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2022

Modulation of sirtuins during monolayer chondrocyte culture influences cartilage regeneration upon transfer to a 3D culture environment.

Heywood HK, Thorpe SD, Jeropoulos RM, Caton PW and Lee DA. *Frontiers in Bioengineering and Biotechnology* vol. 10,. *Frontiers Media*.

Oscillations of the circadian clock protein, BMAL-1, align to daily cycles of mechanical stimuli: a novel means to integrate biological time within predictive in vitro model systems.

Heywood HK, Gardner L, Knight MM and Lee DA. *In Vitro Models* 1-8. *Springer Nature*.

Covariation of Pluripotency Markers and Biomechanical Properties in Mouse Embryonic Stem Cells.

Brookes O, Thorpe SD, Evans OR, Keeling MC and Lee DA. *Frontiers in Cell and Developmental Biology* vol. 10,. *Frontiers*.

2021

G Protein-Coupled Estrogen Receptor Regulates Actin Cytoskeleton Dynamics to Impair Cell Polarization.

Lachowski D, Cortes E, Matellan C, Rice A, Lee DA, Thorpe SD and del Río Hernández AE. *Frontiers in Cell and Developmental Biology* vol. 8, 592628-592628. *Frontiers Media*.

2020

GPER activation inhibits cancer cell mechanotransduction and basement membrane invasion via RhoA.

Rice A, Cortes E, Lachowski D, Oertle P, Matellan C, Thorpe SD, Ghose R, Wang H, Lee DA, Plodinec M and Del Río Hernández AE. *Cancers* vol. 12, (2). *Mdpi Ag*.

Syndecan-4 tunes cell mechanics by activating the kindlin-integrin-RhoA pathway.

Thorpe S, Chronopoulos A, Cortes E, Lachowski D, Rice A, Mykuliak V, Rg T, Lee D, Hytonen V and del Río Hernández A. *Nature Materials*. *Nature Research*.

2018

Tamoxifen mechanically deactivates hepatic stellate cells via the G protein-coupled estrogen receptor.

Cortes E, Lachowski D, Rice A, THORPE SD, Robinson B, Yeldag G, LEE DA, Ghemtio L, Rombouts K and del Río Hernández AE. *Oncogene*. *Springer Nature [Academic Journals On Nature.Com]*.

Tamoxifen mechanically reprograms the tumor microenvironment via HIF1A and reduces cancer cell survival.

Cortes E, Lachowski D, Robinson B, Sarper M, Teppo JS, Thorpe SD, Lieberthal TJ, Iwamoto K, Lee DA, Okada Hatakeyama M, Varjosalo MT and del Río Hernández AE. *Embo Reports* vol. 20, (1). *Springer Nature*.

GPER is a mechanoregulator of pancreatic stellate cells and the tumor microenvironment.

Cortes E, Sarper M, Robinson B, Lachowski D, Chronopoulos A, Thorpe SD, Lee DA and del Río Hernández AE. *Embo Reports* vol. 20, (1). *Springer Nature*.

RAR is downregulated in HCC & cirrhosis and its expression inhibits myosindriven activation and durotaxis in hepatic stellate cells.

Cortes E, Lachowski D, Rice A, Chronopoulos A, Robinson B, THORPE SD, LEE DA, Possamai LA, Wang H, Pinato DJ and del Rio Hernndez AE. *Hepatology*. Wiley.

2017

Development of a two-stage gene selection method that incorporates a novel hybrid approach using the cuckoo optimization algorithm and harmony search for cancer classification.

Elyasigomari V, Lee DA, Screen HRC and SHAHEED MH. *Journal of Biomedical Informatics* vol. 67, (2017) 11-20.

Dynamic regulation of nuclear architecture and mechanicsa rheostatic role for the nucleus in tailoring cellular mechanosensitivity.

THORPE SD and Lee DA. *Nucleus* vol. 8, (3) 287-300. Taylor & Francis.

2016

Differentiation alters stem cell nuclear architecture, mechanics, and mechano-sensitivity.

Heo S-J, Driscoll TP, Thorpe SD, Nerurkar NL, Baker BM, Yang MT, Chen CS, Lee DA and Mauck RL. *Elife* vol. 5., Elife Sciences Publications Ltd.

Oxygen tension modulates the effects of TNF in compressed chondrocytes.

Tilwani RK, Vessillier S, Pinguan-Murphy B, Lee DA, Bader DL and Chowdhury TT. *Inflamm Res.*

Mechanically Induced Chromatin Condensation Requires Cellular Contractility in Mesenchymal Stem Cells.

Heo SJ, Han WM, Szczesny SE, Cosgrove BD, Elliott DM, Lee DA, Duncan RL and Mauck RL. *Biophysical Journal* vol. 111, (4) 864-874.

Bioenergetic reprogramming of articular chondrocytes by exposure to exogenous and endogenous reactive oxygen species and its role in the anabolic response to low oxygen.

Heywood HK and Lee DA. *Journal of Tissue Engineering and Regenerative Medicine* vol. 11, (8) 2286-2294.

Chondrocyte dedifferentiation increases cell stiffness by strengthening membrane-actin adhesion.

Sliogeryte K, Botto L, Lee DA and Knight MM. *Osteoarthritis and Cartilage* vol. 24, (5) 912-920. Elsevier.

States rights and Australias adoption of the statute of Westminster, 19311942.

Lee D. *History Australia* vol. 13, (2) 258-274. Taylor & Francis.

Type VI Collagen Regulates Dermal Matrix Assembly and Fibroblast Motility.

Theocharidis G, Drymoussi Z, Kao AP, Barber AH, Lee DA, Braun KM and Connelly JT. *Journal of Investigative Dermatology* vol. 136, (1) 74-83. Elsevier.

Type VI Collagen Regulates Dermal Matrix Assembly and Fibroblast Motility.

