



# Genome Sciences Seminar

Wednesday, 8.15.18 | 3:30 | Foege Auditorium

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## Dr. Elizabeth Blaber

Visiting Research Scientist, USRA and GeneLab for High Schools Project Manager, NASA Ames Research Center

## “Understanding the Role of Stem Cells in Spaceflight-Induced Tissue Dysfunction”

Dr. Blaber’s research interests focus on investigating the influence of mechanical load on stem cell-based tissue regeneration with a focus on the role that the cell cycle and CDKN1a/p21 plays in this process. Dr. Blaber is a new investigator and is an associate and collaborator of Dr. Almeida in the Bone and Cell Signaling Laboratory at NASA Ames Research Center. She is specifically interested in how the cellular and molecular mechanisms of bone regeneration are altered in microgravity as well as the effects of altered load on mesenchymal and hematopoietic stem cell populations and processes during tissue regeneration. To investigate this, Dr. Blaber participated in research on mouse and stem cell experiments flown on the Space Shuttle BSP experiments on STS-131, and STS-133 and, Space Tissue Loss – Stem Cell Regeneration on STS-135. Through these experiments she identified the CDKN1a/p21 molecule as a potential mediator of the inhibition of bone tissue regeneration observed in microgravity. Dr. Blaber continued to investigate the role of CDKN1a/p21 on mechanical unloading induced bone and tissue loss during my NASA Postdoctoral Program Fellowship at Ames and also participated in the US/Russia collaborative Bion-M1 Mouse Biospecimen Sharing Program in Moscow, Russia. Dr. Blaber’s contributions to Space Biosciences include articles defining cellular, molecular and tissue mechanisms of bone loss in microgravity as well as the effects of microgravity mechanical unloading on mesenchymal and hematopoietic stem cell proliferation and differentiation during tissue regeneration. Dr. Blaber was recently awarded a NASA Space Biology spaceflight grant to continue investigating the influence of CDKN1a/p21 on somatic stem cell differentiation in space.

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Refreshments served outside the Auditorium at 3:20pm

Questions? Contact Brian Giebel at [bgiebel@uw.edu](mailto:bgiebel@uw.edu) or visit the Seminar website at <http://www.gs.washington.edu/news/seminars.htm>

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