

Cellutations



Newsletter for the Department of Cell Biology, UMass Medical School

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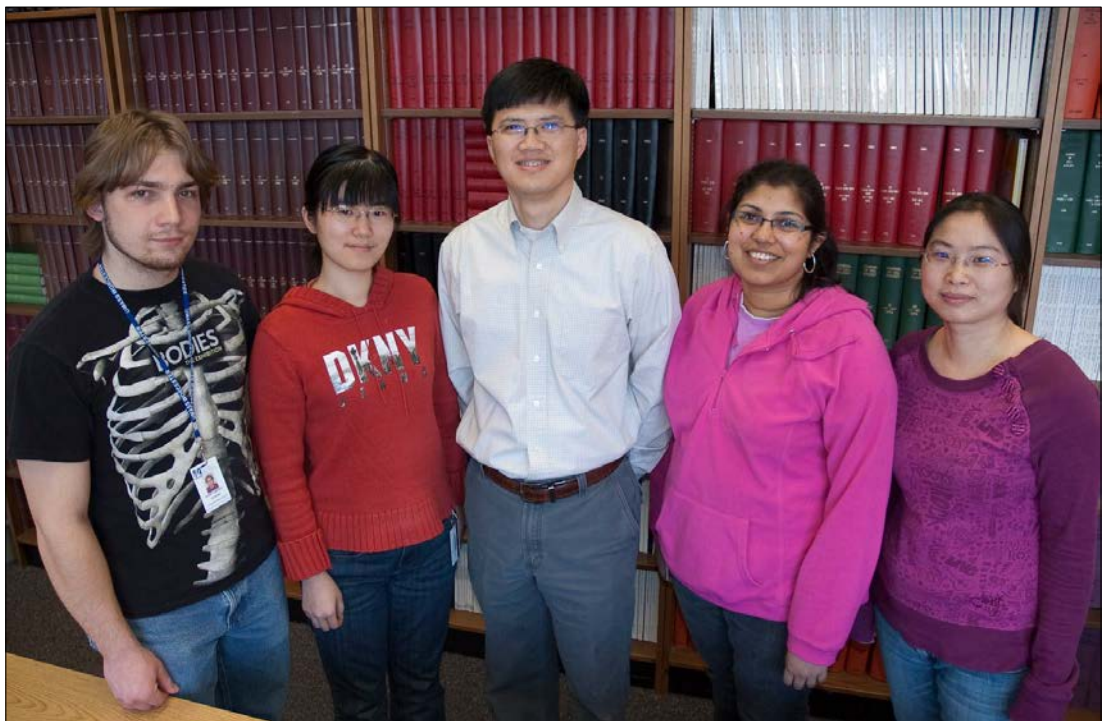
Focus

Zhang Lab

Aging is traditionally viewed as a process of wear and tear. A range of damage can be accumulated over time, including exposure to toxins, radiation, ultraviolet light or free radicals produced by our own body. As a result of the insults, cells and tissues in our body are simply worn out. This view of aging and many variations of it, such as free radical, somatic mutation, error catastrophe or neuroendocrine theory, emphasize aging as a defect, thus it is possible to repair the defect and avoid aging. This theory is made very popular with the general public by many news outlets and commercial interests, trying to convince people to take so-called anti-aging pills or supplement. However, there is no evidence to support such wear and tear theory of aging. Wear and tear is the result, but not the cause of aging.

Advances in Genetics and Molecular Biology suggest that aging is genetically programmed and influenced by environmental factors. Even in a perfect environment, we are genetically predetermined to have a limited life span. Aging is thus not a defect, but serves a purpose. As evolution selects for fitness, survival and reproduction, then why does natural selection lead to aging instead of eternal youth or immortality? A simplistic explanation is that manifestations of aging happen after the reproductive period which is beyond the reach of natural selection. The fact that aging occurs in almost all species and every individual suggests that aging is actively selected for

by natural selection. But why does natural selection favor traits as detrimental as aging? One plausible explanation is the antagonistic pleiotropy theory of aging, which proposes that aging evolves due to the pleiotropic effect of genes that are beneficial early in life and then harmful at late ages. Since natural selection weakens against a genetic trait with adverse effects later in life, such trait, if it is beneficial early in life, is favored by natural selection. One such antagonistically pleiotropic trait that is thought to cause deleterious (aging) phenotype is senescence, a process in which cells stop proliferating. It is hypothesized that senescence benefits an organism early in life by acting as an important tumor suppression mechanism. As tumorigenesis is a multi-step process in which a normal cell acquires changes in a number of critical cancer causing genes, senescence limits proliferative capacity of cells and consequently impedes the accumulation of multiple mutations necessary for tumorigenesis. However, for complex organisms such as mammals, cell proliferation is very important for renewal, repair or



Pictured left to right are Ivan Lebedev, Hang Cui, Hong Zhang, Charu Ramkumar and Yahui Kong.

Zelma Haidak Memorial Scholar Award

In 1996 Dr. Gerald Haidak established the "Zelda Haidak Memorial Scholar" fellowship to honor his beloved wife. The annual award is funded from an endowment that provides a stipend for an outstanding female scientist at the initial stages of her career. Nominations are solicited from all Department of Cell Biology faculty. Applications are then screened and final selection is made by the Haidak Scholar Departmental Committee. The amount of the award varies – approximately \$5000.



The Haidak Scholar Departmental Committee has chosen Charusheila (Charu) Ramkumar to be designated Zelda Haidak Memorial Scholar for the 2008-2009 academic year. Please join us in congratulating her for this well deserved distinction.



The Haidak Scholar Departmental Committee has chosen Tingting Huang to be designated Zelda Haidak Memorial Scholar for the 2009-2010 academic year. Please join us in congratulating her for this well deserved distinction.

regeneration to replace damaged cells. By limiting cell proliferation, senescence is thought to contribute to aging by depleting the renewal capacity of tissues and/or interfering with tissue homeostasis and function.