Theocharidis G, Drymoussi Z, Kao AP, Barber AH, Lee DA, Braun KM and Connelly JT. *J Invest Dermatol* vol. 136, (1) 74-83.

2015

Biophysical Regulation of Chromatin Architecture Instills a Mechanical Memory in Mesenchymal Stem Cells.

Heo S-J, Thorpe SD, Driscoll TP, Duncan RL, Lee DA and Mauck RL. *Scientific Reports* vol. 5, (1). Springer Nature.

FINITE ELEMENT ANALYSIS OF MECHANICAL DEFORMATION OF CHONDROCYTE TO 2D SUBSTRATE AND 3D SCAFFOLD.

CHEN J, BADER DL, LEE DA and KNIGHT MM. *Journal of Mechanics in Medicine and Biology* vol. 15, (05). World Scientific Publishing.

2014

Stem cell differentiation increases membrane-actin adhesion regulating cell blebability, migration and mechanics.

Sliogeryte K, Thorpe SD, Lee DA, Botto L and Knight MM. *Scientific Reports* vol. 4, (1). Springer Nature.

Quantification of chromatin condensation level by image processing.

Irianto J, Lee DA and Knight MM. *Med Eng Phys* vol. 36, (3) 412-417.

Culture expansion in low-glucose conditions preserves chondrocyte differentiation and enhances their subsequent capacity to form cartilage tissue in three-dimensional culture.

Heywood HK, Nalesso G, Lee DA and Dell'accio F. *Biores Open Access* vol. 3, (1) 9-18.

2013

Osmotic challenge drives rapid and reversible chromatin condensation in chondrocytes.

Irianto J, Swift J, Martins RP, McPhail GD, Knight MM, Discher DE and Lee DA. *Biophys J* vol. 104, (4) 759-769.

Continuous and Uninterrupted Oxygen Tension Influences the Colony Formation and Oxidative Metabolism of Human Mesenchymal Stem Cells.

Pattappa G, Thorpe SD, Jegard NC, Heywood HK, de Brujin JD and Lee DA. *Tissue Engineering Part C-Methods* vol. 19, (1).

Reluctant relaxation.

Lee D. *History Australia* vol. 10, (3) 149-170. *Taylor & Francis*.

2012

New functional families (FunFams) in CATH to improve the mapping of conserved functional sites to 3D structures.

Sillitoe I, Cuff AL, Dessailly BH, Dawson NL, Furnham N, Lee D, Lees JG, Lewis TE, Studer RA, Rentzsch R, Yeats C, Thornton JM and Orengo CA. *Nucleic Acids Research* vol. 41, (D1) d490-d498. *Oxford University Press (Oup)*.

Cell mechanics, structure, and function are regulated by the stiffness of the three-dimensional microenvironment.

Chen J, Irianto J, Inamdar S, Pravincumar P, Lee DA, Bader DL and Knight MM. *Biophys J* vol. 103, (6) 1188-1197.

Dynamic compressive strain influences chondrogenic gene expression in human periosteal cells: a case study.

Bonzani IC, Campbell JJ, Knight MM, Williams A, Lee DA, Bader DL and Stevens MM. *J Mech Behav Biomed Mater* vol. 11, 72-81.

The mechanics of flexor tendon adhesions.

Branford OA, Lee DA, Bader DL and Grobelaar AO. *Journal of Hand Surgery: European Volume* vol. 37, (6) 555-563.

The attachment of intrinsic and extrinsic, mobilized and immobilized adhesion cells to collagen and fibronectin.

Branford OA, Lee DA, Rolfe KJ and Grobelaar AO. *Journal of Hand Surgery: European Volume* vol. 37, (6) 564-572.

Improving metabolic flux predictions using absolute gene expression data.

Lee D, Smallbone K, Dunn WB, Murabito E, Winder CL, Kell DB, Mendes P and Swainston N. *Bmc Systems Biology* vol. 6, (1). *Springer Nature*.

Stanley Melbourne Bruce in London, 193841.

Lee D. *The Journal of Imperial & Commonwealth History* vol. 40, (1) 45-65. *Taylor & Francis*.

Scaling and mesostructure of Carbopol dispersions.

Gutowski IA, Lee D, de Bruyn JR and Frisken BJ. *Rheologica Acta* vol. 51, (5) 441-450. *Springer Nature*.

Single photon counting fluorescence lifetime detection of pericellular oxygen concentrations.

Hosny NA, Lee DA and Knight MM. *J Biomed Opt* vol. 17, (1).

Gap junction permeability between tenocytes within tendon fascicles is suppressed by tensile loading.

Maeda E, Ye S, Wang W, Bader DL, Knight MM and Lee DA. *Biomechanics and Modeling in Mechanobiology* vol. 11, (3-4) 439-447.

Mechanical regulation of nuclear structure and function.

Martins RP, Finan JD, Guilak F and Lee DA. *Annu Rev Biomed Eng* vol. 14, 431-455.

2011

White Globules in Melanocytic Neoplasms: In Vivo and Ex Vivo Characteristics.

Jaimes N, Scope A, Welzel J, Wang KX, Lee DA, Siegel DM and Marghoob AA. *Dermatologic Surgery* vol. 38, (1) 128-132. Wolters Kluwer.

The metabolism of human mesenchymal stem cells during proliferation and differentiation.

Pattappa G, Heywood HK, de Brujin JD and Lee DA. *J Cell Physiol* vol. 226, (10) 2562-2570.

Anisotropic strain transfer through the aortic valve and its relevance to the cellular mechanical environment.

Lewinsohn AD, Anssari-Benham A, Lee DA, Taylor PM, Chester AH, Yacoub MH and Screen HRC. *Proc Inst Mech Eng H* vol. 225, (8) 821-830.

Extensive oral herpes simplex virus type 1 infection in a haematopoietic stem cell transplant recipient not responding to aciclovir.

