



GOOD NEWS

FACULTY AND STAFF ACHIEVEMENTS

SPRING 2017

Department of Automotive and Manufacturing Engineering Technology

Vangapally, S., **Agarwal, K.**, Sheldon, A., Cai, S. (2017) Effect of lattice design and process parameters on dimensional and mechanical properties of binder jet additively manufactured stainless steel 316 for bone scaffolds, *Procedia Manufacturing*, Vol. 3, 2017.

Agarwal, K., Houser, M., Vangapally, S., Vulli, A. (2017) Process – property relationships in additive manufacturing of nylon-fiberglass composites using taguchi design of experiments, *Proceedings of Solid Freeform Fabrication Symposium*, August 7-9, 2017, Austin, TX.

Agarwal, K., Vangapally, S., Sheldon, A. (2017) Binder jet additive manufacturing of stainless steel - tricalcium phosphate biocomposite for bone scaffold applications, *Proceedings of Solid Freeform Fabrication Symposium*, August 7-9, 2017, Austin, TX.

Lassonde, K., **Agarwal, K.** (2017) Uncovering innovative partnerships for undergraduate research, *National Conference on Undergraduate Research*, Memphis, TN, April 6-8, 2017.

Rupercht, J., **Agarwal, K.**, Effect of binder saturation and sintering on stainless steel – hydroxyapatite biocomposite manufactured by 3D Printing, *National Conference on Undergraduate Research*, Memphis, TN, April 6-8, 2017.

Ahmed, S., Babski-Reeves, K., DuBien, J., Webb, H., & Strawderman, L. (2016). Fatigue differences between Asian and Western populations in prolonged mentally demanding work-tasks. *International Journal of Industrial Ergonomics*, 54, 103-112.

Brandt, D. (2016). Case Study: The human factors of teaching (Teaching philosophy of **Shaheen Ahmed**). *ISE: Industrial and Systems Engineering at Work*, 48, 3, August 2016.

Ahmed, S. (2017). Theory of sustained optimal challenge in teaching and learning paper will be presented at the Proceedings of the Human Factors and Ergonomics Society Annual Meeting, HFES 2017 (61st) International Annual Meeting, JW Marriott, Austin, Texas, October 9–13, 2017 [Accepted on April 28, 2017].

Ahmed, S., Babski-Reeves, K., Webb, H., & DuBien, J. Effect of Task-Dependent and Personal Factors to Affect Fatigue in Prolonged Mentally Demanding Work-Task. *Journal of Ergonomics*.

Agarwal, K. (2017) Process – Property relationships in additive manufacturing of nylon-fiberglass composites using taguchi design of experiments, Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX.

Agarwal, K. (2017) Binder jet additive manufacturing of stainless steel - tricalcium phosphate biocomposite for bone scaffold applications, Proceedings of Solid Freeform Fabrication Symposium, August 7-9, 2017, Austin, TX.

Agarwal, K. (2017) Uncovering innovative partnerships for undergraduate research, National Conference on Undergraduate Research, Memphis, TN, April 6-8, 2017.

Agarwal, K. (2017) Binder jetting in medical applications, Additive Manufacturing Users Group, Chicago, IL, March 21, 2017

Jones, B. (2017) Minnesota Department of Agriculture biofuel emission performance research, Heating the Midwest - International Biofuel Conference and Expo, Minneapolis, MN April 10th, 2017.



Anjola Onadipe (Biomedical Sciences, '19) was recently awarded the Frankel Summer Fellowship at the University of Michigan Cardiovascular Center. Onadipe will be placed in a laboratory based on his interests and led by a faculty member. Possible research topics include atherosclerosis, genetic cardiomyopathies, blood clotting disorders, cardiac arrhythmias, vascular biology and heart failure. At the conclusion of the 10-week fellowship, fellows will present their work in a research forum.

Warnke, AH and **Ruhland, CT.** (2016) The effects of harvest regime, irrigation and salinity on stem lignocellulose concentrations in alfalfa (*Medicago sativa* L.) *Agricultural Water Management*, 176: 234-242.

Cohen, R.E., Lima, M.M*, Miller, K.E., and Brenowitz, E.A. (2016) Adult neurogenesis leads to the functional reconstruction of a telencephalic neural circuit, *The Journal of Neuroscience*. 36(34): 8947-8956. PMID: 27559175.

Seo, K., Park, S., & Choi, A. (2017). Science Teachers' Perceptions of and Approaches towards Students' Misconceptions on Photosynthesis: A Comparison Study between US and Korea. *Eurasia Journal of Mathematics Science and Technology Education*, 13(1), 269-296.