The Zhang lab is interested in understanding the molecular mechanisms of cellular senescence and its biological functions in cancer and aging. We employ both mammalian cell culture models and genetically modified mouse models to identify and characterize genetic pathways that control senescence. These studies help us design strategies to manipulate senescence response *in vivo* using genetically modified mouse models, with which we will investigate the biological functions of senescence in cancer and aging. Our current focus is on Smurf2, an E3 ubiquitin ligase that we have identified as a key regulator of senescence. By manipulating the expression of Smurf2 in mouse, we hope to modulate the senescence response *in vivo* for our studies.

There are now two postdoctoral fellows, one graduate student and one undergraduate student in the Zhang lab. Charusheila (Charu) Ramkumar joined the lab in the summer of 2006. Charu is from Pune, a city in Western India. She graduated from Maharashtra University of Health Sciences with a Bachelor of Medicine and Surgery. Charu's research interest is in the antagonistic pleiotropic function of senescence. She made a Smurf2-deficient mouse model, and has found that deficiency in Smurf2 leads to spontaneous tumorigenesis in mice, suggesting that Smurf2 is a tumor suppressor. She presented her work at the Frontier in Basic Cancer Research meeting, and her poster was well received. She is currently using different tumor models to further examine the role of Smurf2 in tumorigenesis. Much to her delight, Charu found that the Smurf2-deficient mice also have increased number of hematopoietic stem cells, and these stem cells have a better response to stress. She is now investigating whether Smurf2-deficient hematopoietic stem cells have a better renewal capacity, and whether they provide an advantage in aging. Charu loves to travel, meet people and politics. Her family of four (parents and brother) live in three countries on two continents, and it is difficult for all four of them to meet. She is eagerly looking forward to a family reunion in February. The goals that Charu sets up for 2010 are: hike up Mt. Washington, meet Jon Stewart, and graduate.

Yahui Kong joined the lab as the first postdoctoral fellow in the fall of 2006. Yahui is from Jiangsu province in Eastern China. She graduated with a B.S. and M.S. in Cell Biology from Nanjing Normal University and a Ph.D. in Human Molecular Genetics from Fudan University in China. Yahui is interested in the regulation of p16, a key regulator of senescence and aging. She has identified a novel mechanism through which Smurf2 regulates the expression of p16. This part of her work was selected for an oral presentation at American Association for Cancer Research annual meeting in San Diego, and Yahui gave a terrific presentation. Yahui is now taking her new finding to mouse models, investigating the function of this new regulatory mechanism in stem cell maintenance and aging. Yahui is also interested in tumor metastasis, and has found that Smurf2 suppresses metastasis of breast cancer cells dependent of its E3 ligase activity. She is now investigating which Smurf2 target is responsible for its suppression of metastasis. Yahui enjoys reading, cooking, movies and music. She also likes shopping and spending time with friends. She is trying a few outdoor activities to stay active and relax.

Hang Cui graduated from China Agricultural University and received a Ph.D. in Plant Pathology from University of Edinburgh in UK. As trained to work with Arabidopsis, it is quite a challenge for Hang to switch to mouse and mammalian cells, but she picked it up right away. Hang is interested in the regulation of p21,

a key regulator of senescence cancer and aging. Her recent work showed that the Notch pathway plays a significant role in senescence by regulating p21. To further understand the regulation of senescence, Hang set up a genetic screen to identify senescence genes. Working with Tyler Doughty, an undergraduate student from WPI, Hang has identified some very interesting genes, which she will follow to investigate their functions in senescence. Working with Yahui, Hang has made two mouse models in which the expression of Smurf2 can be induced temporally and spatially. Using these mouse models, she is investigating the consequence of increased Smurf2 expression and induced senescence in aging and tumorigenesis. Hang is from Qiqihar, a city in Northeastern China near the border with Russia. Winter in her hometown is much colder than it is in New England. She likes travel and experiencing different cultures and foods.

Ivan Lebedev is the latest member joining the lab in the fall of 2009. Ivan is a junior at WPI, majoring in Biomedical Engineering. Ivan is interested in tumorigenesis in Smurf2-deficient mice. He is using a DMBA model to test whether compromise in the senescence response will facilitate the progression of benign tumors to aggressive carcinomas. Ivan is also helping Charu with mouse genotyping and is on the right track to become a genotyping “guru”. Ivan was born in Russia but grew up in Southern California, and has been in the east coast since 2006. In his free time, Ivan enjoys skiing, tennis, mountain biking as well as fiddling with car engines and small electronics. He is a very good engineer, and is very confident that there isn’t anything he can’t fix. After graduating from WPI, Ivan plans to attend medical school.

Faculty Awards



Three outstanding members of our faculty have been recognized by the Class of 2011 for outstanding contributions to Medical Education. We congratulate Sue Gagliardi, Anne Gilroy, and Krista Johansen for receiving “Outstanding Medical Educator Awards”, presented to faculty members whom the Class believes continually go “above and beyond” in the teaching of the basic science curriculum and someone they would like to emulate in their own careers.



Michele Pugnaire, Senior Associate Dean of Educational Affairs presented Krista Johansen on the left and Lisa Hall on the right with the Educational Achievement Star Award. The Star Award is presented for outstanding individual achievements in medical student education. Also receiving the award but not pictured was James Crandall.

Chancellor’s Medal for Distinguished Teaching



During Convocation, **Susan Gagliardi** was honored by Chancellor Michael Collins as the first recipient of the Chancellor’s Medal for Distinguished teaching. In his praise the Chancellor stated that “Dr. Gagliardi was recognized as a teacher who utilizes a learner-centered approach, who listens to her students and acts on what she hears to create a series of interactive experiences in and outside of the classroom.” Sue has been invited to present the inaugural “Last Lecture” which will recognize the importance of teaching and take place in the Spring.

Emeritus Award



Ken Wolf was presented with the Emeritus/Emerita Award for Excellence in Medical Education. This award is presented for ongoing contributions by retired basic science and clinical faculty to the education of our medical students.

Publications

2010

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Zhang Y, Lian JB, Stein JL, van Wijnen AJ, Stein GS. 2009. The Notch-responsive transcription factor Hes-1 attenuates osteocalcin promoter activity in osteoblastic cells. J Cell Biochem 108:651-659.