Moses SE, Osborne W, Valappil M, Collin M, Lee D, Waugh S, Jackson G, Parry CM and Crowley B. *Journal of Clinical Virology* vol. 52, (2) 67-69. Elsevier.

Investigating the microstructure of a yield-stress fluid by light scattering.

Lee D, Gutowski IA, Bailey AE, Rubatat L, de Bruyn JR and Friskin BJ. *Physical Review E* vol. 83, (3). American Physical Society (Aps).

Gap junction permeability between tenocytes within tendon fascicles is suppressed by tensile loading.

Maeda E, Ye S, Wang W, Bader DL, Knight MM and Lee DA. *Biomechanics and Modeling in Mechanobiology* 1-9.

Anisotropic strain transfer through the aortic valve and its relevance to the cellular mechanical environment.

Lewinsohn AD, Anssari-Benham A, Lee DA, Taylor PM, Chester AH, Yacoub MH and Screen HRC. *P I Mech Eng H* vol. 225, (H8) 821-830.

Electrospray deposited fibronectin retains the ability to promote cell adhesion.

Martyn SV, Heywood HK, Rockett P, Paine MD, Wang MJ, Dobson PJ, Sheard SJ, Lee DA and Stark JPW. *Journal of Biomedical Materials Research - Part B Applied Biomaterials* vol. 96 B, (1) 110-118.

Stem cell mechanobiology.

Lee DA, Knight MM, Campbell JJ and Bader DL. *J Cell Biochem* vol. 112, (1) 1-9.

1,000 structures and more from the MCGS.

Lee D, de Beer TA, Laskowski RA, Thornton JM and Orengo CA. *Bmc Molecular and Cell Biology* vol. 11, (1). Springer Nature.

Quantification of mRNA using real-time PCR and Western blot analysis of MAPK events in chondrocyte/agarose constructs.

Lee DA, Brand J, Salter D, Akanji O-O and Chowdhury TT. *Methods Mol Biol* vol. 695, 77-97.

2010

The metabolism of human mesenchymal stem cells during proliferation and differentiation.

Pattappa G, Heywood HK, de Brujin JD and Lee DA. *J Cell Physiol*.

Functional analysis of tenocytes gene expression in tendon fascicles subjected to cyclic tensile strain.

Maeda E, Fleischmann C, Mein CA, Shelton JC, Bader DL and Lee DA. *Connective Tissue Research* vol. 51, (6) 434-444.

Both superficial and deep zone articular chondrocyte subpopulations exhibit the crabtree effect but have different basal oxygen consumption rates.

Heywood HK, Knight MM and Lee DA. *Journal of Cellular Physiology* vol. 223, (3) 630-639.

A compartment model to evaluate the permeability of gap junctions between tenocytes in tendon fascicles.

Ye S, Maeda E, Knight M, Lee D, Bader D and Wang W. *Faseb Journal* vol. 24.,

Low oxygen reduces the modulation to an oxidative phenotype in monolayer-expanded chondrocytes.

Heywood HK and Lee DA. *J Cell Physiol* vol. 222, (1) 248-253.

2009

Effect of intermittent cyclic tensile strain on collagen synthesis by tenocytes in isolated fascicles.

Maeda E, Shelton JC, Bader DL and Lee DA. *Journal of Biomechanical Science and Engineering* vol. 4, (4) 510-517.

GeMMA: functional subfamily classification within superfamilies of predicted protein structural domains.

Lee DA, Rentzsch R and Orengo C. *Nucleic Acids Research* vol. 38, (3) 720-737. Oxford University Press (Oup).

Differential regulation of gene expression in isolated tendon fascicles exposed to cyclic tensile strain in vitro.

Maeda E, Shelton JC, Bader DL and Lee DA. *Journal of Applied Physiology* vol. 106, (2) 506-512.

The development of a bioreactor to perfuse radially-confined hydrogel constructs: design and characterization of mass transport properties.

Eniwumide JO, Lee DA and Bader DL. *Biorheology* vol. 46, (5) 417-437.

Cell-generated forces influence the viability, metabolism and mechanical properties of fibroblast-seeded collagen gel constructs.

Berry CC, Shelton JC and Lee DA. *J Tissue Eng Regen Med* vol. 3, (1) 43-53.

2008

Phenotypic analysis of *Arabidopsis* mutants: heavy metal stress.

Lee D and Schroeder J. *Cold Spring Harbor Protocols* vol. 2008, (9). Cold Spring Harbor Laboratory.

Monolayer expansion induces an oxidative metabolism and ROS in chondrocytes.

Heywood HK and Lee DA. *Biochem Biophys Res Commun* vol. 373, (2) 224-229.

Signal transduction pathways involving p38 MAPK, JNK, NF kappa B and AP-1 influences the response of chondrocytes cultured in agarose constructs to IL-1 beta and dynamic compression.

Chowdhury TT, Salter DM, Bader DL and Lee DA. *Inflamm Res* vol. 57, (7) 306-313.

Advantages, Disadvantages, and Uses of Generalized Activity Networks for Schedule Estimation.

Hughes D, Whitaker Y, Lee D and Eckhause J. *Military Operations Research* vol. 13, (3) 27-40. Military Operations Research Society.

Mechanical loading modulates intracellular calcium signaling in human mesenchymal stem cells.

Campbell JJ, Bader DL and Lee DA. *J Appl Biomater Biom* vol. 6, (1) 9-15.

Dynamic compression counteracts IL-1beta induced inducible nitric oxide synthase and cyclo-oxygenase-2 expression in chondrocyte/agarose constructs.

Chowdhury TT, Arghandawi S, Brand J, Akanji OO, Bader DL, Salter DM and Lee DA. *Arthritis Res Ther* vol. 10, (2).

Dynamic compression influences interleukin-1 beta-induced nitric oxide and prostaglandin E-2 release by articular chondrocytes via alterations in iNOS and COX-2 expression.

