

## CURRICULUM VITAE

### **Laura Clarke Bridgewater, Ph.D.**

Associate Professor, Brigham Young University Department of Microbiology and Molecular Biology  
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#### **EDUCATION:**

The George Washington University, Washington, D.C., 1989-1995  
Ph.D. in Genetics, 1995  
Academic Emphases: Molecular Biology, Gene Regulation, Development  
Brigham Young University, Provo, Utah, 1985-1989  
B.S. in Microbiology, 1989

#### **EMPLOYMENT HISTORY:**

2005-present: Associate Professor, Department of Microbiology and Molecular Biology,  
Brigham Young University (BYU)  
2001-2005: Assistant Professor, Department of Microbiology and Molecular Biology,  
BYU  
1999-2001: Assistant Professor, Department of Zoology, BYU  
1996-1999: Postdoctoral Fellow in the lab of Dr. Benoit de Crombrugge, Department  
of Molecular Genetics, M.D. Anderson Cancer Center, Houston, Texas  
1995-1996: Postdoctoral Fellow in the lab of Dr. Craig L. Hanis, Human Genetics  
Center, University of Texas Health Science Center at Houston  
1990-1995: Graduate Research Assistant in the lab of Dr. Steven R. Patierno,  
Department of Pharmacology, The George Washington University Medical  
Center  
1988, January-March: Intern in the lab of Dr. William A. Gahl, NICHD, National  
Institutes of Health  
1987-1989: Research Assistant in the lab of Dr. Robert E. Seegmiller, Department of  
Zoology, Brigham Young University

#### **HONORS AND AWARDS:**

College Outstanding Mentor Award, College of Life Sciences, BYU, 2008  
College Creative Achievement Award, College of Biology and Agriculture, BYU, 2006  
Alice Louise Reynolds Lecturer, BYU, 2006  
Young Scholar Award, BYU, for outstanding promise and contributions by faculty in the  
early stages of their academic careers, 2004  
Damon Runyon-Walter Winchell Foundation, Postdoctoral Fellowship Award,  
1997-1999  
Cum Laude graduation from the George Washington University doctoral program, 1995  
Phi Delta Gamma Scholarship for graduate study, George Washington University  
Chapter, 1993-1994  
The George Washington University Presidential Merit Fellowship for Graduate Study,  
1989-1992  
Magna Cum Laude Graduation from BYU, 1989  
BYU Trustees Scholarship, full tuition, 1985-1989

#### **INVITED TALKS:**

Aug. 2007	LDS Life Science Research Symposium, Snowbird, Utah
Nov. 2006	American Society for Matrix Biology Biannual Meeting, Nashville, Tennessee
Oct. 2006	Alice Louise Reynolds Women-In-Scholarship Lecture, Brigham Young University, Provo, UT
Sept. 2005	Brigham Young University, Statistics Dept. Seminar, Provo, UT
Mar. 2003	BYU DNA Sequencing Center Staff Seminar, Provo, Utah
Sept. 2002	Provo Kiwanis Club, Provo, Utah
Sept. 2002	Women In Science Career Options Seminar, Provo, Utah
Oct. 2001	Molecular Biology Seminar Series, BYU, Provo, Utah
Oct. 2000	Brigham Young University Annual High School Science Day, Provo, Utah
July 2000	Brigham Young University Summer Science Camp, Provo, Utah
June 2000	Symposium of the International Society for Matrix Biology, Philadelphia, Pennsylvania
Oct. 1999	Women in Medicine Symposium Series, BYU, Provo, Utah
Nov. 1998	Conference for the Advancement of Science Teachers, Corpus Christi, Texas
Oct. 1998	American Society for Biochemistry and Molecular Biology Fall Symposium, Regulation of Bone Formation, Taos, New Mexico
May 1998	International Science and Engineering Fair, Fort Worth, Texas
Apr. 1998	Department of Zoology, Brigham Young University, Provo, Utah
Mar. 1996	University of Texas Health Science Center at Houston, Graduate School of Biomedical Sciences, Houston, Texas
Nov. 1995	University of Texas Health Science Center at Houston, Graduate School of Biomedical Sciences, Houston, Texas
Jan. 1995	Howard Hughes Medical Institute, University of Utah, Salt Lake City, Utah
Jan. 1995	Department of Zoology, Brigham Young University, Provo, Utah