Posters and Presentations

ASBMR 32nd Annual Meeting, Toronto, ON, Canada, October 15-19, 2010. Presentations & Posters

Akech J, Wixted JJ, Bedard K, van der Deen M, Hussain S, Gokul K, van Wijnen AJ, Stein JL, Languino LR, Altieri DC, Pratap J, Keller E, Stein GS, Lian JB. 2010. Subnuclear targeting deficient mutations of Runx2 abrogate cellular migration and metastasis in prostate cancer cells. J Bone Miner Res 25 (Suppl 1).

Gordon JAR, Hassan MQ, Wu H, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2010. SIRT2 is a protein deacetylase involved in the regulation of osteoblastogenesis by inhibiting adipogenesis. J Bone Miner Res 25 (Suppl 1).

Hassan MQ, Gordon J, Beloti MM, Croce CM, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2010. A regulatory loop of Runx2 downregulates expression of the miR-23a~27a~24-2 cluster which targets SATB2 for control of the osteoblast differentiation program. J Bone Miner Res 25 (Suppl 1).

Gaur T, Hussain S, Russell S, Kim L, Colby J, Frederick D, van Wijnen AJ, Eyre DR, Stein JL, Stein GS, Jones SN, Lian JB. 2010. Dicer excision in mature osteoblasts in the postnatal skeleton induces high bone mass by inactivating miR that attenuate bone formation. J Bone Miner Res 25 (Suppl 1).

Patent

George Witman along with co-inventors, Greg Pazour in Program in Molecular Medicine at UMMS, Joel Rosenbaum of Yale University, and Doug Cole of U. of Idaho, were awarded a patent for; Methods of identifying compounds useful for modulating intraflagellar transport. Patent No. 7,553,674.

Humanities in Medicine Lecture

Anne Gilroy was a guest lecturer for The Humanities in Medicine Committee of the Lamar Soutter Library. Anne's presentation "A View into the Elegant, Dramatic and Comedic Worlds of Anatomical Art" was presented in the Library's Rare Book Room on January 13, 2010.

Young Investigator Awards

Mohammad Q. Hassan, from the Stein/Lian/vanWijnen lab, was awarded the AIMM/ASBMR John Haddad Young Investigator Award and presented his talk on "MicroRNA cluster miR-23a-27a-24-2 regulation of SATB2 and Runx2 during osteoporosis." The Advances in Mineral Metabolism AIMM/ASBMR John Haddad Young Investigators Meeting was held at Snowmass, CO, from April 6-10, 2010.

Nadiya Teplyuk, PhD from the Stein/Lian/vanWijnen lab was awarded the Harold M. Frost Young Investigator Award at the Sun Valley Workshop on Musculoskeletal Biology Aug 9-12, 2009, Sun Valley, Idaho. \$1500

ASBMR Young Investigator Travel Grant

Gordon JAR, Hassan MQ, Wu H, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2010. SIRT2 is a protein deacetylase involved in the regulation of osteoblastogenesis by inhibiting adipogenesis. J Bone Miner Res 25 (Suppl 1). Available at <http://www.asbmr.org/Meetings/AnnualMeeting/AbstractDetail.aspx?aid=bf0f8bed-c4f6-4a6c-b6f3-1b80f60deefe>

Posters and Presentations *continued*

Gordon JAR, Hassan MQ, Koss M, Saini S, Montecino M, Selleri L, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2010. Epigenetic control of osteoblastogenesis by Pbx1 repressing Hoxa10-mediated recruitment of activating chromatin remodeling factors. J Bone Miner Res 25 (Suppl 1).

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Teplyuk NM, Cotton J, Gordon J, Teplyuk VI, Galindo M, Chen D, Bae S-C, Lian JB, Stein JL, Stein GS, van Wijnen AJ. 2010. Runx2 stimulation of HSP70/HSPA1B gene transcription decreases Runx2 protein stability in osteoprogenitors. J Bone Miner Res 25 (Suppl 1).

Oral presentations at the ASBMR 31st Annual Meeting, September 11-15, 2009, Denver, Colorado:

Gaur T, Hussain S, Mudhasani R, Parulkar I, Kream BE, van Wijnen AJ, Stein JL, Jones SN, Stein GS, Lian JB. 2009. Dicer inactivation in osteoblast lineage cells compromises osteoblastogenesis and fetal survival but increases bone mass in post-natal mice. J Bone Miner Res 24 (Suppl 1).

Gordon JAR, Hassan MQ, Montecino M, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2009. Epigenetic modification of osteoblast genes are regulated by HOXA10 and PBX1 complexes during osteoblastogenesis. J Bone Miner Res 24 (Suppl 1).

Poster presentations at the ASBMR 31st Annual Meeting, September 11-15, 2009, Denver, Colorado:

Gordon JAR, Islam MS, Hassan MQ, Gaur T, van Wijnen AJ, Stein JL, Stein GS, Lichtler AC, Morasso MI, Lian JB. 2009. Dlx3 is a transient negative regulator of osteoblast genes linked to Runx2 activation of osteoblast differentiation. J Bone Miner Res 24 (Suppl 1).

Pratap J, Imbalzano KM, Underwood JM, Cohet N, Gokul K, Hussain S, Akech J, van Wijnen AJ, Stein JL, Imbalzano AN, Nickerson JA, Lian JB, Stein GS. 2009. Runx2 promotes oncogenesis of mammary epithelial acini and tumor growth in vivo. J Bone Miner Res 24 (Suppl 1). Available at

Li Z, Hassan MQ, Jafferji M, Aqeilan R, Croce CM, van Wijnen AJ, Stein JL, Lian JB, Stein GS. 2009. MicroRNAs expressed during osteoblast differentiation suppress osteogenic inhibitors, promote mineralization and prevent fibrosis. J Bone Miner Res 24 (Suppl 1).