Mercurio, SD. *Understanding Toxicology – A Biological Approach*, Jones and Bartlett, 2017.

Fraley, P and **Ruhland, CT.** (August 2016). The effects of leaf optics on photodegradation of *Artemisia tridentata* litter sampled along an elevational gradient. Botanical Society of America, Savannah, GA.

Abdilahi, A.*, Foley, C.A.*, Day, A.B.*, and **Cohen, R.E.** (2016). Seasonal variations in the dorsolateral and medial cortex, the reptilian homologue of the hippocampus. Society for Neuroscience. San Diego, CA.

Kleckler, C.E.* and **Cohen, R.E.** (2016). An investigation of steroidogenic acute regulatory protein (StAR) gene expression in the green anole lizard brain and gonad, Society for Neuroscience. San Diego, CA.

Day, A., Abdilahi, A.*, and **Cohen, R.E.** (2016). Seasonal variation in the dorsolateral and medial cortex of green anole lizards. MidBrains, University of St Thomas. St Paul, MN.

Roddick, J.*, Algamdy, A., Booker, N.A., and **Cohen, R.E.** (2016). Amygdala morphology and neurogenesis in the green anole lizard. MidBrains, University of St Thomas. St Paul, MN. *Selected for poster with distinction award.*

Son, J.*, Kang, H.*, and **Cohen, R.E.** (2016). The effect of steroid hormones on neuronal size and number in two brain regions important for reproduction. MidBrains. University of St Thomas. St Paul, MN.

Kleckler, C.E.* and **Cohen, R.E.** (2016). An investigation of steroidogenic acute regulatory protein (StAR) gene expression in the green anole lizard brain and gonad. Neuroscience Research Day. Iowa State Univeristy, Ames, IA.

Day, A., Abdilahi, A.*, and **Cohen, R.E.** (2016). Seasonal variation in the dorsolateral and medial cortex of green anole lizards. Neuroscience Research Day. Iowa State Univeristy, Ames, IA.

Roddick, J.*, Algamdy, A., Booker, N.A., and **Cohen, R.E.** (2016). Amygdala morphology and neurogenesis in the green anole lizard. Neuroscience Research Day. Iowa State Univeristy, Ames, IA.

Son, J.*, Kang, H.*, and **Cohen, R.E.** (2016). The effect of steroid hormones on neuronal size and number in two brain regions important for reproduction. Neuroscience Research Day. Iowa State Univeristy, Ames, IA.

Rachuy, J.*, and **Land, A.M.** (2016) Investigating Lentiviral Accessory Proteins as a Strategy for Counteracting the Oncomutagenic APOBEC3A and APOBEC3B Proteins. ASM-North Central Branch Meeting. Ames, IA. Oct. 21-22, 2016.

Rachuy, J.*, Sanogo, O.*, and **Land, A.M.** (2016) Lentiviral counteraction of oncogenic APOBEC3 proteins. Canadian Association of HIV Researchers meeting. Winnipeg, MB. May 12-15, 2016.

Krenz, J. D., M.A. Schlenner, M.J. Pappas, J.D. Congdon, B. Brekke. Blanding's turtle uses a sun compass during natal dispersal. Eighth World Congress of Herpetology. Tonglu, China. Aug 15-21, 2016.

Freeman, A. E.*, G. J. D'Angelo, L. Cornicelli, and **Krenz, J. D.** (2017) Seasonal Home Ranges, Movements, and Habitat Selection of Female Elk in Northwestern Minnesota. 2017. Midwest Fish & Wildlife Conference. Lincoln, Nebraska.

Kang, H.* and **Cohen, R.E.** (2017). The effects of DIO2 and DIO3 expression on seasonal reproduction in a seasonally breeding animal. National Conference on Undergraduate Research. Memphis, TN.

Roddick, J.*, Algamdy, A., and **Cohen, R.E.** (2017). Analysis of amygdala morphology and neurogenesis in green anole lizard in breeding versus non-breeding season. National Conference on Undergraduate Research. Memphis, TN.

*Hailey Gorman has been accepted to present at the 2017 National Conference on Undergraduate Research (NCUR) in Memphis, Tennessee.