**PROFESSIONAL SOCIETIES:**

American Association for Cancer Research  
 American Association for the Advancement of Science  
 American Society for Biochemistry and Molecular Biology  
 Osteoarthritis Research Society International  
 American Society for Matrix Biology, Charter Member  
 Brigham Young University Faculty Women's Association

**SCIENTIFIC COMMITTEES:**

1998-1999	Board of Directors, Texas Society for Biomedical Research
2006	NIH Study Section member, National Institute for Arthritis and Musculoskeletal and Skin Diseases, Centers of Research Translation
2006	NIH Study Section member, Skeletal Biology Structure and Regeneration
2007	NIH Study Section member, Skeletal Biology Structure and Regeneration

**REVIEWER FOR THE FOLLOWING JOURNALS:**

Journal of Biological Chemistry	Molecular and Cellular Biology
Experimental Cell Research	Osteoarthritis and Cartilage

Biochimica et Biophysica Acta  
 Nucleic Acids Research  
 Molecular Biology of the Cell  
 Int'l Journal of Biochemistry and Cell Biology  
 Journal of Bone and Mineral Research

International Journal of Cancer  
 Journal of Orthopaedic Research  
 Genomics  
 Matrix Biology

### GRADUATE AND HONORS STUDENT TRAINEES:

Trina Sudweeks	Ph.D. Student	2006-present
Jaime Mayo	Ph.D. Student	2004-2007
Mary Ann Genzer	M.S. Student	2004-2006
Laura Harris	M.S. Student	2002-2003
Elizabeth Jenkins	M.S. Student	2001-2004
Jenny Moss	M.S. Student	2001-2003
Dana Murphy	M.S. Student	2000-2002
Gwen Miller	M.S. Student	2000-2001
Marlan Walker	M.S. Student	2000-2001
James Ricks	M.S. Student	1999-2000
Borel Fonhoue	Honors Student	2007-present
Evan Davis	Honors Student	2007-present
Michael Baldwin	Honors Student	2007-present
Daniel Jensen	Honors Student	2005-2007
Mark Tait	Honors Student	2004-2006
David Timme	Honors Student	2004-2006
Rudy Rodriguez	Honors Student	2000-2003
Todd Jackson	Honors Student	2000-2002
K. Nicole DeWitt	Honors Student	2000-2001
Vicki Winkel	Honors Student	2000
Reuben Chen	Honors Student	1999-2002
Trevor Ellison	Honors Student	1999-2001

### UNDERGRADUATE STUDENT TRAINEES:

Kriti Shrestha (2008-present)	Tassanee Soward (2005-2006)
Derek Hill (2008-present)	Will Witwer (2005-2006)
Caitlyn Nichols (2008-present) ‡	David Timme (2004-2006) ‡
Michael Adam (2008-present) †	Jordan Olsen (2004-2006) ‡
Ryan Cordner (2008-present) †	Cindy Niederhauser (2004-2006) †*
Sampath Loganathan (2008-present) ‡	Mark Tait (2004-2006) ‡
Alina Perry (2007-present) †	Clark Rogers (2004-2005) †
Evan Davis (2007-present) †	Ben Kuntz (2004-2005) †
Broc McCune (2007-present) ‡	Chikage Kubo (2004-2005) †
Borel Fonhoue (2007-present) ‡	Shaunae Martin (2004-2005)
Devin Holden (2007-present) †*	Amanda Troxel (2004-2005)
Michael Baldwin (2007-present)	Tyler Haberle (2004-2005) †
Stephanie Gaufin (2007-present) *	Steve DeWidt (2004-2005) ‡
Sam Wilkinson (2007-2008) ‡	Bobby Palmer (2004-2005)
Jonathan Hansen (2006-2008) †‡	Dave Rowley (2004-2005)
Daniel Sperry (2006-2007) †*	Carolina Montano (2003-2005)*
Rich Davis (2006-2007) ‡	Chuck Meeker (2003-2004)
Alicia Yost (2006)	Jennifer Chiniquiy (2003-2004)
Nathan Hicks (2005-2007)	Mary Ann Genzer (2003-2004)
Daniel Jensen (2005-2007) †‡*	Scott Richins (2003-2004) ‡
Brian Ellertson (2005-2007) †	Kyle Bullock (2003-2004)