Teplyuk NM, Haupt LM, Ling L, Dombrowski C, Mun FK, Nathan SS, Lian JB, Stein JL, Stein GS, Cool SM, van Wijnen AJ. 2009. The osteogenic transcription factor Runx2 regulates components of the fibroblast growth factor/proteoglycan signaling axis in osteoblasts. J Bone Miner Res 24 (Suppl 1).

Hassan MQ, Duverger O, van Wijnen AJ, Stein JL, Stein GS, Morasso MI, Lian JB. 2009. TDO: a frameshifted DLX3 mutant controls bone formation by regulating RUNX2 transcriptional activity. J Bone Miner Res 24 (Suppl 1).

Kurek K, Salah Z, Del Mare D, Abdin D, Jones K, DeYoung B, Lee S-H, Amir G, Gebhardt M, Warman M, Stein G, Lian J, Aqeilan RI. 2009. Expression and pathological relevance of the WWOX tumor suppressor in human osteosarcoma. J Bone Miner Res 24 (Suppl 1).

Posters and Presentations - Assorted Meetings

Charusheila Ramkumar presented at a poster at the AACR (American Asso. of Cancer Research) meeting entitled Frontiers in Basic Cancer Research at Boston on Oct 11th 2009. The title of her poster was Smurf2-deficient mice exhibit increased tumorigenesis.

Li Z, Hassan MQ, Jafferji M, Garzon R, Croce CM, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2009. Biological functions of miR-29b contribute to positive regulation of osteoblast differentiation. Abstract for 3rd New York Skeletal Biology and Medicine Conference.

Oral presentation by Yang Lou at the 2009 Bones & Teeth Gordon-Kenan Research Seminar, July 11-12, University of New England, Biddeford, ME: Liu JC, Lengner CJ, Gaur T, Lou Y, Henderson JE, van Wijnen AJ, Stein JL, Stein GS, Lian JB. 2009. Developmentally selective expression and activities of Runx2 isoforms in vivo.

Poster Presentation at the 9th International Meeting on Cancer Induced Bone Disease, Arlington, VA, October 28-31, 2009. Pratap J, Imbalzano KM, Wixted JJ, Gokul K, Hussain S, Underwood JM, Akech J, van Wijnen AJ, Stein JL, Imbalzano AN, Nickerson JA, Stein GS. Runx2 promotes tumor growth and osteolytic lesions associated with breast cancer.

Short poster talk at the ORS 56th Annual Meeting, March 6-9, 2010 in New Orleans, Louisiana: LeBlanc KT, Fanning PJ, Gaur T, Tadiri CP, Basil K, O'Connell SL, Silva JA, Stein GS, Lian JB, Ayers DC. Distinct expression of Runx1/AML1 in subpopulations of chondrocytes in a mouse model of osteoarthritis.

Short Talk Poster presentation at the 56th Annual Meeting of the Orthopaedic Research Society, March 6-9, 2010, New Orleans, Louisiana: Jones MD, Liu JC, Barthel TK, Mulay S, Hussain S, Bouxsein ML, Ayers DA, Stein GS, Mukherjee S, Lian JB. Bortezomib, a proteasome inhibitor, prevents breast cancer metastatic tumor growth and independently reduces the accompanying osteolytic bone disease.

Poster presentation at the 56th Annual Meeting of the Orthopaedic Research Society, March 6-9, 2010, New Orleans, Louisiana: Jones MD, Lovria E, Liu J, Hussain S, Borodic B, Mason-Savas A, Stein GS, Lian JB, Ayers DA. The Proteasome inhibitor bortezomib stimulates skeletal response to fracture repair.

Oral presentation at the ECTS 37th European Symposium on Calcified Tissues, June 26-30, 2010, Glasgow, Scotland: Lian JB, Stein GS, Croce C, Stein JL, van Wijnen AJ, Li Z, Hassan MQ, Gaur T, Aqeilan R, Jafferji M, Zhang Y. Significance of microRNA Control of bone formation and homeostasis.

Poster presentation at the ASBMB Experimental Biology 2010, Anaheim, CA, April 24-28, 2010. Teplyuk NM, van der Deen M, Galindo M, Teplyuk VI, Gupta A, Young DW, Pratap J, Lapointe D, Javed A, Hawse JR, Cool SM, Westendorf JJ, Stein JL, Lian JB, Stein GS, van Wijnen AJ. Runx2 regulates diverse gene expression programs to (de)sensitize the osteogenic and/or mitogenic responses of osteoblast progenitors and osteosarcoma cells.

Poster presentation at the ASBMB Experimental Biology 2010, Anaheim, CA, April 24-28, 2010. Zhang Y, Hovhannisyan H, Hassan MQ, Glackin C, Lian JB, Stein JL, Montecino M, Stein GS, van Wijnen AJ. A Helix-Loop-Helix motif within a genomic DNaseI footprint of the Runx2 gene promoter is essential for basal bone tissue-specific transcription.

Posters and Presentations at the 49th Annual Meeting of the American Society for Cell Biology in San Diego in December 2009:

Karl Lehtreck presented a minisymposium talk titled "The Chlamydomonas BBSome is transported by a subset of IFT particles and necessary for normal flagellar membrane composition." Co-authors on this presentation were Eric Johnson, Tsuyoshi Sakai, Bryan Ballif, Deborah Cochran, Gregory Pazour, James Evans, Mitsuo Ikebe, and George Witman.

Branch Craig and co-authors Yuqing Hou, Karl Lehtreck, and George Witman presented a poster on "Chlamydomonas CEP290 is a transition zone protein required for normal intraflagellar transport and flagellar assembly."

Jason Brown with co-authors Dan Quarless, Karl Lehtreck and George Witman presented a poster titled "A screen for Chlamydomonas insertional mutants with altered deflagellation-induced gene expression."

Antonio Castillo-Flores with co-authors James Evans and George Witman presented a poster on "The flagella membrane of Chlamydomonas is a specialized lipid domain of the plasma membrane,"

Flavor of the Department

Steve's Sweet Potato Soup

Outstanding as a starter course for a holiday meal, or serve with bread for lunch. Makes about 11 cups, serving 8-10.

