boyle M, Hanes J. Rapid transport of muco-inert nanoparticles in CF sputum treated with NAC, Nanomedicine 6 (2): 365-75 (2011). Impact Factor 5.26, 42 citations.
19. Dawson M, Chae S, Jain RK, Duda D. Cell Lineage-dependent Effects of Bone Marrow Stromal Cells on Tumor Progression, American Journal of Cancer Research 1(2):144-154 (2011). Impact Factor 2.65, 21 citations.
20. Kozin, SV, Kamoun, WS, Huang, Y, Dawson, M, Jain, RK, Duda, DG. Rapid macrophage infiltration after local irradiation facilitates tumor re-growth whereas TEMs and not EPCs recruitment facilitates relapse of irradiated tumors, Cancer Research 70(14): 5679-85 (2010). Impact Factor 8.65, 97 citations.
21. Dawson M, Duda D, Chae S, Fukumura D, Jain RK. VEGFR1 activity modulates myeloid cell infiltration in growing lung metastases but is not required for spontaneous metastasis formation, PLoS ONE 4(9): e6525 (2009). Impact Factor 3.73, 33 citations.
22. Tang B, Dawson M, Lai S, Wang YY, Suk, JS, Yang M, Zeitlin P, Boyle M, Fu J, Hanes J. Biodegradable polymer nanoparticles that rapidly penetrate the human mucus barrier, Proceedings of the National Academy of Sciences 106(46):19268-73 (2009). Featured on the Cover. Impact Factor 9.74, 179 citations.
23. Dawson M, Duda D, Fukumura D, Jain RK. VEGFR1-activity independent metastasis formation, Nature 461: E4 (2009). Impact Factor 38.60, 55 citations.
24. Perentes JY, McKee TD, Ley CD, Mathiew H, Dawson M, Padera TP, Munn LL, Jain RK, Boucher Y. In vivo imaging of extracellular matrix remodeling by tumor-associated fibroblasts, Nature Methods, 6(2):143-5 (2009). Impact Factor 23.57, 78 citations.
25. Suh J, Dawson M, Hanes J. (2005). Real-time particle tracking: Applications to drug and gene delivery, Advanced Drug Delivery Reviews 57:63-78. Impact Factor 12.89, 169 citations.
26. Dawson M, Krauland E, Wirtz D, Hanes J. (2004). Transport of polymeric nanoparticle gene carriers in gastric mucus, Biotechnology Progress, 20(3):851-857. Impact Factor 1.85, 83 citations.
27. Dawson M, Wirtz D, and Hanes J. (2003). Enhanced viscoelasticity of human cystic fibrotic sputum correlates with increasing microheterogeneity in particle transport, Journal of Biological Chemistry, 278:50393-50401. Impact Factor 4.65, 150 citations.

28. Hanes J, Dawson M, Har-el Y, Suh J, Fiegel J (2003). Gene delivery to the lung. *Pharmaceutical Inhalation Aerosol Technology*, Edited by AJ Hickey, 2nd Ed., 489-539. Marcel Dekker Incorporated. 17 citations.