Chad Christensen (2003-2004)  
Bryan Mason (2003-2004)‡  
Nick Orme (2002-2004)†‡  
Chris Meinhart (2001-2004)\*‡  
Jaron Coombs (2002-2003)  
Justin Hunt (2002-2003)  
Marianne Morris (2002-2003)  
Daniel Watson (2002-2003)  
Kimberly Wilbur (2002-2003)  
Eric Freeman (2001-2003)‡  
David Sontag (2001-2003)  
Brandon Bomsta (2001-2003)\*  
Mike Layton (2001-2003)  
Rudy Rodriguez (2000-2003)\*†‡  
Daniel Holsinger (1999-2003)\*  
Whitni Babcock (2001-2002)†‡  
Brad Crosby (2001-2002)†‡  
Sam Vaughn (2001-2002)†‡  
Steve Crump (2001-2002)  
Mark Rogers (2001-2002)  
Brian Miller (2001-2002)

Alisha Facer (2001-2002)  
Jason Dalling (2001-2002)  
Jared Armstrong (2001-2002)  
Steve Smith (2000-2002)†‡  
Todd Jackson (2000-2002)\*†‡  
Laura D. Harris (2000-2002)\*†‡  
Kit Bennion (1999-2002)†‡  
Victoria Ryder (1999-2002)‡  
Reuben Chen (1999-2001)\*‡  
Trevor Ellison (1999-2001)\*‡  
Eric Jenkins (2000-2001)  
Hao Vu (1999-2001)‡  
Nicole Dewitt (2001)  
Heather Taylor (2000-2001)‡  
Jennifer Sampson (2000)‡  
Vicki Winkel (2000)\*‡  
Dana Murphy (1999-2000)†  
James Clarke (1999-2000)\*  
Jenny Potter (1999-2000)\*†‡  
Ann Hillam (1999-2000)‡  
Thomas Carmack (1999-2000)‡

\*Undergraduate students who have been an author on a peer-reviewed research publication

†Undergraduate students who have been first author on a poster and have presented that poster at a scientific meeting

‡Undergraduate students who have been a non-presenting author on a poster

## **FUNDED RESEARCH:**

“Common mechanisms of osteoarthritis in three mouse models”

Co-Principal Investigators: Laura Clarke Bridgewater and Robert E. Seegmiller

Funding source: NIAMS/NIH

Pending

“The unfolded protein stress response in chondrodysplasia and osteoarthritis”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: BYU ORCA, Environments for Mentoring Grants Program, 2009  
\$20,000

“Nuclear function of BMP family proteins”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: BYU ORCA, Environments for Mentoring Grants Program, 2008  
\$20,000

“Chondrocyte-specific transcriptional regulation”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: NIAMS/NIH, grant #1 RO1 AR 48839  
2002-2007, no-cost extension to 2008  
\$925,000

“Nuclear localization of GDF-5”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: BYU ORCA, Environments for Mentoring Grants Program, 2007  
\$20,000

“Chondrocyte-specific enhancer elements”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: donor Ira Fulton

2001-2006

\$200,000

“Pathogenesis of osteoarthritis in *Col2a1* mutant mice”

Co-Principal Investigators: Laura Clarke Bridgewater and Robert E. Seegmiller

Funding Source: NIAMSS/NIH, grant #2 R15 AR47568-01A1

2002-2004

\$146,000

“Transgene rescue of chondrodysplasia and osteoarthritis”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: NIAMS/NIH, grant #1 RO3 AR 46362

1999-2002

\$222,000

“Research Supplement for Underrepresented Minorities”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: NIAMS/NIH, supplement to grant #1 RO3 AR 46362

2000-2002

\$47,820

“Establishing the foundation for treatment of cartilage collagen disorders by gene therapy”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: BYU ORCA, Environments for Mentoring Grants Program, 2001

\$22,700

“Characterization of the role of SOX9 in cartilage differentiation”