Soup

3/4 cup finely chopped onion
1 cup finely chopped leek (washed and drained)
2 large garlic cloves, minced
3 large carrots, peeled and sliced thin (about 1 1/2 cups)
1 bay leaf
3 tablespoons unsalted butter
2 lbs (about 3 large) sweet potatoes
1/2 lb (1 large) russet baking potato
5 cups chicken broth (low sodium)
3/4 cup dry white wine
1 1/2 cups water

Topping

3/4 cup chopped pecans
2 tablespoons unsalted butter
crème fraiche or light sour cream

Soup: In a large kettle, cook the onion, leek, garlic and carrots with the bay leaf (and salt and pepper to taste) in the butter over moderate heat, stirring, until the vegetables are softened. Add the sweet potatoes and russet potato, both peeled, halved lengthwise, and sliced thin. Add the 5 cups of broth, the wine, and the water. Cover and simmer the mixture for 30 minutes or until the potatoes are very tender. Discard the bay leaf and puree the mixture in a blender in batches until smooth, transferring it as it is pureed into a large saucepan or a second kettle. (I transfer puree into a very large mixing bowl until I have emptied the first kettle, then rinse the kettle and transfer the puree back into the kettle). At this point you can add more chicken broth to thin to desired consistency (I usually don't) and season the soup with salt and white pepper to taste. (The soup can be made 1 day in advance, kept covered and chilled, and reheated prior to serving.)

Topping: In a skillet, cook the pecans in butter with salt over moderate heat, stirring until golden brown (about 10 minutes). Transfer pecans to paper towel to drain. (The pecans can be made 1-2 days in advance, and kept in a sealable airtight plastic bag at room temperature.)

Divide the soup among bowls and top each bowl with a dollop (1 large tablespoon) of light sour cream or a drizzle of the crème fraiche. Sprinkle with the buttered pecans and serve.

PhotoWorthy

Department Chairman, Gary Stein, addresses the walkers at the kickoff of the 2009 UMMS Walk to Cure Cancer.



Stephen Jones and Dianne Person coordinated a bake sale that benefited the 2010 UMMS Walk to Cure Cancer. Many people from the department donated baked goods that raised \$507.00 in sales.



Susan Gagliardi leads the SOM 1 new curriculum meeting.



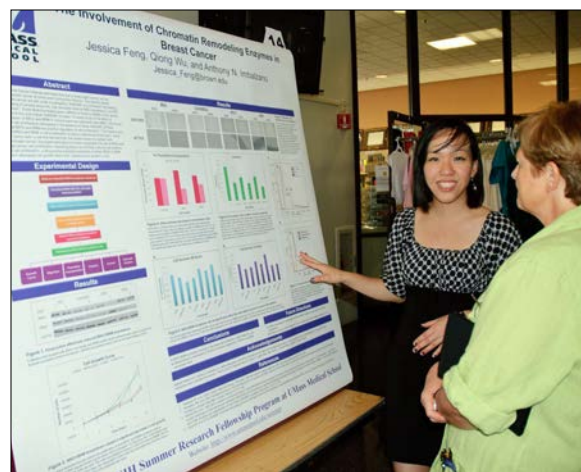
Ok Hyun Cho, from the Imbalzano and Rivera labs, is videotaped for the Journal of Visual Experimentation (JOVE).



Eric Swanson selects a raffle prize from the donations to the department's annual Comecc raffle.



The Rivera lab combined their Annual Fiesta with Mid Month Madness.



Jessica Feng, a summer student in the Imbalzano lab, presents her summer research poster.

New Babies



In the previous issue of Cellutations the four women in the top photo were captured in various stages of pregnancy. This issue we picture the same women with their baby daughters. In the middle photo from the left are Margaretha van der Deen and her daughter, Tessa Anne Guikema; Karen Gardiner and her daughter, Hailey Bella Gardiner; Sakthi Sundararajan and her daughter, Laksha Nandhini Balaji; and Tripti Gaur and her daughter, Svasti Rathi.



Seated together left to right are Svasthi (means good life/being in Sanskrit) Rathi, born June 6, 2009 to Tripti Gaur and Rahul Rathi. Hailey Bella Gardiner, born July 30, 2009 to Karen and Robert Gardiner. Hailey weighed 9lbs 1 oz at birth and was 20.5 inches long. Laksha Nandhini Balaji was born on July 16, 2009 and joins her mother Sakthi Sundararajan, her father, Balaji Doraibabu and an older brother. To the far right is Tessa Anne Guikema, born September 24, 2009 to Margaretha van der Deen and Jeroen Guikema. Tessa now lives with her parents in the Netherlands.



Congratulations to Dawn Carone, from the Lawrence lab, and her husband Ben, for the birth of their son, Gabriel Robert Carone, born September 4, 2010, at 9:29 AM Gabriel weighed 6lb 15oz, and was 19 inches long.



Congratulations to Yumi Uetake, from the Sluder lab, and her husband Eric Veien, they are the proud parents of a baby boy, Kai Uetake Veien, born June 8, 2010. Kai's name comes from Japanese and Norwegian. Yumi is Japanese and her husband is an American with Norwegian roots.

New Faces

Özkan Aydemir



Özkan Aydemir is a postdoc in the Stein/Lian lab. He was born and raised in Istanbul, Turkey and earned his PhD from the Institute of Neurobiology, University of Muenster, Muenster, Germany. His dissertation research was studying sensory and synaptic specification of olfactory receptor neurons of *Drosophila melanogaster*. Özkan's wife, Yeliz Aydemir, is a postdoc in the UMMS Neurobiology department. Özkan considers himself a "very talented" soccer player and movie watcher.

Joe BuAbbud



Joe BuAbbud is an undergraduate research intern in the Stein/Lian lab. Joe is in his final year of studies at Clark University. His current research interest is Allele specific siRNA knockdown of the single nucleotide polymorphism of FGFR3 that causes Achondroplasia (Dwarfism). Joe is a Shrewsbury HS graduate but was born in Texas and moved to MA in 2002. His sister is a Medical Student here at UMMS. In his free time Joe enjoys hunting, snowboarding and working on his car.