SELECT INVITED TALKS

1. 2016 Engineering Conference International (ECI), Vienna, Austria. Conference Theme: Nanotechnology in Medicine - From Molecules to Humans. Session 6: Nanostructures for Cell Adhesion, Growth, Motility, and Differentiation. Modeling the Tumor Microenvironment with Nanostructured Materials. July 7, 2016.
2. West Virginia University, Chemical Engineering, Morgantown, WV. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. March 23, 2016.
3. Brown University, Biomedical Engineering Seminar, Providence, RI. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. March 18, 2016.
4. University of Buffalo, Biomedical Engineering, Buffalo, NY. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. February 17, 2016.
5. Colorado State University, Mechanical Engineering, Fort Collins, CO. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. February 10, 2016.
6. McGill University, Bioengineering, Montreal, Canada. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. January 20, 2016
7. University of Arizona, Biomedical Engineering, Tucson, AZ. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. November 15, 2015.
8. University of Delaware, Biomedical Engineering, Newark, DE. Mechanics and Malignancy: Biophysical Approaches for Understanding Cancer. October 5, 2015.
9. Colorado State University, Chemical and Biological Engineering, Fort Collins, CO. Biophysical Approaches for Investigating the Tumor Microenvironment. May 15, 2015.
10. 2015 Annual Biomedical Engineering Cell and Molecular Bioengineering Conference (CMBE), St Thomas, US Virgin Islands. Conference theme: from Womb to Tomb: Mechanobiology of Generation, Regeneration, and Degeneration. Manipulating Cancer Cell Mechanics to Reduce Metastasis. January 10, 2015.
11. University of Georgia, College of Pharmacy, Department of Pharmaceutical Sciences, Athens, GA. High-Content Biophysical Screening for Identification of Aggressive and Chemoresistant Cancer and Stromal Cells. February 25, 2015.
12. Kennesaw State University, Department of Biology and Physics, Molecular Biosciences Interest Group, Kennesaw, GA. Mechanics and Malignancy: Biophysical Approaches for Investigating the Tumor Microenvironment. September 5, 2014.
13. 2014 World Congress in Biomechanics, Boston, MA. Lymphatics and interstitial fluid: Biomechanics and Modeling. Inverse Mechanical Tropism of Metastatic Ovarian Cancer Cells. July 10, 2014.
14. Celebration of Data Symposium (in honor of Denis Wirtz being appointed as Vice Provost for Research at Johns Hopkins University), Baltimore, MD. Manipulating Cancer Cell Mechanics to Reduce Metastasis. June 20, 2014.
15. Hilton Head Regenerative Medicine Workshop, Hilton Head, SC. Biophysical Approaches for Investigating Stem Cell Behavior in Complex Environments. March 29, 2014.
16. 80th Annual Meeting of the Applied Physics Society (APS): Cellular Mechanics and Biomechanics session, Bowling Green, KY. Mechanics and Malignancy: Biophysical Approaches for Investigating the Tumor Microenvironment. November 22, 2013.

17. Johns Hopkins University, School of Chemical and Biomolecular Engineering Seminar, Baltimore, MD. Mechanics and Malignancy: Biophysical Approaches for Investigating the Tumor Microenvironment. November 14, 2013.
18. University of California San Diego, Department of Bioengineering Seminar. Biomechanical Interactions of Stem Cells and Cancer Cells in the Tumor Microenvironment. October 11, 2013.
19. National Academy of Sciences, Washington, DC. Conference of the Ford Fellows, Plenary Presentations by the Fellows. Mechanical Transformations and Cancer Progression: Biophysical Approaches to Probing Tumor Microenvironments. September 28, 2013.
20. University North Carolina Charlotte, Department of Chemistry. Engineering Mesenchymal Stem Cell Based Gene Delivery Systems. Nanoscale Science Seminar Series, February 2, 2012.
21. Emory University School of Medicine, Cardiovascular Biology Seminar. Engineering Mesenchymal Stem Cell Based Gene Delivery Systems, February 21, 2011.
22. Emory University School of Medicine, Molecular Pathways and Biomarker Program, Winship Cancer Institute, Bone Marrow Cell Migration to Tumors: A Critical Step in Tumor Growth and Metastasis. March 2010.
23. Emory University School of Medicine, Breast Cancer Radiation Research Meeting, Winship Cancer Institute. Bone Marrow Cell Migration to Tumors: A Critical Step in Tumor Growth and Metastasis. July 15, 2009.
24. Clark Atlanta University, Department of Biological Sciences. The Role of Bone Marrow Derived Cells in Tumor Growth and Metastasis. February 27, 2009.
25. Beckman Center of the National Academies, Irvine, CA. Conference of the Ford Fellows, Plenary Presentations by the Fellows. Infiltration of Bone Marrow Derived Cells into Tumors: A Critical Step in Tumor Growth and Metastasis, September 25, 2007.
26. Integrated Cancer Research Seminar Series, Georgia Institute of Technology. Mechanics and Malignancy: Biophysical Approaches for Investigating the Tumor Microenvironment. November 26, 2013.
27. Georgia Tech School of Biology Seminar Series, Bone Marrow Cell Migration to Tumors: A Critical Step in Tumor Growth and Metastasis. September 9, 2010.

