

**JENNIFER L. L. MORGAN**  
**CURRICULUM VITAE**

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Nutritional Biochemistry Laboratory  
Human Adaptation and Countermeasures Division  
NASA Johnson Space Center  
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Houston, TX 77058

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**EDUCATION**

|      |       |  |                            |
|------|-------|--|----------------------------|
| 2011 | Ph.D. | Arizona State University   | Chemistry and Biochemistry |
|      |       | Thesis: Non-Traditional Stable Isotope Variations:<br>Applications for Biomedicine |                            |
| 2007 | M.S.  | Arizona State University   | Chemistry and Biochemistry |
| 2005 | B.S.  | Baylor University  | Chemistry and Biochemistry |

**APPOINTMENTS**

|                |  |
|----------------|--|
| 2011 – present | NASA Post Doctoral Fellow<br>Nutritional Biochemistry Laboratory<br>Human Adaptation and Countermeasures Division<br>NASA Johnson Space Center |
| 2008 – 2011    | Graduate Research Assistant<br>Dept. of Chemistry and Biochemistry<br>Arizona State University   |
| 2005 - 2008    | Teaching Assistant<br>Dept. of Chemistry and Biochemistry<br>Arizona State University  |
| 2003 – 2005    | Undergraduate Research Fellow<br>Dept. of Chemistry and Biochemistry<br>Baylor University  |

**PEER-REVIEWED PUBLICATIONS**

Jennifer L. L. Morgan, Gwyneth W. Gordon, Ruth C. Arrua, Joseph L. Skulan, Ariel D. Anbar; High precision measurement of variations in calcium isotope ratios in urine by multiple collector inductively coupled plasma mass spectrometry; *Analytical Chemistry*, 2011, 83 (18), pp 6956-6962

Jennifer L. L. Morgan, Laura E. Wasylenki, Jochen Neuster, Ariel D. Anbar; Fe isotope fractionation during Equilibration of Fe-Organic Complexes; *Environ. Sci. Technol.*, 2010, 44 (16), pp 6095-6101

Patricia E. Carigan, Joseph G. Hentz, Gwyneth Gordon, Jennifer L. L. Morgan, Massimo Raimondo, Ariel D. Anbar, and Laurence J. Miller (2007). Distinctive Heavy Metal Composition of Pancreatic Juice in Patients with Pancreatic Carcinoma. *Cancer Epidemiol Biomarkers Prev*, 16(12). 2656 – 2663.

J.W. Karban, J. L. Morgan, J.M. Dees, and K.K. Klausmeyer (2004). 2-(4-tert Butylbenzyl)-3-phenylinden-1-one. *Acta Cryst.* E60, 02304-02305.

### **PUBLISHED ABSTRACTS**

Jennifer L. L. Morgan, Gwyneth W. Gordon, Stephen J. Romaniello, Joseph L. Skulan, Scott M. Smith, Ariel D. Anbar; (2011) Rapidly assessing changes in bone mineral balance using natural stable calcium isotopes. *Mineralogical Magazine*, 75 (3), pp 1501

Jennifer L. L. Morgan, Gwyneth W. Gordon, Stephen J. Romaniello, Joseph L. Skulan, Scott M. Smith, Ariel D. Anbar; (2011) Rapidly Assessing Changes in Bone Mineral Balance Using Natural Stable Ca Isotope Composition of Urine; *Endocrine Review*, 32 (3\_MeetingAbstracts), p2-107

Jennifer L. L. Morgan, D.H. Abbott, A.D. Anbar, G. Gordon, J.L. Skulan, R.J. Colman (2010) Rapid Changes in Bone Mineral Balance in Response to Estrogen Depletion in Rhesus Monkeys Detected Using Tracer-less Calcium Stable Isotope Technique. 31 (3\_Sup1)

### **MANUSCRIPTS IN PREPARATION OR REVIEW**

Jennifer L. L. Morgan, Gwyneth W. Gordon, Stephen J. Romaniello, Joseph L. Skulan, Ariel D. Anbar; Whole organism Fe isotope mass balance: implications for the study of Fe metabolism in vivo; *Biometals*; (in preparation)