Principal Investigator: Laura Clarke Bridgewater

Funding Source: The Damon Runyon Cancer Research Foundation, grant #DRG1464

1997-1999

\$98,500

## **PUBLICATIONS:**

1. Mayo, J.L., Holden, D.N., Barrow, J.R., and **Bridgewater, L.C.** “The transcription factor Lc-Maf participates in *Col27a1* regulation during chondrocyte maturation.” Experimental Cell Research. E-published ahead of print 4/20/2009. DOI 10.1016/j.yexcr.2009.04.020 (2009).
2. Muller, P., Crofts, J.D., Newman, B.S., **Bridgewater, L.C.**, Lin, C-Y, Gustafsson, J-A, & Strom, A. “SOX9 mediates the retinoic acid-induced HES-1 gene expression in human breast cancer cells.” Breast Cancer Research and Treatment. E-published ahead of print 3/26/09. DOI 10.1007/s10549-009-0381-6 (2009).
3. Seegmiller, R.E., Bomsta, B.D., **Bridgewater, L.C.**, Niederhauser, C.M., Montañó, C., Sudweeks, S., Eyre, D.R., and Fernandes, R.J. “The heterozygous disproportionate

micromelia (*Dmm*) mouse: Morphological changes in fetal cartilage precede postnatal dwarfism and compared to lethal homozygotes can explain the mild phenotype.” Journal of Histochemistry and Cytochemistry. 56:1003-1011 (2008).

4. Genzer, M.A., **Bridgewater, L.C.** “A *COL9A1* enhancer element activated by two interdependent SOX9 dimers.” Nucleic Acids Research 35:1178-1186 (2007).
5. Bomsta, B.D., **Bridgewater, L.C.**, and Seegmiller, R.E. “Premature osteoarthritis in the Disproportionate micromelia (*Dmm*) mouse.” Osteoarthritis and Cartilage 14:477-485 (2006).
6. Jenkins, E., Moss, J., Pace, J.M., and **Bridgewater, L.C.** “The new collagen gene *COL27A1* contains SOX9-responsive enhancer elements.” Matrix Biology 24:177-184 (2005).
7. Akiyama, H., Kamitani, T., Yang, X., Kandyil, R., **Bridgewater, L.C.**, Fellous, M., Mori-Akiyama, Y., and de Crombrughe, B. “The transcription factor Sox9 is degraded by the ubiquitin-proteasome system and stabilized by a mutation in a ubiquitin-target site.” Matrix Biology 23:499-505 (2005).
8. Harris, L.R., Kamarainen, O., Sevakivi, M., Miller, G.C., Clarke, J.W., Potter, J.L., and **Bridgewater, L.C.** “Identification of a novel RARE that requires an enhancer element mediator for transcriptional activation.” Biochemical Journal 383:37-43 (2004).

The above paper was featured in an accompanying online commentary by Chris P.F. Redfern, “Enhancing enhancers: new complexities in the retinoid regulation of gene expression.” Biochemical Journal 383:e1-e2 (2004).

9. Rodriguez, R.R., Seegmiller, R.E., Stark, M.R., and **Bridgewater, L.C.** “A type XI collagen mutation leads to increased degradation of type II collagen in articular cartilage.” Osteoarthritis and Cartilage 12:314-320 (2004).
10. **Bridgewater, L.C.**, Walker, M.D., Miller, G.C., Ellison, T.A., Holsinger, L.D., Potter, J.L., Jackson, T.L., Chen, R.K., Winkel, V.L., Zhang, Z., McKinney, S., and de Crombrughe, B. “Adjacent DNA sequences modulate Sox9 transcriptional activation at paired Sox sites in three chondrocyte-specific enhancer elements.” Nucleic Acids Research 31:1541-1552 (2003).
11. Ricks, J.E., Ryder, V.M., **Bridgewater, L.C.**, Schaalje, B., and Seegmiller, R.E. “Altered mandibular development precedes the time of palate closure in mice homozygous for disproportionate micromelia: an oral clefting model supporting the Pierre-Robin sequence.” Teratology 65:116-120 (2002).
12. **Bridgewater, L.C.**, Lefebvre, V., and de Crombrughe, B. “Chondrocyte-specific enhancer elements in the *Coll1a2* gene resemble the *Col2a1* tissue-specific enhancer.” Journal of Biological Chemistry 273:14998-15006 (1998).
13. **Bridgewater, L.C.**, Manning, F.C.R., and Patierno, S.R. “Arrest of replication by mammalian DNA polymerases  $\alpha$  and  $\beta$  caused by chromium-DNA lesions.” Molecular

Carcinogenesis 23:201-206 (1998).