Peter Bradley



Peter Bradley is a visiting professor in the Stein/Lian lab. He teaches tissue culture, biotechnology, plant and soil sciences and general biology at Worcester State University. Originally from England he earned his PhD from WPI. Peter and his wife have two children, Christopher, 23, and Sarah, 21, both are students. In his free time he enjoys running, tai chi and marital arts and his second home in Vermont.

Dawn Carone



Dawn Carone is a Postdoc in the Lawrence Lab. She earned her PhD at the University of Connecticut, in Storrs, CT. Her PhD dissertation was about "The Role of Retroviruses and RNA in Mammalian Centromere Competency." She is currently working on projects to determine a functional role for repeat DNA in cancer and to determine if repeats located in the region of the X chromosome that escapes X inactivation in humans are part of the mechanism, or signal. Dawn's husband, Ben, is a postdoc in the Rando lab in LRB. They live with their border collie, Rozie. Dawn and her husband recently celebrated the birth of their first child, a boy, in late August. In her free time Dawn enjoys outdoor activities like biking, hiking and camping. She also enjoys wakeboarding in the summer and snowboarding in the winter. She played classical piano for ten years and hopes to get back to it soon.

Ok Hyun Cho



Ok Hyun Cho is a postdoc in the Imbalzano and Rivera labs. She earned her PhD in Immunology from UMass Amherst. Her current research interests include studying skeletal muscle development in murine early embryo. She lives with her husband and two daughters.

Kumar Cinghu



Senthilkumar "Kumar" Cinghu joined the Stein Lab as a post doc. He earned his PhD from the University Of Madras, in Chennai, India and previously worked as a Research Professor at, Chungbuk National University in Cheongju S.Korea. He lives with his wife, Teena, and daughter, Vaishnavi, and enjoys watching TV and reading in his free time.

Tom Delaney joined Cell Biology from the UMMS Audio Visual Department. He assists Cell Bio faculty with their use of instructional technologies, including filming with high definition cameras, the video conference systems, and the Apreso lecture capture system; updates course content in the medical school's learning management system; and helps manage the AV technology of the Anatomy labs. While Auburn is his hometown, he currently lives with his wife Andrea and their son Braedan in Thompson, CT. Tom had two older sons that live with their families in Maine. Tom is a professional sound engineer and has worked with a wide range of musical artists from Mötley Crüe to John Pizzarelli. In his free time he also enjoys caring for the family's 250-year-old home.

Stephen Douthwright is a graduate student in the Sluder lab. Stephen grew up in Charlton, MA and graduated from UMass Amherst. He is currently investigating the mechanisms that limit centrosome duplication to once and only once per cell cycle. More specifically, he is using various imaging techniques to explore the role of centrosome amplification after DNA damage. He enjoys participating in many different sports including basketball, soccer, tennis, frisbee and etc. In his free time Stephen enjoys getting together with family and friends.

Ashley Faden is a Research Associate in the Schwarting Lab where she works on Axon guidance cues in olfactory development. Ashley, originally from Hopkinton, graduated with a BA in Biology from Clark University. She lived in Boston and Baltimore, MD before moving to Worcester. In her free time she enjoys tennis, reading and music.

Yukiko Garrison is a postdoc in the Stein/Lian lab. Yuki is from Japan and studied at Harvard School of Dental Medicine. Her current research interests revolve around the characterization of microRNAs controlling development of the osteoblast phenotype. In her free time Yuki enjoys movies, shopping and partying.

Eustathia Lela Giannaris has joined the department as an instructor for gross anatomy and neuroanatomy courses. Lela earned her PhD from Boston University School of Medicine. Lela grew up in Lenox, MA and currently lives with her husband in Ashland, MA. Away from work she enjoys photography and traveling.

Kristina Gonzalez is a postdoc in the Rivera lab. She earned her PhD from Clark University in Worcester and is currently labeling single cells in the mouse to determine their fate. Christina is originally from Michigan but settled in Holden, MA after thirteen years in the USMC. She and her husband Gilbert have been married for 22 years, they have a daughter Adrianna, 21 and a son Gilbert III, 19 as well as a grandson Michael, age 2. Christina says she has "not realized my hidden talents yet." She does like visiting craft shows and spending time with family and friends.



**Thomas
Delaney**



**Stephen
Douthwright**



**Ashley
Faden**



**Yukiko
Garrison**

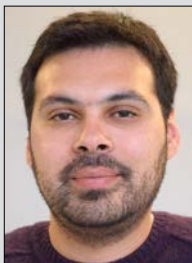


**Eustathia
Lela
Giannaris**



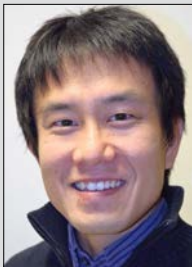
**Kristina
Gonzalez**

**Rodrigo
Grandy**



Rodrigo Grandy has joined the Stein/Lian lab as a postdoc. He earned his PhD at the Universidad de Concepcion in Chile. Rodrigo's research interest include studying the architectural epigenetic in embrionic and induced pluripotent stem cells. "We want to know what the proteins doing and if these phenomenon occurs in differentiated cells. Specially, we want to know if the binding of this proteins to the mitotic chromosomes is important to define the cellular identity." Rodrigo and his wife Alejandra have a young daughter, Emma. Rodrigo likes all sports especially soccer and basketball. He also likes to spend time with his family, cooking and watching television and movies.

**Toshiyuki
Hatano**



Toshiyuki Hatano is a postdoc in the Sluder lab. Toshi earned his PhD from Kyushu University in Fukuoka, Japan. His current research focuses on revealing how duplication of centrioles are regulated to occur once per cell cycle. Toshi grew up on Kyushu Island, in southern Japan. He is married to Yoshimi Yanagisawa. In his time away from UMMS he enjoys radio control car racing.

