

## **College of Science**

**Faculty/Staff/Student Achievements** – Other Awards (Any award not dealing with research dollars)

### **UAH College of Science Graduate receives Presidential Award**

Atmospheric Science Ph.D. graduate, **Dr. Andrew Molthan**, has received the Presidential Early Career Award for Scientists and Engineers.

### **UAH Research Scientist Involved in Gravitational Wave Discovery**

CSPAR Research Scientist and Adjunct Assistant Professor Dr. Tyson Littenberg and Space Science Department graduate student, **Jessica Page** are members of the LIGO Scientific Collaboration, which announced the discovery of gravitational waves on February 11, 2016. The gravitational waves came from merging black holes over 1 billion light years away, and a significant part of the work to detect and characterize the breakthrough signal happened in Huntsville.

### **UAH College of Science Graduate Student Receives Award**

**UAH** Atmospheric Science PhD candidate, **Nan Feng**, advised by **Dr. Sundar Christopher**, has earned the Outstanding Student Presentation Award from the Aerosols-Clouds-Precipitation Symposium at the recently concluded American Meteorological Society conference in New Orleans, Louisiana in January, 2016.

### **UAH College of Science Graduate Student Receives Award**

**UAH** Atmospheric Science PhD candidate, **Anthony Lyza**, advised by **Dr. Kevin Knupp**, was selected as a winner of the 18th Symposium on Meteorological Observation and Instrumentation (18SMOI) Student Competition, which took place during the American Meteorological Society's 96th Annual Meeting in New Orleans, Louisiana in January. His abstract, *An Intercomparison of WSR-88D and ARMOR Radar Observations of the 14 July 2015 Tennessee Valley Tornadoic Quasi-Linear Convective System*, won the award of Outstanding Student Presentation.

### **UAH College of Science Assistant Professor Creates Consortium**

**UAH** Atmospheric Science Assistant Professor, **Dr. Rob Griffin** established the Alabama Remote Sensing Consortium, a formal consortium of research universities in the state including Auburn and Alabama A&M which will get exclusive access to research grade hyperspectral data from Teledyne Brown's MUSES platform.

## College of Science

**Advances in Research** – Grant Money, Funding, Publications (books, articles, etc.)

### UAH College of Science Professor Receives \$220,000 Award

Atmospheric Science Professor, **Dr. Michael Newchurch**, was awarded \$220,000 from NASA/ESD to complement a \$100,000 award from the Office for the Vice President for Research an Economic Development to build the Rocket-City Ozone Evaluation in the Troposphere (RO3QET, pronounced rocket) mobile laboratory for air-quality measurements as part of the international Tropospheric Ozone Lidar Network (TOLNet). This mobile laboratory will complement the SWIRLL mobile fleet of profiling instrumentation placing UAH in the highest echelon of mobile atmospheric measurement capability nationally.

### UAH College of Science Assistant Professor Awarded Funding for Proposal

**Dr. Jacob Heerikhuisen** of the Department of Space Science and the Center for Space Plasma and Aeronomic Research was informed that his NASA Heliosphysics Supporting Research proposal was selected for funding. This grant, entitled “Pick-Up Ions and Energetic Neutral Atoms: Implications for the Termination Shock”, is for 3 years and has total value of \$461,264.

### UAH College of Science Professor Receives \$110,429 Award

Eminent Scholar, Distinguished Professor, Chair of the Department of Space Science and Director of CSPAR **Dr. Gary Zank** won an award for “Electric Sail Numerical Model Definition and Development and Sustaining Support of the E-Sail Engineering Particle-in-Cell (PIC) Model”.

### UAH College of Science Assistant Professor Wins NASA Contract

UAH Atmospheric Science Assistant Professor, **Dr. Rob Griffin**, with the US Space and Rocket Center and **UAH ITSC**, won a NASA ISS National Lab Office contract to operate EarthKAM for the next five years. EarthKAM is a STEM-education camera system on board the ISS aimed at making satellite-based Earth science observations relevant in classrooms around the globe

## Publications:

“The Injection of Ten Electron/He3-rich SEP Events”, Linghua Wang, Sam Krucker, Glenn Mason, Robert P. Lin and **Gang Li**, *Astronomy & Astrophysics* (2015)

“Spectral Properties of Large Gradual Solar Energetic Particle Events, I, Fe, O, and Seed Material”, M. I. Desai, G.M. Mason, M. A. Dayeh, R. W. Ebert, D.J. McComas, **G. Li**, C. M. S. Cohen, R. A. Mewaldt, N. A. Schwadron, and C. W. Smith. *Apj*, 816, 68, (2016)

“Multi-Symplectic Magnetohydrodynamics: II, Addendum and Erratum”, by **G.M. Webb**, J.F. McKenzie, and **G.P. Zank** was published by *J. Plasma Physics*. (2015), vol. 81, 905810610, doi: 10.1017/S0022377815001415, 2015

“Diffusive Shock Acceleration and Reconnection Processes”, by **G.P. Zank, P. Hunana, P. Mostafavi, J.A. Le Roux, Gang Li**, G.M. Webb O. Khabarova, A. Cummings and E. Stone was published by the *Astrophysical Journal*, **814**, 137, doi: 10.1088/0004-637X/814/2/137, 2015

H. McFeeters, V. G. Vandavasi, K. Weiss, L. Coates, **R. L. McFeeters**, Neutron Diffraction Analysis of *Pseudomonas aeruginosa* Peptidyl-tRNA Hydrolase 1, *Acta Crystallographica Section F*, accepted - in press.