Department of

Chemistry and Geology

Eugeni I. Get'man, Konstantin A. Chebyshev, Lyudmila V. Pasechnik, **Lyudmyla I. Ardanova**, Natalia I. Selikova, Serhii (Sergii) V. Radio. Isomorphous substitutions and conductivity in molybdates $Nd_{5-x}Ln_xMo_3O_{16+y}$ ($y \sim 0.5$), where Ln = La, Ce, Pr, *Journal of Alloys and Compounds*, Available online 4 June 2016, doi: 10.1016/j.jallcom.2016.06.005

Evgeni I. Get'man, Stanislav N. Loboda, Alexey V. Ignatov, Vadim V. Prisedsky, Mohammed A. B. Abdul Jabar, and **Lyudmyla I. Ardanova**, Isomorphous Substitution of Rare-Earth Elements in Lacunary Apatite $Pb_8Na_2(PO_4)_6$ *Inorganic Chemistry*, 2016, 55(5), p. 2165–2173. DOI: 10.1021/acs.inorgchem.5b02571

Denniston, K., Topping, J., **Quirk Dorr, D. R.** Caret, Rt L. General, Organic & Biochemistry, 9th Edition; McGraw-Hill Education: New York, 2016. ISBN-13: 978-0078021541

Denniston, K. J., Topping, J. J., **Quirk Dorr, D. R.** Student Study Guide/Solutions Manual to Accompany General, Organic & Biochemistry, 9th Edition; McGraw-Hill Education: New York, 2016. ISBN-13: 978-1259678967

Denniston, K. J., Topping, J. J., **Quirk Dorr, D.R.** (2016) Instructor's Manual to accompany General, Organic & Biochemistry, 9th Edition; McGraw-Hill Education: New York.

Pribyl, J. R., Hadley, M., and *Doss, E. (2016). Relationships between student success, study skills and time spent studying in a preparatory chemistry course, Biennial Conference on Chemical Education (BCCE), Greeley, CO, August 2016.

Hadley, M., Pribyl, J.R., and *Schneider, J. (2016) Impact of the assignment of group homework on students' self-reported study habits, Biennial Conference on Chemical Education (BCCE), Greeley, CO, August 2016.

Hilgendorf, Z.T., Larson, P. H., **Hoppie, B. W.** (2015) County Ditch 57: Understanding the implications of intensive agricultural practices within first-order drainages and their effects on the larger system. American Association of Geographers West Lakes Regional Conference, Eau Claire, WI. October 15-17, 2015.

Hilgendorf, Z. T., Larson, P. H., **Hoppie, B. W.** (2016). Analysis of nonpoint source pollution mitigation strategies within an agricultural watershed: Cobb River watershed, Minnesota River Basin, south-central Minnesota – Preliminary Results. Association of American Geographers Annual Conference, San Francisco, CA. March 29-April 2, 2016.

Ardanova, L. I., Get'man, E. I. Ignatov, A. V., Zhigailo, A. O., Chebyshev, K. A., Selikova, N. I., Pasechnik, L. V. (2017) Synthesis, crystal structure and conductivity of solid solutions based on $\text{Nd}_5\text{Mo}_3\text{O}_{16+\delta}$ and $\text{Pb}_{10}(\text{SiO}_4)_2(\text{VO}_4)_4$ structures. Abstracts of the 21st International Conference on Solid State Ionics, Padova, Italy, 2017.

*Berdyeva, A. Isomorphous Replacements and Crystal Structure of $\text{Pb}_{(8-x)}\text{Ca}_x\text{Na}_2(\text{VO}_4)_6$ solid solutions, MSU Undergraduate Symposium, 2017. (**L.V. Stackpool** mentor).

Losh, S.; *Crane, D.; *Huggins, C. (2017) The Magenta Zone in the Northmet Deposit, Minnesota; Inst. On Lake Superior Geology Program w/Abstracts, Wawa, Ontario.

Losh, S., (2017) Hydrothermal “natural ore” in the Fayal Mine, Mesabi Iron Range, Minnesota: Inst. On Lake Superior Geology Program w/Abstracts, Wawa, Ontario.

Wittkop, C., Swanner, E., Lambrecht, N., *Torgeson, J., Katsev, S., and Myrbo, A. (2016) Dissolved inorganic carbon isotope signatures in ferruginous lakes: new insights into ancient carbonate isotope excursions. Abstract B41A-0394, American Geophysical Union Fall Meeting.

Quirk Dorr, D.R. (2016) Teaching strategies to address today's students - Empowering students to engage in their own learning. National Webinar. November 4, 2016.

Quirk Dorr, D. R. (2016) 4 Ways to freshen-up teaching with technology series - Would you like to see more students successful in the course? National Webinar. September 26, 2016.

Quirk Dorr, D. R. (2016) Flipped classroom - Strategies, tools, and success. National Webinar. April 20, 2016.

Quirk Dorr, D. R. (2016) Flipped classroom - Strategies, tools, and success. National Webinar. April 15, 2016.