**Jose Manuel
Hernandez**



Jose Manuel Hernandez is a postdoc in the Imbalzano lab. Manuel earned his PhD in Biomedical Sciences from the National Autonomous University of Mexico. His research interest focuses on the molecular aspects of myogenesis, signaling, chromatin structure and genomic organization during differentiation and development. He is studying genomic organization of myogenic genes during differentiation and its relation to chromatin structure. Away from work Manuel enjoys listening to jazz, experimenting with photography and reading Latin American Literature. He also likes football soccer, cooking and walking

**Yu-Jie
Hu**



Yu-Jie Hu is a graduate student in the Imbalzano lab. Yu-Jie earned his MS in Biopharmaceutical Sciences from National Yang Ming University in Taiwan. His current research interest is in gene regulation and diseases and he is studying the role of protein arginine methyltransferases in adipogenesis. Outside the lab, Yu-Jie likes to play sports, especially tennis. He also likes music, movies, biking and traveling, and hopes to learn snowboarding this winter.

**Kristie
Kapinas**



Kristie Kapinas is a postdoc in the Stein/Lian lab. Originally from Bethlehem, PA, Kristie graduated from Rensselaer Polytechnic Institute and earned her PhD from University of CT Health Center. Her research interests include molecular biology, post-transcriptional and post-translational regulation of gene expression, and lineage commitment. Away from UMMS Kristie enjoys volleyball, hiking, yoga and book club.

**Lynn
Largesse**



Lynn Largesse is the new Staff Accountant for Cell Biology. She has lived all her life in Auburn. Outside work she likes to do needlepoint and crafts, bowls and play Wii with her kids. Her "best accomplishments" are her two children, David and Reanna. She owns a small farm with her husband and have many animals that they tend, including cows, goats, dogs, ducks, chickens, geese, and they raise their own turkeys for Thanksgiving dinner.

**Lara
Strittmatter**



Lara Strittmatter has taken a position as a research assistant in the EM core facility. She does work in a wide array of projects that require electron microscopy. She handles samples that range from fly and mouse brains, pancreas, intestines, lung and trachea, worm sperm, frog eggs, and stented arteries to different types of cultured cells, isolated proteins and viruses. Lara earned her PhD from Miami University in Oxford, OH. Originally from Argentina, she and her husband, Isaac, have two daughters, Paikea, 6, and Airini, 3. She enjoys reading science fiction novels, watching movies, knitting, drawing, painting, birdwatching, hiking and photography.

Eric Swanson is a graduated student in the Lawrence lab. Eric completed his undergraduate work at the University of Wisconsin in Madison, WI. His current research involves Senescence, changes in heterochromatin structure, and specific sequence organization. Eric grew up in Texas but spent summers in CT. In his free time he likes to boat, sail, swim, relax at the family lake house, yoga, play ultimate frisbee and enjoy an occasional beer. He says he's "not very talented."

Sudeepa Syamala is a Research Associate in the Craig lab. Deepa earned her Masters degree from Madrasw University in Chennai, Tamilnadu, India. Her current research project involves ultra thin serial sectioning of smooth muscle to determine the contributions of factors that lengthen the thick filament based on muscle length and state of activity (contraction and relaxation). She is married to Dhajapal Reddy.G and has a daughter named Samhit. In her free time Deepa enjoys listening to music, gardening and cooking.

Ivan Lebedev is a WPI Learning Work Student Researcher in the Zhang lab. His current research uses mouse models to test the function of Smurf2 in oncogene induced senescence. He assists in mouse colony maintenance and genotyping and converting paper records to a digital database for the mouse colony. Ivan was born in Russia and grew up in San Diego, CA, his true home. Despite working and studying in the field of Biology, he likes to pretend to be a mechanical engineer. Ivan works on cars, remote controlled vehicles and computers. He also enjoys rock climbing, mountain skiing, tennis, recently tried a swing at golf, and is up for anything exciting.

Pasil Madany is a research lab technician in the Imbalzano and Nickerson labs. Pasil earned a BA in Biology from the College of the Holy Cross in Worcester. Cancer is his current research interest, specifically SWI/SNF ATPase in Breast Cancer. Pasil was born in Sudan and has lived in Boston with his mother and four sisters. In his free time he likes to try new things and enjoys playing sports, especially soccer.

Ji Young Mun is a postdoc in the Craig Lab. Ji Young earned her PhD from Korea University in Seoul, Korea. Her current research involves understanding the structure of protein in muscle and how it attaches to actin to give us an insight into how it actually works to modulate muscle contractions. She is married to Sun Yuhl Lee. Ji Young played piano for ten years when she was younger and has recently started to play again.

Daniel Trombly is a postdoc in the Stein/Lian lab. Dan earned his PhD from Northwestern University in Evanston, IL. He grew up in Lowell, MA, and was a research technician at the Joslin Diabetes Center in Boston after his undergrad studies. He is currently studying the acute myelogenous leukemia 8;21 fusion protein AML1-ETO, Kasumi-1 cells, a leukemic cell line. Dan, his wife Melanie, and daughter Madeline currently live in Worcester and have family in CT and MA. Dan enjoys fishing, hiking, and visiting waterfalls.



**Eric
Swanson**



**Sudeepa
Syamala**



**Ivan
Lebedev**



**Pasil
Madany**



**JiYoung
Mun**



**Daniel
Trombly**

**Jennifer
VanOudenhove**



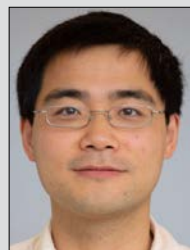
Jennifer VanOudenhove is a graduate student in the Stien/Lian lab. Jen is originally from Ellington, CT and earned a BS in Molecular and Cell Biology and BSE in Chemical Engineering from the University of Connecticut. Her current research interest includes looking at lineage commitment of differentiating human embryonic stem cells. Jen spends most of her free time reading (fiction), as well as watching and critiquing movies. Other hobbies include cross stitch, painting, trivia games and following UCONN sports.

