

2014 UNITED STATES PATENTS ISSUED

- ◆ **Kirby S. Chapman, Diana K. Grauer:** *Active Air Control* - a patent that relates to an air-balanced engine assembly that is configured to operate efficiently while producing a reduced level of harmful emissions.
- ◆ **James R. Alfano, Alan Collmer, Samuel W. Cartinhour, David J. Schneider, Xiaoyan Tang:** *Pseudomonas AVR and HOP Proteins, Their Encoding Nucleic Acids, and Use Thereof* - the various nucleic acid molecules and proteins of this patent can be used to impart disease resistance to a plant.
- ◆ **Johann F. Coetzee, Stanley P. Kukanich:** *Methods for Alleviating Chronic Pain and Improving Performance of Cattle Undergoing Dehorning or Castration* - a patent that covers administering meloxicam alone or administering a combination of meloxicam and gabapentin to help alleviate acute and chronic pain and improve the performance of cattle.
- ◆ **Duy H. Hua, Dolores J. Takemoto, Thu Nguyen:** *Compounds Affecting Gap Junction Activity* - a patent that covers novel quinoline compounds which affect gap junction activity and methods of using such compounds to treat gap junction disorders.
- ◆ **James Edgar, Michael Dudley, Martin Kuball, Yi Zhang, Guan Wang, Hui Chen, Yu Zhang:** *Off-Axis Silicon Carbide Substrates* - this patent relates generally to methods of fabricating material structures on a substrate, more specifically, to the field of providing a substrate for epitaxial growth of films for device fabrication.
- ◆ **James S. Drouillard, Thomas J. Herald, Matthew Greenquist:** *Method for Encapsulation of Orally Ingested Materials to Alter the Site of Digestion, Site of Action, or Stability* - a patent to develop a candy-like coating that provides an easy, inexpensive method for delivering undiluted dosages of vitamins, amino acids and other nutrients to livestock.
- ◆ **Xiuzhi Susan Sun, Hongzhou Huang:** *Protein Peptide Hydrogels* - a patent that covers novel peptides that can be used to form hydrogels. These hydrogels are shear thinning gels that have high storage moduli and high rates of recovery after destruction. They find use in medical applications, including tissue engineering.
- ◆ **Kun Yan Zhu, Xin Zhang, Jianzhen Zhang:** *Double-Stranded RNA-Based Nanoparticles for Insect Gene Silencing* - this patent covers microscopic, genetics-based technology that can help safely kill mosquitos and other insect pests.
- ◆ **Hongwang Wang, Stefan Bossmann, Byungjun Kollbe Ahn, Xiuzhi Susan Sun:** *Acid-Functionalized Nanoparticle Catalyst and Catalyzed Reactions Using the Same* - this patented catalyst provides for a reaction that consumes less energy while producing higher yields than currently available solid catalysts.
- ◆ **John M. Tomich, Takeo Iwamoto, Yasuaki Hiromasa, Sushanth Gudlur:** *Branched Amphipathic Oligo-Peptides that Self-Assemble into Vesicles* - a patent that covers a novel vesicle-forming technology, useful for various applications including a potential new drug-delivery platform.
- ◆ **Michael R. Seacrist, Vikas Berry:** *Direct Formation of Graphene on Semiconductor Substrates* - this patent covers a method for preparing a layer of graphene directly on the surface of a semiconductor substrate.
- ◆ **Maria C. G. Juenger, Sarah Clare Taylor Lange, Kyle Riding:** *Encapsulated Zinc Compounds and Methods for Preparing and Using Same* - this patented technology provides a process for manufacturing cementitious materials requiring less heat, thereby saving on fuel consumption and producing less CO₂ in the process.
- ◆ **Sherry Fleming, John M. Tomich:** *beta2-Glycoprotein I Peptide Inhibitors* - these patented therapeutic peptides can prevent or inhibit tissue damage associated with ischemia or the growth of cancerous tissue.
- ◆ **Weixin Zhao, Burdette Terry Beck, Robert Peterman, Chih-Hang Wu :** *Portable High-Resolution Non-Contact Modular Sensor for Surface Strain Measurement* - this patent covers a rapid, portable, noncontact, modular device for measuring surface strain that can be used for industrial diagnostic testing.

2014 COPYRIGHTS ISSUED

- ◆ **Aaron Schroeder, Cindi Dunn, Ben Claar, Jan Middendorf:** *Program Impact and Evaluation Web Application*

2014 PLANT VARIETY PROTECTION CERTIFICATES ISSUED

- ◆ **T. Joe Martin, Allan Fritz, Clayton Seaman, Andrew Stegman, Dallas Seifers, Patrick Geier, Rebecca Miller:** *Wheat Common 'Clara CL'*
- ◆ **Allan Fritz, Andrew Auld, Rebecca Miller, T. Joe Martin, Kimberly Suther:** *Wheat Common '1863'*
- ◆ **Guorong Zhang, T. Joe Martin, Allan Fritz, Clayton Seaman, Andrew Stegman, Dallas Seifers, Patrick Geier, Rebecca Miller:** *Wheat Common 'Oakley CL'*

DOCTORAL RESEARCH SCHOLARSHIP PROGRAM

The Kansas State University Research Foundation Doctoral Research Scholarship was established in 2010 to provide strategic funding to recognize the performance of outstanding Ph.D. students at Kansas State University. Each scholarship provides an annual \$15,000 stipend that may be supplemented with additional GRA or GTA funds and provides up to \$5,000 for tuition.

The Research Foundation is pleased to recognize Damien Downes (*Plant Pathology*), Luxi Swisher and Adam Kell (*Chemistry*) for the 2014-2015 academic year.

STIPEND SUPPLEMENT FOR INNOVATION EXCELLENCE PROGRAM

The Kansas State University Research Foundation Stipend Supplement for Innovation Excellence was initiated in 2012 as a way to recruit top candidates to K-State graduate programs.

The Research Foundation is pleased to recognize Yulia Burakova (*Chemical Engineering*), Wasundara Hulangamuwa, Miao Li (*Biochemistry & Molecular Biophysics*), Ziyi Linghu and Daniel Unruh (*Food Science*) for the 2014-2015 academic year.

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