Emmanuel E. Essien, Jennifer Schmidt Newby, Tameka M. Walker, **William N. Setzer**, and Olusegun Ekundayo “Chemotaxonomic characterization and *in-vitro* antimicrobial and cytotoxic activities of the leaf essential oil of *Curcuma longa* grown in southern Nigeria *Medicines*, **2015**, 2(4), 340-349.

Bhuwan K. Chhetri, Noura S. Dosoky, and **William N. Setzer**. “Cytotoxic norhopene triterpenoids from the bark of *Exothea paniculata* from Abaco Island, Bahamas.” *Planta Medica Letters*, **2015**, 1(2), e73-e77.

Samon Shrestha, **Mary C. Setzer, Debra M. Moriarity**, Bhuwan K. Chhetri, and **William N. Setzer**. “*Tabebuia bahamensis*: A major source of pharmacologically important ursolic acid.” *Journal of Medicinally Active Plants*, **2015**, 4(3), 37-41.

Javad Sharifi-Rad, Seyedeh Mahsan Hoseini-Alfatemi, Abdolhossein Miri, Majid Sharifi-Rad, Leila Soufi, Marzieh Sharifi-Rad, **William N. Setzer**, Masoumeh Hoseini, Mehdi Sharifi-Rad, Mehrad Rokni. “Phytochemical analysis, antioxidant and antibacterial activities of various extracts from leaves and stems of *Chrozophora tinctoria*.” *Environmental and Experimental Biology*, **2015**, 13, 169-175.

Akbar Hajizadeh Moghaddam, Seyed Fazel Nabavi, Seyed Mohammad Nabavi, Monica Rosa Loizzo, Ali Roohbakhsh, and **William N. Setzer** “Ameliorative effects of curcumin against sodium fluoride-induced hepatotoxicity.” *Progress in Nutrition*, **2015**, 17(4), 324-330.

Prabodh Satyal and **William N. Setzer**. “Chemical composition of *Cryptomeria japonica* leaf oil from Nepal.” *American Journal of Essential Oils and Natural Products*, **2015**, 3(2), 7-10.

Prabodh Satyal, Prajwal Paudel, Bimala Lamichhane, and **William N. Setzer**. “Leaf essential oil composition and bioactivity of *Psidium guajava* from Kathmandu, Nepal.” *American Journal of Essential Oils and Natural Products*, **2015**, 3(2), 11-14.

Farukh S. Sharopov, Prabodh Satyal, **William N. Setzer**, and Michael Wink “Chemical compositions of the essential oils of three *Salvia* species cultivated in Germany.” *American Journal of Essential Oils and Natural Products*, **2015**, 3(2), 26-29.

Emmanuel E. Esien, Jennifer Schmidt Newby, Tameka M. Walker, **William N. Setzer**, and Olusegun Okundayo “Characterization and antimicrobial activity of volatile constituents from fresh fruits of *Alchornea cordifolia* and *Canthium subcordatum*.” *Medicines*, **2016**, 3(1), 1-10.

Noura S. Dosoky, **Debra M. Moriarity**, and **William N. Setzer**. “Phytochemical and biological investigations of *Conradina canescens*.” *Natural Product Communications*, **2016**, *11(1)*, 25-28.

Farukh S. Sharopov, Prabodh Satyal, Nasser A. Awadh Ali, Suraj Pokharel, Hanjing Zhang, Michael Wink, Muhammadsho A. Kukaniev, and **William N. Setzer**. “The essential oil compositions of *Ocimum basilicum* from three different regions: Nepal, Tajikistan, and Yemen” *Chemistry and Biodiversity*, **2016**, *13(2)*, 241-248.

CSPAR Researcher, A. Dosch and Department of Space Science Distinguished Professor, **G.P. Zank**, published a book titled *Transport Processes in Space Physics and Astrophysics: Problems and Solutions, Lecture Notes in Physics*, Springer, New York, 2015

## **College of Science**

### **Conferences/Symposia – Presentations, Invited “Talks”**

#### **UAH College of Science Professor Gives Talks in the AGU Fall Meeting**

**Dr. Gary Zank**, Eminent Scholar, Distinguished Professor, and Chair of the Department of Space Science attended the American Geophysical Union Fall Meeting in December, 2016 and presented two invited talks: “The Generation of Kappa Distributions at Perpendicular Shocks and the Heliospheric Termination Shock” and “Particle Acceleration at Small-Scale Flux Ropes in the Heliosphere”

#### **UAH College of Science Professor Presents a Colloquium at the Jet Propulsion Laboratory**

**Dr. Gary Zank**, Eminent Scholar, Distinguished Professor, and Chair of the Department of Space Science, presented the colloquium, “The Interaction of Stellar Winds with the Interstellar Medium (ISM) – of Use to Exoplanet Studies?”

#### **UAH College of Science Professor Participates in the AGU Fall Meeting**

Department of Space Science Assistant Professor, **Dr. Qiang Hu**, participated in and presented at the annual American Geophysical Union (AGU) Fall Meeting in San Francisco, CA, December 13 – 18, 2015. **Dr. Hu** also convened and chaired a session entitled “Small-Scale Magnetic Flux Ropes throughout the Heliosphere”.