Chowdhury TT, Akanji OO, Salter DM, Bader DL and Lee DA. *Biorheology* vol. 45, (3-4) 257-274.

2007

52 REAL-TIME PCR USING MOLECULAR BEACONS TO DETECT INOS AND COX-2 EXPRESSION IN CHONDROCYTE/AGAROSE CONSTRUCTS SUBJECTED TO IL-1 AND DYNAMIC COMPRESSION.

Chowdhury TT, Akanji OO, Arghandawi S, Salter DM, Bader DL and Lee DA. *Osteoarthritis and Cartilage* vol. 15, c42-c43. Elsevier.

Predicting protein function from sequence and structure.

Lee D, Redfern O and Orengo C. *Nature Reviews Molecular Cell Biology* vol. 8, (12) 995-1005. Springer Nature.

Root contact during insertion of miniscrews for orthodontic anchorage increases the failure rate: an animal study.

Chen Y-H, Chang H-H, Chen Y-J, Lee D, Chiang H-H and Jane Yao C-C. *Clinical Oral Implants Research* 07102500154-???. Wiley.

Time dependence of cyclic tensile strain on collagen production in tendon fascicles.

Maeda E, Shelton JC, Bader DL and Lee DA. *Biochem Biophys Res Commun* vol. 362, (2) 399-404.

2006

Glucose Concentration and Medium Volume Influences Cell Viability and Glycosaminoglycan Synthesis in Chondrocyte-Seeded Alginate Constructs.

Heywood HK, Bader DL and Lee DA. *Tissue Engineering.Mary Ann Liebert.*

Self-Assembly of Latex Particles into Proton-Conductive Membranes.

Gao J, Yang Y, Lee D, Holdcroft S and Frisken BJ. *Macromolecules* vol. 39, (23) 8060-8066. *American Chemical Society (Acs).*

The influence of swelling and matrix degradation on the microstructural integrity of tendon.

Screen HRC, Chhaya VH, Greenwald SE, Bader DL, Lee DA and Shelton JC. *Acta Biomater* vol. 2, (5) 505-513.

Chondrocyte deformation induces mitochondrial distortion and heterogeneous intracellular strain fields.

Knight MM, Bomzon Z, Kimmel E, Sharma AM, Lee DA and Bader DL. *Biomech Model Mechan* vol. 5, (2-3) 180-191.

Integrin-mediated mechanotransduction in IL-1 beta stimulated chondrocytes.

Chowdhury TT, Appleby RN, Salter DM, Bader DA and Lee DA. *Biomech Model Mechanobiol* vol. 5, (2-3) 192-201.

1.3 The quantitative assessment of flexor tendon adhesion a novel use of confocal microscopy to evaluate local strain, orientation and organisation.

BRANFORD O, LEE D, BADER D and GROBBELAAR A. *Journal of Hand Surgery (European Volume)* vol. 31, 3-3. *Sage Publications.*

Comprehensive genome analysis of 203 genomes provides structural genomics with new insights into protein family space.

Marsden RL, Lee D, Maibaum M, Yeats C and Orengo CA. *Nucleic Acids Research* vol. 34, (3) 1066-1080. *Oxford University Press (Oup).*

Rate of oxygen consumption by isolated articular chondrocytes is sensitive to medium glucose concentration.

Heywood HK, Bader DL and Lee DA. *Journal of Cellular Physiology* vol. 206, (2) 402-410.

Exploiting protein structure data to explore the evolution of protein function and biological complexity.

Marsden RL, Ranea JAG, Sillero A, Redfern O, Yeats C, Maibaum M, Lee D, Addou S, Reeves GA, Dallman TJ and Orengo CA. *Philosophical Transactions of The Royal Society B Biological Sciences* vol. 361, (1467) 425-440. *The Royal Society.*

Anti-inflammatory effects of IL-4 and dynamic compression in IL-1beta stimulated chondrocytes.

Chowdhury TT, Bader DL and Lee DA. *Biochem Biophys Res Commun* vol. 339, (1) 241-247.

Mechanical compression and hydrostatic pressure induce reversible changes in actin cytoskeletal organisation in chondrocytes in agarose.

Knight MM, Toyoda T, Lee DA and Bader DL. *J Biomech* vol. 39, (8) 1547-1551.

Dynamic compression counteracts IL-1beta induced iNOS and COX-2 activity by human chondrocytes cultured in agarose constructs.

Chowdhury TT, Bader DL and Lee DA. *Biorheology* vol. 43, (3,4) 413-429.

Chondrocyte Deformation and Mechanotransduction in Cartilage Model Systems(International Workshop 2).

Bader DL, Lee DA and Knight MM. *The Proceedings of The Bioengineering Conference Annual Meeting of Bed/Jsme* vol. 2005.18, 2-3. *Japan Society of Mechanical Engineers.*

P140 DYNAMIC COMPRESSION COUNTERACTS FIBRONECTIN FRAGMENT INDUCED UPREGULATION OF NITRIC OXIDE.

Chowdhury TT, Raveenthiran SP, Bader DL and Lee DA. *Osteoarthritis and Cartilage* vol. 14,. *Elsevier.*

Gene3D: modelling protein structure, function and evolution.

Yeats C, Maibaum M, Marsden R, Dibley M, Lee D, Addou S and Orengo CA. *Nucleic Acids Research* vol. 34, (suppl_1) d281-d284. *Oxford University Press (Oup).*

Concentration and M/G ratio influence the physiochemical and mechanical properties of alginate constructs for tissue engineering.

Enobakhare B, Bader DL and Lee DA. *J Appl Biomater Biomech* vol. 4, (2) 87-96.

2005

Mechanical conditioning of cell-seeded constructs for soft tissue repair - Are optimisation strategies possible?.
Bader DL and Lee DA.