14. Singh, J.T., **Bridgewater, L.C.**, and Patierno, S.R. “Differential sensitivity of chromium-mediated DNA interstrand crosslinks and DNA-protein crosslinks to disruption by alkali and EDTA.” Toxicological Sciences 45:72-76 (1998).
15. **Bridgewater, L.C.**, Manning, F.C.R., and Patierno, S.R. “Base-specific arrest of *in vitro* DNA replication by carcinogenic chromium: Relationship to DNA interstrand crosslinking.” Carcinogenesis 15:2421-2427 (1994).
16. **Bridgewater, L.C.**, Manning, F.C.R., Woo, E.S., and Patierno, S.R. “DNA polymerase arrest by adducted trivalent chromium.” Molecular Carcinogenesis 9:122-133 (1994).
17. Patierno, S.R., Blankenship, L.J., Wise, J.P., Xu, J., **Bridgewater, L.C.**, and Manning, F.C.R. “Genotoxin-induced apoptosis: Implications for carcinogenesis.” In Hu, V.W. (ed.) The Cell Cycle: Regulators, Targets and Clinical Applications, Plenum Press, New York, pp. 331-340 (1994).
18. Manning, F.C.R., Blankenship, L.J., Wise, J.P., Xu, J., **Bridgewater, L.C.**, and Patierno, S.R. “Induction of internucleosomal DNA fragmentation by carcinogenic chromate: Relationship to DNA damage, genotoxicity, and inhibition of macromolecular synthesis.” Environmental Health Perspectives 102:159-167 (1994).
19. **Clarke\***, L., Hepworth, W.B., Carey, J.C., and Seegmiller, R.E. “Chondrodystrophic mice with coincidental agnathia: Evidence for the tongue obstruction hypothesis in cleft palate.” Teratology 38:565-570 (1988) [\*Clarke is maiden name].
20. Felin, J.E., Mayo, J.L., Loos, T.J., Jensen, J.D., Sperry, D.K., Gaufin, S.K., Meinhart, C.A., Moss, J.B., **Bridgewater, L.C.** “Nuclear variants of bone morphogenetic proteins.” Submitted.

#### **ABSTRACTS:**

1. Schmidt, A.D., Loganathan, S.K., Adam, M.M., Nichols, C.A., Mayo, J.L., Felin, F.E., Capecchi, M.R., Barrow, J.R., and **Bridgewater, L.C.** “Mice bearing a targeted inactivation of nBmp2 show decreased muscle strength.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).
2. Holden, D.N., Mayo, J.L., Barrow, J.R., and **Bridgewater, L.C.** “The transcription factor Lc-Maf participates in *Col27a1* regulation during chondrocyte maturation.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).
3. Davis, E.D., Fonhoue, B.S.D., Felin, J.E., McCune, B.T., and **Bridgewater, L.C.** “Nuclear Bmp2 (nBmp2) alters the expression of several genes.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).
4. Adam, M.M., Nichols, C.A., Schmidt, A.D., Logonathan, S.K., Thomson, D., Capecchi, M.R., Barrow, J.R., and **Bridgewater, L.C.** “Mice with targeted inactivation of nBmp2 exhibit increased daytime activity.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).