Jennifer L. L. Morgan, Gwyneth W. Gordon, David H. Abbott, Ricki J. Colman; Joseph L. Skulan, Ariel D. Anbar; Rapid changes in bone mineral balance in response to estrogen depletion in Rhesus Monkeys detected using tracer-less calcium stable isotope technique; *Journal of Clinical Endocrinology*; (in preparation)

Glass JB, R Raiswell, JLL Morgan, GA Hamilton, JA Shipp, KM Noonan, RL Mestek, S Neuer, HE Hartnett, AD Anbar. Growth of an Arctic diatom with nanoparticulate iron: implications for the supply of bioavailable iron from

icebergs. (in preparation)

Jessie Shipp, George A. Hamilton, Jennifer L. L. Morgan, Yevgeniy Marusenko, Michael Keebaugh, Hansina Hill, Arnab Dutta, Xiaoding Zhuo, Nabin Upadhyay, James Hutchings, Pierre Herckes, Ariel Anbar, Everett Shock, Hilairy Hartnett; Bioavailability of Nanoparticulate Hematite to *Arabidopsis thaliana*; *Journal of Environmental Monitoring*; (in preparation)

## CONTRIBUTED PRESENTATIONS\* AND POSTERS

\***J.L.L. Morgan**, G. Gordon, S. Rominello, J.L. Skulan, S.M. Smith, A.D. Anbar, (2011) Rapidly assessing changes in bone mineral balance using natural stable calcium isotopes. *Goldschmidt*, Prague, Czech Republic

\***J.L.L. Morgan**, Invited Speaker, (2011) Non-Traditional Stable Isotope Variations: Applications for Biomedicine. Johnson Space Center Human Adaptation and Countermeasures Division Weekly Seminar, Houston, TX

**J.L.L. Morgan**, G. Gordon, S. Rominello, J.L. Skulan, S.M. Smith, A.D. Anbar, (2011) Natural Calcium Isotope Composition of Urine as a Rapid Measure of Bone Mineral Balance. ENDO, Boston, MA

**J.L.L. Morgan**, G. Gordon, S. Rominello, J.L. Skulan, S.M. Smith, A.D. Anbar, (2011) Natural Calcium Isotope Composition of Urine as a Rapid Measure of Bone Mineral Balance. IAA Humans in Space Symposium, Houston, TX

**J.L.L. Morgan**, D.H. Abbott, A.D. Anbar, G. Gordon, J.L. Skulan, R.J. Colman (2010) Rapid Changes in Bone Mineral Balance in Response to Estrogen Depletion in Rhesus Monkeys Detected Using Tracer-less Calcium Stable Isotope Technique. ASU-Mayo Research Symposium. Scottsdale, AZ

**J.L.L. Morgan**, D.H. Abbott, A.D. Anbar, G. Gordon, J.L. Skulan, R.J. Colman (2010) Rapid Changes in Bone Mineral Balance in Response to Estrogen Depletion in Rhesus Monkeys Detected Using Tracer-less Calcium Stable Isotope Technique. BioMetals. Tucson, AZ

**J.L.L. Morgan**, D.H. Abbott, A.D. Anbar, G. Gordon, J.L. Skulan, R.J. Colman (2010) Rapid Changes in Bone Mineral Balance in Response to Estrogen Depletion in Rhesus Monkeys Detected Using Tracer-less Calcium Stable Isotope Technique. ENDO. San Diego, Ca

**J.L.L. Morgan**, D.H. Abbott, A.D. Anbar, G. Gordon, J.L. Skulan, R.J. Colman (2010) Rapid Changes in Bone Mineral Balance in Response to Estrogen Depletion in Rhesus Monkeys Detected Using Tracer-less Calcium Stable Isotope Technique. Gordon Research Conference: Environmental Bioinorganic Chemistry. Newport, RI.

**J.L.L. Morgan**, L.E. Wasylenki, J. Nuester, A.D. Anbar (2010). Fe isotope fractionation during equilibration of Fe-organic complexes. Gordon Research Conference: Environmental Bioinorganic Chemistry. Newport, RI.