Activation of chondrocytes calcium signalling by dynamic compression is independent of number of cycles.
Pingguan-Murphy B, Lee DA, Bader DL and Knight MM. *Arch Biochem Biophys* vol. 444, (1) 45-51.

Cyclic tensile strain upregulates collagen synthesis in isolated tendon fascicles.

Screen HRC, Shelton JC, Bader DL and Lee DA. *Biochem Biophys Res Commun* vol. 336, (2) 424-429.

Nutrient utilization by bovine articular chondrocytes: a combined experimental and theoretical approach.
Sengers BG, Heywood HK, Lee DA, Oomens CWJ and Bader DL. *J Biomech Eng* vol. 127, (5) 758-766.

The influence of noncollagenous matrix components on the micromechanical environment of tendon fascicles.
Screen HRC, Shelton JC, Chhaya VH, Kayser MV, Bader DL and Lee DA. *Ann Biomed Eng* vol. 33, (8) 1090-1099.

Self-Assembly of Surface-Charged Latex Nanoparticles: A New Route to the Creation of Continuous Channels for Ion Conduction.

Gao J, Lee D, Yang Y, Holdcroft S and Frisken BJ. *Macromolecules* vol. 38, (14) 5854-5856. American Chemical Society (Acs).

British Society for Matrix Biology Autumn Meeting Joint with the UK Tissue & Cell Engineering Society, University of Bristol, UK.

. *International Journal of Experimental Pathology* vol. 86, (3) a1-a56. Wiley.

Identification and distribution of protein families in 120 completed genomes using Gene3D.

Lee D, Grant A, Marsden RL and Orengo C. *Proteins Structure Function and Bioinformatics* vol. 59, (3) 603-615. Wiley.

Compression-induced damage in a muscle cell model in vitro.

Wang Y-N, Bouten CVC, Lee DA and Bader DL. *Proc Inst Mech Eng H* vol. 219, (1) 1-12.

Autologous chondrocyte implantation. Culture in a TGF-beta-containing medium enhances the re-expression of a chondrocytic phenotype in passaged human chondrocytes in pellet culture.

Goldberg AJ, Lee DA, Bader DL and Bentley G. *J Bone Joint Surg Br* vol. 87, (1) 128-134.

2004

The CATH Domain Structure Database and related resources Gene3D and DHS provide comprehensive domain family information for genome analysis.

Pearl F, Todd A, Sillitoe I, Dibley M, Redfern O, Lewis T, Bennett C, Marsden R, Grant A, Lee D, Akpor A, Maibaum M, Harrison A, Dallman T, Reeves G, Diboun I, Addou S, Lise S, Johnston C, Sillero A, Thornton J and Orengo C. *Nucleic Acids Research* vol. 33, (suppl_1) d247-d251. Oxford University Press (Oup).

Delusional discourse: An investigation comparing the spontaneous causal attributions of paranoid and nonparanoid individuals.

Lee DA, Randall F, Beattie G and Bentall RP. *Psychology and Psychotherapy Theory Research and Practice* vol. 77, (4) 525-540. Wiley.

Local Strain Measurement within Tendon.

Bader DL, Shelton JC, Lee DA and SCREEN HRC. *Strain* vol. 40, (4) 157-163.

Crosslinking density influences the morphology of chondrocytes photoencapsulated in PEG hydrogels during the application of compressive strain.

Bryant SJ, Anseth KS, Lee DA and Bader DL. *J Orthop Res* vol. 22, (5) 1143-1149.

Integrin-mediated mechanotransduction processes in TGFbeta-stimulated monolayer-expanded chondrocytes.
Chowdhury TT, Salter DM, Bader DL and Lee DA. *Biochem Biophys Res Commun* vol. 318, (4) 873-881.

Activin Receptor-like Kinase-7 Induces Apoptosis through Activation of MAPKs in a Smad3-dependent Mechanism in Hepatoma Cells*.

Kim B-C, van Gelder H, Kim TA, Lee H-J, Baik KG, Chun HH, Lee DA, Choi KS and Kim S-J. *Journal of Biological Chemistry* vol. 279, (27) 28458-28465. Elsevier.

Crosslinking density influences chondrocyte metabolism in dynamically loaded photocrosslinked poly(ethylene glycol) hydrogels.

Bryant SJ, Chowdhury TT, Lee DA, Bader DL and Anseth KS. *Ann Biomed Eng* vol. 32, (3) 407-417.

Mechanical loading of chondrocytes embedded in 3D constructs: in vitro methods for assessment of morphological and metabolic response to compressive strain.

Lee DA and Knight MM. *Methods Mol Med* vol. 100, 307-324.

An investigation into the effects of the hierarchical structure of tendon fascicles on micromechanical properties.
Screen HRC, Lee DA, Bader DL and Shelton JC. *Proc Inst Mech Eng H* vol. 218, (2) 109-119.

Increased presence of cells with multiple elongated processes in osteoarthritic femoral head cartilage.
Bader DL, KNIGHT MM, Bentley G, Kayser M and Holloway I. *Osteoarthritis Cartilage* vol. 12, (1) 17-24.

Bioreactor Culture Techniques for Cartilage-Tissue Engineering.

Lee DA and Martin I. *Biopolymer Methods in Tissue Engineering* 159-170. Springer Nature.

Passage in monolayer influences the response of chondrocytes to dynamic compression.

Wiseman M, Bader DL, Reisler T and Lee DA. *Biorheology* vol. 41, (3-4) 283-298.

Increased presence of cells with multiple elongated processes in osteoarthritic femoral head cartilage.

Holloway I, Kayser M, Lee DA, Bader DL, Bentley G and Knight MM. *Osteoarthritis Cartilage* vol. 12, (1) 17-24.

Mechanical Loading of Chondrocytes Embedded in 3D Constructs.

Lee DA and Knight MM. *Cartilage and Osteoarthritis* 307-324. Springer Nature.