5. Corder, R.D., Loos, T.J., and **Bridgewater, L.C.** “ROX1 and ROC2: Interactions with the nuclear variant of Bmp4.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).
6. Loos, T.J., and **Bridgewater, L.C.** “Determining the function of nuclear Bmp4.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, LA (2009).
7. Mayo, J.L., Wilkinson, S., Felin, J.E., Lin, C.-Y., and **Bridgewater, L.C.** “A potential role for the nuclear variant of Bmp2 (nBmp2) in carcinogenesis.” American Association for Cancer Research Annual Meeting, Los Angeles, California (2007).
8. Sudweeks, T.J. and **Bridgewater, L.C.** “A novel nuclear variant of Bmp4.” American Association for Cancer Research Annual Meeting, Los Angeles, California (2007).
9. Jensen, J.D., Sperry, D.K., Hansen, J.D., Davis, R.E., Felin, J.E., and **Bridgewater, L.C.** “Nuclear localization of GDF5 is mediated by a bipartite nuclear localization signal.” American Association for Cancer Research Annual Meeting, Los Angeles, California (2007).
10. Hansen, J.D., Jensen, J.D., Sperry, D.K., Felin, J.E., and **Bridgewater, L.C.** “Nuclear localization of GDF5.” American Association for Cancer Research Annual Meeting, Los Angeles, California (2007).
11. **Bridgewater, L.C.**, Mayo, J.L., and Felin, J.E. “Nuclear localization of Bmp2.” American Society for Matrix Biology Biannual Meeting, Nashville, Tennessee (2006).
12. Seegmiller, R.E., Niederhauser, C.M., Montano, C., Bomsta, B.D., Wink, A.E., Sudweeks, S.N., and **Bridgewater, L.C.** “Aggrecan expression in *Dmm* mice.” American Society for Matrix Biology Biannual Meeting, Nashville, Tennessee (2006).
13. Jensen, J.D., Felin, J.E., Meinhart, C., and **Bridgewater, L.C.** “Nuclear localization of GDF-5.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
14. Mayo, J.L., Barrow, J.L., and **Bridgewater, L.C.** “Coordinate regulation of *Col11a2* and *Col27a1* by the transcription factor Lc-Maf.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
15. Niederhauser, C.M., Montano, C., Bomsta, B.D., Seegmiller, R.E., Sudweeks, S.N., and **Bridgewater, L.C.** “Aggrecan 1 expression in *Dmm* mice.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
16. Felin, J.E., Mayo, J.L., and **Bridgewater, L.C.** “Nuclear localization of BMP2.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
17. Ellertson, B.D., Felin, J.E., Kubo, C., Merrell, K., and **Bridgewater, L.C.**, “Identification of proteins that bind a *Col11a2* enhancer element.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
18. Timme, D.W., Meinhart, C., Mason, B., and **Bridgewater, L.C.** “A novel function for a ribosomal protein in transcriptional regulation.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Francisco, California (2006).
19. Kubo, C., Richins, S., and **Bridgewater, L.C.** “A new transcriptional regulator of the *Col11a2* gene.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
20. Kunz, W.B., Meinhart, C., Olsen, J., and **Bridgewater, L.C.** “Identification of proteins that bind a chondrocyte-specific enhancer element.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
21. Rogers, C.D., Mason, B., Timme, D., and **Bridgewater, L.C.** “Identification of candidate transcriptional regulators of the *Col11a2* gene. American Society for



- Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
22. Genzer, M.A., DeWidt, S.P., and **Bridgewater, L.C.** “The role of SOX9 dimerization in cartilage gene regulation.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
  23. Haberle, T., Tait, M.A., Moss, J.B., and **Bridgewater, L.C.** “The transcription factor MyoD binds to a cartilage-specific enhancer element. American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
  24. Mayo, J.L., and **Bridgewater, L.C.** “Cartilage-specific collagen gene regulation by the transcription factor Lc-Maf.” American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, California (2005).
  25. Bomsta, B., **Bridgewater, L.C.**, Fernandes, R. and Seegmiller, R.E. “Structural changes in fetal growth cartilage precede postnatal dwarfism in mice heterozygous for Disproportionate micromelia. American Society for Matrix Biology Semiannual Meeting, San Diego, California (2004).
  26. Bomsta, B.D., Gessel, L., **Bridgewater, L.C.**, and Seegmiller, R.E. “Histopathological changes in relation to proteoglycan degradation in articular cartilage of disproportionate micromelia mice as a predisposing factor leading to osteoarthritis” Osteoarthritis Research Society International Annual Meeting, Chicago, Illinois (2004)
  27. Jenkins, E., Pace, J.M., and **Bridgewater, L.C.** “SOX9 regulates transcription of the new minor fibrillar collagen gene, *COL27A1*.” American Society for Biochemistry and Molecular Biology Annual Meeting, Boston, Massachusetts (2004).
  28. Moss, J., Smith, S., Orme, N., Jackson, T., Jenkins, E., Hiram, A., Carmack, T., Harris, L., and **Bridgewater, L.C.** “Identification of two novel regulatory elements in the first intron of the *Coll1a2* gene.” American Society for Biochemistry and Molecular Biology Annual Meeting, Boston, Massachusetts (2004).
  29. **Bridgewater, L.C.**, Orme, N.M., Smith, S.A., Miller, G.C., Hiram, A., Carmack, T.T., Bennion, K.K., Clarke, J.W., Potter, J.L., and Harris, L.R. “Positive and negative *cis* elements affect the activity of two *Coll1a2* enhancer elements.” Gordon Conference on Cartilage Biology and Pathology, Ventura, California (2003).
  30. Murphy, D.L., Parker, W.B., Rodriguez, R.R., Poole, A.R., Schaalje, G.B., Seegmiller, R.E., and **Bridgewater, L.C.** “*Cho* mouse articular cartilage reveals ultrastructural changes in relation to collagen degradation: the potential for transgene rescue of osteoarthritis and chondrodysplasia.” American Society for Matrix Biology Annual Meeting, Houston, Texas (2002).
  31. Crosby, B., Vaughn, S., **Bridgewater, L.C.**, and Seegmiller, R.E. “Mice bearing a type XI collagen mutation show premature deterioration of the femoral articular surface. American Society for Matrix Biology Annual Meeting, Houston, Texas (2002).
  32. Vaughn, S., Crosby, B., **Bridgewater, L.C.**, and Seegmiller, R.E. “Progression of early-onset osteoarthritis of the femoral condyle in mice with a *Col2a1* mutation. American Society for Matrix Biology Annual Meeting, Houston, Texas (2002).
  33. Harris, L.R., Miller, G.M., and **Bridgewater, L.C.** “A *cis*-acting element in the 5’ region of the *Coll1a2* gene acts cooperatively with two known enhancers.” American Society for Matrix Biology Annual Meeting, Houston, Texas (2002).
  34. Orme, N.M., Harris, L.R., Jenkins, E., and **Bridgewater, L.C.** “Identification of a negative regulatory element in the first intron of the mouse *Coll1a2* gene.” American Society for Matrix Biology Annual Meeting, Houston, Texas (2002).
  35. Harris, L.R., Miller, G.C., and **Bridgewater, L.C.** “*Cis*-acting elements in the 5’ region of the *Coll1a2* gene cooperate with two known enhancers to increase transcriptional activity.” American Society for Biochemistry and Molecular Biology Annual Meeting,

- New Orleans, Louisiana (2002).
36. Babcock, W., Seegmiller, R.E., and **Bridgewater, L.C.** “Ultrastructural differences in the articular cartilage of mice genetically predisposed to osteoarthritis.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  37. Bennion, K.K., Walker, M.D., Moss, J.B., Chen, R.K., Taylor, H., Freeman, E., Thulin, C.D., and **Bridgewater, L.C.** “Identification of proteins that trans-activate the D/E enhancer of the *Col11a2* gene.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  38. Jackson, T.L., and **Bridgewater, L.C.** “Examination of AP-4 as a transcriptional activator of the *Col11a2* chondrocyte-specific enhancer elements.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  39. Smith, S.A., Miller, G.C., Hillam, A., Carmack, T.T., Bennion, K.K., and **Bridgewater, L.C.** “Identification of a novel positive *cis*-acting element in the first intron of the mouse *Col11a2* gene.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  40. Rodriguez, R.R., Seegmiller, R.E., Poole, A.R., and **Bridgewater, L.C.** “Increased type II collagen degradation co-localizes with osteoarthritic lesions in *Col11a1* mutant mice.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  41. Moss, J.B., Bennion, K.K., Walker, M.D., Freeman, E., Thulin, C.D., and **Bridgewater, L.C.** “Identification of a protein that binds to the *Col11a2* B/C enhancer element.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
  42. Jenkins, E., Smith, S.A., Miller, G.C., Hillam, A., Cormack, T.T., Bennion, K.K., and **Bridgewater, L.C.** “Identification of a possible *cis*-acting element in the first intron of the *Col11a2* gene.” American Society for Biochemistry and Molecular Biology Annual Meeting, New Orleans, Louisiana (2002).
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