SELECT PEER-REVIEWED ABSTRACTS AND PROCEEDINGS

1. McAndrews K, Kim M, Lam TY, McGrail D, Dawson M (2014). Mechanical and Architectural Properties of Cross-Linked Gelatin Scaffolds Direct the Differentiation of Mesenchymal Stem Cells. American Institute of Chemical Engineers Annual Meeting (KM, Podium Presentation).
2. McAndrews K, Kim M, Lam TY, McGrail D, Dawson M (2014). Directed Differentiation of Mesenchymal Stem Cells on Cross-linked Gelatin Scaffolds by Mechanical and Architectural Cues. Biomedical Engineering Society Annual Meeting (KM, Poster Presentation).
3. McGrail D, Kieu Q, Iandoli J, Dawson M (2014). Mechanical Tropism in Metastatic Cancer Cells Determined Through Cytoskeletal Tension. American Institute of Chemical Engineers Annual Meeting (DM, Poster Presentation).
4. McGrail D, Qi M, Patel K, Khambati N, Dawson M (2014). Taxol Resistance Exacerbates Ovarian Cancer Progression by Altering Adhesion Kinetics and Strength. American Institute of Chemical Engineers Annual Meeting (DM, Podium Presentation).
5. McGrail D, Kieu Q, Iandoli J, Dawson M (2014). Mechanical Tropism in Metastatic Cancer Mechanical Tropism is Controlled by Cytoskeletal Tension. Biomedical Engineering Society Annual Meeting (DM, Podium Presentation).

6. McGrail D, Qi M, Patel K, Khambati N, Dawson M (2014). Taxol Resistance Exacerbates Ovarian Cancer Progression by Altering Adhesion Kinetics and Strength. Biomedical Engineering Society Annual Meeting (DM, Poster Presentation).
7. Ghosh D, McGrail D, Dawson M (2014). TGF- β 1 Pretreatment Improves the Function of Mesenchymal Stem Cells in the Wound Bed. Biomedical Engineering Society Annual Meeting (MD, Podium Presentation).
8. Jampol R, Ghosh D, Dawson M (2014). The Effect of Soluble Factors on the Morphological, Adhesive, and Mechanical Properties of Human Bone Marrow Endothelial Cells. American Institute of Chemical Engineers Annual Meeting (MD, Podium Presentation).
9. McAndrews K.M., McGrail D.J., Quach, N.D., Dawson, M (2013). Utilizing Multiple Particle Tracking Microrheology and Traction Force Microscopy to Monitor Mechanical Progression of Differentiating Mesenchymal Stem Cells. American Institute of Chemical Engineers Annual Meeting (K.M., Podium Presentation).
10. McGrail D, Kieu Q, Dawson M (2013). Mechanical Tropism in Metastatic Ovarian Cancer Cells. American Institute of Chemical Engineers Annual Meeting (DM, Oral Presentation).
11. McGrail D, Kieu Q, Dawson M (2013). Ovarian Cancer Tropism for Compliant Matrices. Gordon Research Conference, Motility and Contractility (MD, Poster Presentation).
12. McGrail D, Kieu Q, Iandoli J, Dawson M (2013). Low Matrix Rigidity Enhances Malignant Phenotype in Ovarian Cancer Cells. Annual National Symposium on Prostate Cancer (QK, Poster Presentation).
13. Ghosh D, Lilli L, McGrail D, Matyunina L, McDonald J, Dawson M (2013). TGF- β 1 Induced Stiffening of Mesenchymal Stem Cells Depends on PDGF-BB Signaling. Biomedical Engineering Society (DG, Oral Presentation).
14. Ghosh D, McGrail D, Dawson M (2013). PDGF and TGF- β 1 Crosstalk Is Essential for Mesenchymal Stem Cell Stiffening. American Institute of Chemical Engineers Annual Meeting (DG, Oral Presentation).
15. Rodriguez K, Khambhati N, Dawson M (2013). The Intracellular Mechanical Response of Mesenchymal Stem Cells to Oxidative Stress Used to Compare Vertebrate Animal Models of Stem Cell Homing. American Institute of Chemical Engineers Annual Meeting (KR, Oral Presentation).
16. Jampol RP, Ghosh D, Rodriguez K, Dawson M (2013). Using Luciferase Expression to Quantify the Accumulation of Genetically Engineered Mesenchymal Stem Cells in Murine Tumors. American Institute of Chemical Engineers Annual Meeting (RJ, Oral Presentation).
17. Datla S, McGrail D, Dawson M, Lassègue B, Griendling K (2012). Poldip2, a Nox4 Interacting Protein, Regulates Vascular Smooth Muscle Cell Migration via RhoA-dependent Focal Adhesion Turnover. Gordon Research Conference (SD, Oral Presentation).
18. McAndrews K, McGrail D, Quach N, Dawson M (2012). Mechanical Forces Generated by Mesenchymal Stem Cells Undergoing Differentiation on Hard and Soft Substrates. Biomedical Engineering Society (KM, Poster Presentation).
19. McGrail D, McAndrews K, Dawson M (2012). Mechanical Cues as Predictors of Human Mesenchymal Stem Cell Therapeutic Capacity. Biomedical Engineering Society (DM, Podium Presentation).
20. McGrail D, McAndrews K, Dawson M (2012). Culture-associated mechanical changes of human mesenchymal stem cells. American Chemical Society (MD, Podium Presentation).
21. Ghosh D, McGrail D, Dawson M (2012). Soluble growth factor induced mechanical changes regulate the migration of mesenchymal stem cells to tumors. American Chemical Society (MD, Podium Presentation).