**Hanna
Witwicka**



Hanna Witwicka is a postdoc in the Odgren lab and earned her PhD from the Institute of Immunology and Experimental Therapy, Polish Academy of Sciences in Wroclaw, Poland. Her primary research interest is the molecular mechanism of signal transduction and protein interactions. Hanna and her husband, Witallj have two young sons, Jakob and Anotoni. She likes to spend her free time with her family traveling, hiking and camping. Hanna also likes baking, scrapbooking and photography.

**Hai
Wu**



Hai Wu joined the Stein/Lian lab as a postdoc. He earned his PhD from the University of Rochester, in Rochester, NY. His current research concerns epigenetic control of mouse osteogenesis. Hai is from China and his wife's name is Dan Li. Hai enjoys traveling.

**Qiong
"Joae"
Wu**



Qiong "Joae" Wu is a postdoc in the Imbalzano and Nickerson labs. Joae earned her PhD from Southeast China Agriculture University in Guangzhou, Guangdong, China. Currently she is working on a project to study the involvement of chromatin enzymes in breast cancer. She's interested in cancer cell metabolism and the link between cancer and obesity. Joae is from the beautiful Chinese city of Hangzhou. She was recently in Ohio before moving to Shrewsbury with her husband Gang Wang. Joae has few hobbies but enjoys watching television especially Discovery and National Geographic channels.

**Kangkang
Yang**



Kangkang Yang is a postdoc in the Odgren lab. Kangkang attended schools in both China and Germany. He is interested in investigating the mechanism of all diseases, and possible treatment approaches of these diseases. Currently he is studying Plekhm1 gene function in osteopetrosis. He lives with his family in Boston and has two children. In his free time Kangkang enjoys sleeping and eating.

**Seungchan
Yang**



Seungchan Yang is a postdoc in the Stein/Lian lab. "Sunshine" earned his PhD at KAIST in Daejeon, Korea. His primary research project is a proteomic analysis of nuclear matrix, and he is interested in protein-protein interaction. He lives with his wife Chungun and their four children, Billy, Charley, Jeesue and Harris. In his freetime Sunshine likes to play tennis, basketball and swim.

**Wei-Bing
Zhang**



Wei-Bing Zhang is a postdoc in the Stein/Lian lab. He earned his DDS and PhD from Stomatological College of Nanjing Medical University in Nanjing, China. His current research projects include understanding mechanisms regulated by miRs in bone, mechanisms that regulate skeletal development and repair with an emphasis on craniofacial development. He is also interested in mechanobiology and biomechanics, and understanding how cells sense and respond to changes in their mechanical environment. Wei-Bing is married to Wei-Jie Zhong and enjoys Chinese chess.

Weddings

Betsy Bronstein and Dr. Samuel Politz were married at the Boundless Way Zen Temple in Worcester on May 15th, 2010. They went to Green Turtle Cay in the Bahamas for their honeymoon and did snorkeling on some of the most amazing reefs anywhere!



Matthew Mandeville, from the Stein Lab, was married to Brooke Konecny on September 10th at the Chatham Bars Inn on Cape Cod. The couple met while attending Holy Cross. They honeymooned in Peru and Brazil.

Yeonsoo Yoon from the Rivera lab, and Myoungsook Han married on Oct. 3rd in Daejeon, Yeonsoo's hometown in Korea. They went to Guam for honeymoon and had a good time there. The couple met and got to know each other when Myoungsook came to UMass as a postdoc in Roger Davis' lab. They now live in Shrewsbury and enjoy their new life together.



GSBS Food Bank Drive



Eric Swanson, a GSBS student in the Lawrence lab pictured on the right of the above photos, assisted with the annual food drive to support the local food banks. Eric helped decorate the donation bins, collected the donations and delivered them to the food bank. The total food collected weighed 1,992 lbs along with more than \$500 dollars in donations!

Coming Soon New Department Website

A new Department of Cell Biology website will be launched soon. Committees have been actively meeting with focus groups, faculty, designers and staff to create a website that will be informative and meet the needs of current and future members of Cell Biology at UMMS. Also in the works are websites for the seventeen department research labs. Stay tuned...

Hidden Talent

Marta DeSourdis

Marta DeSourdis loves colors, fabrics and sewing! When her youngest daughter started college ten years ago, Marta was looking for something to help fill her time and decided to try quilting. Her passion for this practical art form has taken off. She has created at least twenty quilts in the past ten years and has several currently in progress. Her quilts grace beds, hang on walls, have traveled with a nephew soldier to Iraq, used for colorful picnic blankets and are treasured heirlooms for her extended family and friends.

Marta has always loved sewing. As a young girl she sewed doll clothes and started sewing clothing. She admired her grandfather's skills as a tailor and as she grew older she was sewing her own clothes and considered becoming a clothing designer. She ruled out design school and went to business school but continued to sew for her family and herself.



Marta designs and sews items for her personal wardrobe, both vests that Marta is wearing in the photographs are her designs.

When asked how she designs a quilt, Marta explains that colors are always dancing around in her head. She likes bright colors, especially greens and other earthy colors. She has a pattern-making program on her computer and works with designs and colors when planning her quilts, samplers, and table runners. Some of the popular quilt patterns she has adapted and created are the log cabin, tumbling blocks, trip around the world, friendship block and flying geese. She has also used different techniques like paper piecing and appliqué in her work.

Marta has had support and inspiration with her quilts from Kathy Racine, the owner of the Charlton Sewing Center. Marta sometimes works at the Sewing Center on Saturdays. It gives her the opportunity to check out new fabrics and see other quilter's designs. Marta is also a member of the Cornerstone Quilters Guild who gather on a regular basis and offer special workshops.

Marta lives in Charlton with her husband Rick who is a carpenter and enjoys woodworking. They have two daughters, Nikki and Ami. She is always looking at colors and designs to inspire her next creation. She loves the challenge of learning new sewing and quilting skills and always has several projects in progress.

Marta DeSourdis pictured with many of the quilts she has created. The designs pictured are log cabin, applique, tumbling blocks, round the world, star, lovers knot and a sampler. She is wearing a quilted bartello vest. In the top photo, Marta is modeling a vest she designed and created.