Cellular utilization determines viability and matrix distribution profiles in chondrocyte-seeded alginate constructs.

Heywood HK, Semb P, Lee DA and Bader DL. *Tissue Eng* vol. 10, (9-10) 1467-1479.

Progress towards mapping the universe of protein folds.

Grant A, Lee D and Orengo C. *Genome Biology* vol. 5, (5). Springer Nature.

EyeSite: a semiautomated database of protein families in the eye.

Lee DA, Fefeu S, Edo-Ukeh AA, Orengo CA and Slingsby C. *Nucleic Acids Research* vol. 32, (suppl_1) d148-d152. Oxford University Press (Oup).

2003

Temporal regulation of chondrocyte metabolism in agarose constructs subjected to dynamic compression.
Chowdhury TT, Bader DL, Shelton JC and Lee DA. *Arch Biochem Biophys* vol. 417, (1) 105-111.

Dynamic compression counteracts IL-1 beta-induced release of nitric oxide and PGE2 by superficial zone chondrocytes cultured in agarose constructs.

Chowdhury TT, Bader DL and Lee DA. *Osteoarthritis Cartilage* vol. 11, (9) 688-696.

Influence of external uniaxial cyclic strain on oriented fibroblast-seeded collagen gels.

Berry CC, Shelton JC, Bader DL and Lee DA. *Tissue Eng* vol. 9, (4) 613-624.

Dynamic compressive strain inhibits nitric oxide synthesis by equine chondrocytes isolated from different areas of the cartilage surface.

Wiseman M, Henson F, Lee DA and Bader DL. *Equine Vet J* vol. 35, (5) 451-456.

A structural perspective on genome evolution.

Lee D, Grant A, Buchan D and Orengo C. *Current Opinion in Structural Biology* vol. 13, (3) 359-369. Elsevier.

Live cell imaging using confocal microscopy induces intracellular calcium transients and cell death.

Knight MM, Roberts SR, Lee DA and Bader DL. *Am J Physiol Cell Physiol* vol. 284, (4) C1083-C1089.

Expansion of chondrocytes for tissue engineering in alginate beads enhances chondrocytic phenotype compared to conventional monolayer techniques.

Lee DA, Reisler T and Bader DL. *Acta Orthop Scand* vol. 74, (1) 6-15.

Mechanical conditioning influences the metabolic response of cell-seeded constructs.

Shelton JC, Bader DL and Lee DA. *Cells Tissues Organs* vol. 175, (3) 140-150.

Trimethylaminuria and a human FMO3 mutation database.

Hernandez D, Addou S, Lee D, Orengo C, Shephard EA and Phillips IR. *Hum Mutat* vol. 22, (3) 209-213.

Dermal fibroblasts respond to mechanical conditioning in a strain profile dependent manner.

Berry CC, Cacou C, Lee DA, Bader DL and Shelton JC. *Biorheology* vol. 40, (1-3) 337-345.

2002

The origin of [Fe ii] emission in NGC 4151.

Turner JEH, Allington-Smith J, Chapman S, Content R, Done C, Haynes R, Lee D and Morris S. *Monthly Notices of The Royal Astronomical Society* vol. 331, (2) 284-292. Oxford University Press (Oup).

Cell and nucleus deformation in compressed chondrocyte-alginate constructs: temporal changes and calculation of cell modulus.

Knight MM, van de Breevaart Bravenboer J, Lee DA, van Osch GJVM, Weinans H and Bader DL. *Biochim Biophys Acta* vol. 1570, (1) 1-8.

The CATH extended proteinfamily database: Providing structural annotations for genome sequences.

Pearl FMG, Lee D, Bray JE, Buchan DWA, Shepherd AJ and Orengo CA. *Protein Science* vol. 11, (2) 233-244. Wiley.

Development of a technique to determine strains in tendons using the cell nuclei.

BADER DL, Shelton JC, Lee DA and Screen HRC. *Biorheology* vol. 40, 361-368.

2001

Characterization of Lenslet Arrays for Astronomical Spectroscopy.

Lee D, Haynes R, Ren D and Allington Smith J. *Publications of The Astronomical Society of The Pacific* vol. 113, (789) 1406-1419. Iop Publishing.

Gene Therapy and Tissue Engineering in Orthopaedic and Sports Medicine (2000) Edited by Johnny Huard and Freddie H. Fu, ISBN 0-8176-4071-1, Birkhauser: Boston pages 1286.

Bader D and Lee D. *Medical Engineering & Physics* vol. 23, (8). Elsevier.

Properties of optical fibres at cryogenic temperatures.

Lee D, Haynes R and Skeen DJ. *Monthly Notices of The Royal Astronomical Society* vol. 326, (2) 774-780. Oxford University Press (Oup).

The early-type galaxy population in Abell 2218.

Ziegler BL, Bower RG, Smail I, Davies RL and Lee D. *Monthly Notices of The Royal Astronomical Society* vol. 325, (4) 1571-1590. Oxford University Press (Oup).

Dynamic compression inhibits the synthesis of nitric oxide and PGE(2) by IL-1beta-stimulated chondrocytes cultured in agarose constructs.

Chowdhury TT, Bader DL and Lee DA. *Biochem Biophys Res Commun* vol. 285, (5) 1168-1174.

Effects of Tissue Transglutaminase on Retinoic Acid-induced Cellular Differentiation and Protection against Apoptosis*.

Antonyak MA, Singh US, Lee DA, Boehm JE, Combs C, Zgola MM, Page RL and Cerione RA. *Journal of Biological Chemistry* vol. 276, (36) 33582-33587. Elsevier.

Chondrocyte deformation within mechanically and enzymatically extracted chondrons compressed in agarose.
Knight MM, Ross JM, Sherwin AF, Lee DA, Bader DL and Poole CA. *Biochim Biophys Acta* vol. 1526, (2) 141-146.