22. Rodriguez K, Ghosh D, McAndrews K, McGrail D, Dawson M (2011). Optimization of Mesenchymal Stem Cell Migration in the Wound Bed, American Institute of Chemical Engineers (KR, Podium Presentation).
23. Ghosh D, Dawson M (2011). Soluble Growth Factors Mediate Mesenchymal Stem Cell Migration to Tumors, American Institute of Chemical Engineers (DG, Podium Presentation).
24. McGrail D, McAndrews K, Dawson M (2011). Differential Mechanical Response of Human and Murine Mesenchymal Stem Cells: Implications for Therapeutic Applications, Biomedical Engineering Society (KM, Poster Presentation).
25. Ghosh D, McGrail D, McAndrews K, Dawson M (2011). Toward the Development of New Strategies for the Delivery of MSC-Based Therapeutics, Biomedical Engineering Society (KM, Poster Presentation).
26. McGrail D, Ghosh D, Dawson M (2011). Mechanical Changes of Senescent Mesenchymal Stem Cells, Controlled Release Society (DM, Podium Presentation).
27. Ghosh D, McGrail D, Dawson M (2011). Mechanically-Optimized Murine Mesenchymal Stem Cells Accumulate in 4T1 Mammary Tumors, Controlled Release Society (DG, Poster Presentation).
28. McGrail D, Zuelke D, Ghosh D, Dawson M (2010). Probing the Microrheology of Mesenchymal Stem Cell Migration to Tumors, Biomedical Engineering Society (MD, Podium Presentation).
29. McGrail D, Ghosh D, Dawson M (2010). Tumor-Secreted Soluble Proteins Mediate Mesenchymal Stem Cell Migration to Tumors by Rapidly Changing Cytoskeletal Rigidity, American Institute of Chemical Engineers (DG, Podium Presentation).
30. McGrail D, Dawson M (2010). Probing the Microrheology of Mesenchymal Stem Cell Migration to Tumors, *Biophys. J. Supplement* (MD, Poster presentation).
31. McGrail D, Dawson M (2009). Effect of Tumor Secreted Soluble Factors On Mesenchymal Stem Cell Microrheology and Heterogeneity, American Institute of Chemical Engineers (DM, Poster Presentation).
32. McGrail D, Dawson M (2009). Probing the Microrheology of Mesenchymal Stem Cell-Based Therapeutics, Georgia Cancer Coalition 2009 Symposium (MD, Podium Presentation).

PATENTS

Hanes J, Dawson M, Krauland E, Wirtz D, Drug and gene carrier particles that rapidly move through mucus barriers (EP 1713514 A2).

SERVICE

1. National Science Foundation (CBET, CMMI, GRFP), Department of Defense (CDMRP, BCRP) – Review Panelist, 2009-2014.
2. Conference of Ford Fellows, Planning Committee Member, Session Moderator, Reviewer, and Conference Chair, 2009-2015.
3. ACS, AIChE, and BMES - Member and Session Chair (2008-2015).
4. PNAS, Stem Cells, Stem Cells and Development, Tissue Engineering, Biophysical Journal, PLoS One, Molecular Therapeutics, Journal of Pharmaceutical Science, Molecular Pharmaceutics, Optics Express, Molecular Imaging, Journal of Clinical and Experimental Metastasis, Journal of Controlled Release, Experimental Cell Research – Journal Article Reviewer (2005-2015).
5. Direct-to-Discovery K-12 Outreach Program, Interactive Videoconferencing Program, Researcher (2008-2015). <http://www.directtodiscovery.org/michelledawson.html>.
6. Louisiana Tech University, Biomedical Engineering Program, Faculty Advisory Board Member, 2011-2015.