\***J.L. Morgan**, G. Gordon, J. Skulan, A. D. Anbar (2010) Development of Fast Throughput Method using MC-ICP-MS to measure Ca Isotopes as a Maker of Bone Mineral Balance. NASA Human Research Program Investigators Workshop. Houston, TX.

S. Smith, J. Skulan, **J.L. Morgan**, G. Gordon, T.D. Bullen, A.D. Anbar (2009) Rapid Measurement of Bone Loss Using Tracer-less Calcium Isotope Analysis of Blood and Urine. NASA Human Research Program Investigators Workshop. Houston, TX.

**J.L. Morgan**, L.E. Wasylenki, A.D. Anbar (2008). Effect of organic ligand chelation on iron isotope fractionation. Gordon Research Conference: Environmental Bioinorganic Chemistry. Waterville Valley, NH.

\***J.L. Morgan**, L.E. Wasylenki, A.D. Anbar (2008). Effect of organic ligand chelation on iron isotope fractionation. Southern California Geobiology Symposium. Los Angeles, CA.

**J.L. Morgan**, L.E. Wasylenki, A.D. Anbar (2007). Effect of organic ligand chelation on iron isotope fractionation. Southern California Geobiology Symposium. Pasadena, CA.

F. Wolfe-Simon, **J. Morgan**, J.J. Elser, and A. D. Anbar (2006). Metallomic plasticity of cyanobacteria induced by iron availability. Gordon Research Conference: Environmental Bioinorganic Chemistry. Andover, NH.

G.W. Gordon, P. Carrigan, **J.L. Morgan**, J. Elser, L. Miller, A.D. Anbar (2006). Metals, Medicine and Mass Spectrometry. Interdisciplinary science symposia. Tempe, AZ

## **RESEARCH AND INSTRUMENTATION EXPERIENCE**

Research experience with trace-metal-free clean lab operations, X-Series ICP-MS, Neptune MC-ICP-MS, sterile technique, BSL-2 operations, and wet chemistry including IC and LC.

Experience with AA, CV, GS/MS, LC/MS, HPLC, NMR, X-ray crystallography, organic synthesis, cell cultures, and plant cultures.

## **HONORS, AWARDS AND FUNDING**

Post Doctoral Fellowship, NASA Postdoctoral Program, 2011

Graduate Research Travel Grant, ASU Graduate College, 2008

## **SERVICE**

Departmental

2006-2007 Vice-President. Chemistry Graduate Student Council  
2005-2006 First year rep. on Graduate Admissions committee.  
Chemistry Graduate Student Council

#### Community

2009-Present Vice-President. Valley Dogs Rescue  
2005-2009 Intake Coordinator, Valley Dogs Rescue

#### TEACHING EXPERIENCE

|        |      |  |
|--------|------|--|
| Spring | 2008 | Teaching Assistant: CHM 326 Analytical Chem. Lab (ASU)<br>Designed experiments and syllabus                        |
| Fall   | 2007 | Teaching Assistant: CHM 113 General Chem. (ASU)<br>Weekly lab and recitation sections                              |
| Spring | 2007 | Teaching Assistant: CHM 598 Inorganic Chem. (ASU)<br>CHM 325 Analytical Chem. (ASU)<br>Grader and one-on-one tutor |
| Fall   | 2006 | Teaching Assistant: CHM 101 Introductory Chem. (ASU)<br>Weekly lab and recitation sections                         |
| Spring | 2006 | Teaching Assistant: CHM 113 General Chem. I (ASU)<br>Weekly lab and recitation sections                            |
| Fall   | 2005 | Teaching Assistant: CHM 114 General Chem. (ASU)<br>Weekly lab and recitation sections                              |

#### STUDENT MENTORING

2007-Present Michael Wimmer (ASU), Chemistry Undergraduate Research  
Thesis 2011

#### PROFESSIONAL DEVELOPMENT

Phlebotomy Certification 16 hour training, PACE, 2009

Professional Development Strategies for success workshop, Graduate College Arizona  
State University (4 Workshops attended)

Fundamental Intellectual Property, ASU Special Course, 2006

#### LANGUAGE PROFICIENCY

American Sign Language (Fluent)