Temporal changes in cytoskeletal organisation within isolated chondrocytes quantified using a novel image analysis technique.

Knight MM, Idowu BD, Lee DA and Bader DL. *Med Biol Eng Comput* vol. 39, (3) 397-404.

Mechanical compression influences intracellular Ca²⁺ signaling in chondrocytes seeded in agarose constructs.
Roberts SR, Knight MM, Lee DA and Bader DL. *J Appl Physiol* (1985) vol. 90, (4) 1385-1391.

Compressive deformation and damage of muscle cell subpopulations in a model system.
Bouten CV, Knight MM, Lee DA and Bader DL. *Ann Biomed Eng* vol. 29, (2) 153-163.

Compressive deformation and damage of muscle cell subpopulations in a model system.
Bader DL, KNIGHT MM, Lee DA and Bouten CV. *Ann. Biomed. Eng.* vol. 29, (2) 153-163.

Embryonic stem cells: scientific possibilities, ethical considerations, and regulation in the UK.
Lee DA. *Interdiscipl Sci Rev* vol. 26, (2) 112-124.

VIDA: a virus database system for the organization of animal virus genome open reading frames.
Albà MM, Lee D, Pearl FMG, Shepherd AJ, Martin N, Orengo CA and Kellam P. *Nucleic Acids Research* vol. 29, (1) 133-136. Oxford University Press (Oup).

A rapid classification protocol for the CATH Domain Database to support structural genomics.

Pearl FM, Martin N, Bray JE, Buchan DW, Harrison AP, Lee D, Reeves GA, Shepherd AJ, Sillitoe I, Todd AE, Thornton JM and Orengo CA. *Nucleic Acids Research* vol. 29, (1) 223-227. Oxford University Press (Oup).

2000

A system for monitoring the response of uniaxial strain on cell seeded collagen gels.
Cacou C, Palmer D, Lee DA, Bader DL and Shelton JC. *Med Eng Phys* vol. 22, (5) 327-333.

Confocal analysis of cytoskeletal organisation within isolated chondrocyte sub-populations cultured in agarose.
Idowu BD, Knight MM, Bader DL and Lee DA. *Histochem J* vol. 32, (3) 165-174.

An experimental investigation of immersed gratings.

Lee D and Allington-Smith JR. *Monthly Notices of The Royal Astronomical Society* vol. 312, (1) 57-69. Oxford University Press (Oup).

Chondrocyte deformation within compressed agarose constructs at the cellular and sub-cellular levels.

Lee DA, Knight MM, Bolton JF, Idowu BD, Kayser MV and Bader DL. *J Biomech* vol. 33, (1) 81-95.

The influence of mechanical loading on isolated chondrocytes seeded in agarose constructs.

Lee DA, Noguchi T, Frean SP, Lees P and Bader DL. *Biorheology* vol. 37, (1-2) 149-161.

Assigning genomic sequences to CATH.

Pearl FM, Lee D, Bray JE, Sillitoe I, Todd AE, Harrison AP, Thornton JM and Orengo CA. *Nucleic Acids Research* vol. 28, (1) 277-282. Oxford University Press (Oup).

Chapter 4 Structure Properties of Soft Tissues Articular Cartilage.

Bader D and Lee D. *Structural Biological Materials - Design and Structure-Property Relationships* 75-103. Elsevier.

1999

Transcriptional repression of the transforming growth factor- type I receptor gene by DNA methylation results in the development of TGF- resistance in human gastric cancer.

Kang SH, Bang Y-J, Im Y-H, Yang H-K, Lee DA, Lee HY, Lee HS, Kim NK and Kim S-J. *Oncogene* vol. 18, (51) 7280-7286. Springer Nature.

MultipleObject and Integral Field NearInfrared Spectroscopy Using Fibers.

Haynes R, Lee D, Allington Smith J, Content R, Dodsworth G, Lewis I, Sharples R, Turner J, Webster J, Done C, Peletier R, Parry I and Chapman S. *Publications of The Astronomical Society of The Pacific* vol. 111, (765) 1451-1468. Iop Publishing.

The effects of storage temperature on the composition, metabolism acid biomechanical properties of human articular cartilage.

White AET, Bentley G, Stephens MD, Bader DL, Giddins GEB and Lee DA. *Knee* vol. 6, (3) 197-205.

Introducing Fare Simplification and New Convenience Fares at Connecticut Transit.

Lee DA. *Transportation Research Record Journal of The Transportation Research Board* vol. 1669, (1) 109-112. Sage Publications.

1998

A Tour through through.

Lee D. *Journal of English Linguistics* vol. 26, (4) 333-351. Sage Publications.

Response of chondrocyte subpopulations cultured within unloaded and loaded agarose.

Lee DA, Noguchi T, Knight MM, O'Donnell L, Bentley G and Bader DL. *J Orthop Res* vol. 16, (6) 726-733.

The influence of elaborated pericellular matrix on the deformation of isolated articular chondrocytes cultured in agarose.

Knight MM, Lee DA and Bader DL. *Biochim Biophys Acta* vol. 1405, (1-3) 67-77.

Dynamic mechanical compression influences nitric oxide production by articular chondrocytes seeded in agarose.

Lee DA, Frean SP, Lees P and Bader DL. *Biochem Biophys Res Co* vol. 251, (2) 580-585.

The pH-Induced Release of Iron from Transferrin Investigated with a Continuum Electrostatic Model.

Lee DA and Goodfellow JM. *Biophysical Journal* vol. 74, (6) 2747-2759. Elsevier.

Measurement of the deformation of isolated chondrocytes in agarose subjected to cyclic compression.

Knight MM, Ghori SA, Lee DA and Bader DL. *Med Eng Phys* vol. 20, (9) 684-688.

A specific quantitative assay for collagen synthesis by cells seeded in collagen-based biomaterials using sirius red F3B precipitation.

Lee DA, Assoku E and Doyle V. *J Mater Sci-Mater M* vol. 9, (1) 47-51.

1997

Effect of Normal Synovial Fluid on the Metabolism of Articular Chondrocytes In Vitro.

Lee DA, Salih V, Stockton EF, Stanton JS and Bentley G. *Clinical Orthopaedics and Related Research* vol. 342, (&NA;) 228-238. Wolters Kluwer.

Quantitative Evaluation of the Exploration Strategies of a Mobile Robot.

Lee D and Recce M. *The International Journal of Robotics Research* vol. 16, (4) 413-447. Sage Publications.

Compressive strains at physiological frequencies influence the metabolism of chondrocytes seeded in agarose.

Lee DA and Bader DL. *J Orthop Res* vol. 15, (2) 181-188.

Prevalence of antiVif antibodies in HIV1 infected individuals assessed using recombinant baculovirus expressed Vif protein.

O'Neil C, Lee D, Clewley G, Johnson MA and Emery VC. *Journal of Medical Virology* vol. 51, (3) 139-144. Wiley.

Frame conflicts and competing construals in family argument.

Lee DA. *Journal of Pragmatics* vol. 27, (3) 339-360. Elsevier.

Use of polymerase chain reaction to provide prognostic information on human cytomegalovirus disease after liver transplantation.

Lao WC, Lee D, Burroughs AK, Lanzini G, Rolles K, Emery VC and Griffiths PD. *Journal of Medical Virology* vol. 51, (3) 152-158. Wiley.

1996

Preliminary Results From the Cancer Research Campaign Trial Evaluating Tamoxifen Duration in Women Aged Fifty Years or Older With Breast Cancer.

Group CTWPOTCRCBCT. *Journal of The National Cancer Institute* vol. 88, (24) 1834-1839. Oxford University Press (Oup).

Quantification of sulfated glycosaminoglycans in chondrocyte/alginate cultures, by use of 1,9-dimethylmethylen blue.

Enobakhare BO, Bader DL and Lee DA. *Anal Biochem* vol. 243, (1) 189-191.

J. Virol. Methods Erratum to Detection of human cytomegalovirus polymerase chain reaction products using oligonucleotide probes directly conjugated to alkaline phosphatase [61 (1996) 145].

Gor D, Lee D and Emery VC. *Journal of Virological Methods* vol. 62, (2).Elsevier.

Detection of human cytomegalovirus polymerase chain reaction products using oligonucleotide probes directly conjugated to alkaline phosphatase.

Gor D, Lee D and Emery VC. *Journal of Virological Methods* vol. 61, (1-2) 145-150. Elsevier.

An investigation of the growth of human dermal fibroblasts on poly-L-lactic acid in vitro.

Doyle V, Pearson R, Lee D, Wolowacz S and Mc Taggart S. *Journal of Materials Science: Materials in Medicine* vol. 7, (6) 381-385. Springer Nature.

Conformational analysis of pentapeptide sequences matching a proposed recognition motif for lysosomal degradation.

Gorinsky B, Laskowski RA, Lee DA and Bomford A. *Biochimica Et Biophysica Acta* vol. 1293, (2) 243-253. Elsevier.

Implementing a Visioning and Strategic Planning Process at CTTtransit.

Lee D and Sanders M. *Transportation Research Record Journal of The Transportation Research Board* vol. 1521, 58-61. Sage Publications.

1995

The development and characterization of an in vitro system to study strain-induced cell deformation in isolated chondrocytes.

Lee DA and Bader DL. *In Vitro Cell Dev-An* vol. 31, (11) 828-835.

1994

Proteoglycan depletion alone is not sufficient to stimulate proteoglycan synthesis in cultured bovine cartilage explants.

Lee DA, Bentley G and Archer CW. *Osteoarthritis and Cartilage* vol. 2, (3) 175-185. Elsevier.

Characterization of the repair tissue in articular cartilage defects using silver-enhanced colloidal gold immunostaining.

Reissis N, Downes S, Kayser M, Lee D and Bentley G. *Journal of Materials Science: Materials in Medicine* vol. 5, (6-7) 402-406. Springer Nature.

1993

The control of cell division in articular chondrocytes.

Lee DA, Bentley G and Archer CW. *Osteoarthritis and Cartilage* vol. 1, (2) 137-145. Elsevier.

1991

Categories in the description of just.

Lee DA. *Lingua* vol. 83, (1) 43-66. Elsevier.

1990

Effects of ascorbate on myogenesis in micromass culture.

Archer CW, Cottrill CP and Lee D. *In Vitro Cellular & Developmental Biology* vol. 26, (3) 259-264. Springer Nature.

1989

Relation between the rate of cell movement under agarose and the positioning of cells in heterotypic aggregates.

Jones BM, Evans PM and Lee DA. *Experimental Cell Research* vol. 180, (1) 287-296. Elsevier.

1988

Moth Density and Oviposition Patterns of the European Corn Borer, *Ostrinia nubilalis* (Lepidoptera: Pyralidae), in Alberta.

Lee DA. *Environmental Entomology* vol. 17, (2) 220-224. Oxford University Press (Oup).

1987

Reproductive patterns of the European corn borer (*Ostrinia nubilalis*) in Alberta.

Lee DA and Spence JR. *Canadian Journal of Zoology* vol. 65, (7) 1733-1740. Canadian Science Publishing.

The semantics of just.

Lee D. *Journal of Pragmatics* vol. 11, (3) 377-398. Elsevier.

1983

Prevalence and spectrum of asthma in childhood.

Lee DA, Winslow NR, Speight AN and Hey EN. *The Bmj* vol. 286, (6373). Bmj.

Underdiagnosis and undertreatment of asthma in childhood.

Speight AN, Lee DA and Hey EN. *The Bmj* vol. 286, (6373). Bmj.