Quirk Dorr, D. R. (2016) Flipped classroom - Strategies, tools, and success. National Webinar. April 4, 2016.

Department of

Computer Information Science

Ferrillo, P.A. and **Veltsos, C.** (2017) Take back control of your cybersecurity now — Game changing concepts on AI and cyber governance solutions for executives. Published by Advisen, Jan 2017, ISBN-13: 978-1520658728.

Syed, M. and *Ambore, I.Y. (2016) Performance evaluation of OSPF and RIP on IPv4 & IPv6 technology using G.711 Codec. International Journal of Computer Networks & Communications (IJCNC), Vol.8, No.6, November 2016, p1-15, ISBN: 0974-9322(online); 0975-2293 (print), India.

Veltsos, C. Contributor at securityintelligence.com, a website funded by IBM. Authored over 40 articles since May 2015 for CISOs, boards of directors, and other executive officers about information security and cyber risks. Articles can be found at:

<https://securityintelligence.com/author/christophe-veltsos/>

Veltsos, C. (2017) Five ways to improve the CISO-board relationship. Republished from the IBM blog on the National Association for Corporate Directors (NACD) site, March 21, 2017. The article can be found at:

<https://www.nacdonline.org/AboutUs/NACDInTheNews.cfm?ItemNumber=41705>

Veltsos, C. (2017) Five cybersecurity principles every board director needs to know. Republished from the IBM blog on the National Association for Corporate Directors (NACD) site, Feb 8, 2017. The article can be found at:

<https://www.nacdonline.org/AboutUs/NACDInTheNews.cfm?ItemNumber=40254>

Ferrillo, P.A. and **Veltsos, C.** (2017) Cybersecurity Prediction: Adopting the NIST cybersecurity framework will save companies millions, alleviate lots of grief and anxiety. In Bloomberg Law: Privacy & Data Security, Jan 2017. The paper can be found at: <https://www.bna.com/2017-cybersecurity-prediction-n73014450091/>

Ferrillo, P.A. and **Veltsos, C.** (2016) Next-level cybersecurity incident response trends 2016. The Corporate Governance Advisor, May/June 2016 • Volume 24, Number 3.

Klammer Kruse, S. L., Azarbod, C., Salivia, G., Krumwiede, N., Kuechle, L., and *Blashack, M. (2016). Applied learning through on-campus interdisciplinary internships. Proceedings of the EDSIG Conference, November 2016, n.4152, Las Vegas, Nevada. (Nursing and IT faculty, MBA student, B507 collaboration)

Klammer Kruse, S. L., and Wells, M. (2016). Optionality of ERD relationships: Project for the introduction to database course. Proceedings of the EDSIG Conference, November 2016, n.4035, Las Vegas, NV. The paper can be found at <http://proc.iscap.info/2016/pdf/4035.pdf>

Kruse, S. (2017) Preparing for data informed decision making in a small healthcare organization, Analytics Frontiers, March 2017, Charlotte, NC. Presentation abstract can be found at <http://analyticsfrontiers.uncc.edu/speaker/sarah-kruse>

Eggenberger, S., Krumwiede, N., VanGelderens, S., Krumwiede, K., Royle, C., Swan, M., **Azarbod, C., Salivia, G. J.,** Frederick, J. (2017) Applying IFNA competencies through nursing education and practice, 13th International Family Nursing Conference (IFNC13), June 14 – 17, 2017 (Half day Pre-conference Workshop presentation, June 14), University of Navarra, Pamplona, Spain. (Nursing and IT faculty collaboration)

Salivia, G. J., Krumwiede, N., **Azarbod, C.** (2017) Family nursing education E3: Efficiency, effectiveness, and experience, 13th International Family Nursing Conference (IFNC13), June 14 – 17, 2017, University of Navarra, Pamplona, Spain. (Nursing and IT faculty collaboration)

*Blashack, M., Van Gelderen, S., Frederick, J., **Azarbod, C.,** *Smeenck, E., Konda, B., Kolli, B., Robinson, A. (2017) Through the looking glass: Application of smart glasses in nursing education & clinical practice, 13th International Family Nursing Conference (IFNC13), June 14 – 17, 2017, University of Navarra, Pamplona, Spain. (Nursing and IT faculty, IT grad and nursing undergrad student, MBA student, B507 collaboration)

Frederick, J., Van Gelderen, S., **Azarbod, C.,** Robinson, A., *Smeenck, E., Konda, B., Kolli, B., *Blashack, M. (2017) Revolutionizing high fidelity simulation education of baccalaureate nursing students with smart glass technology as an effective learning tool. 13th International Family Nursing Conference (IFNC13), June 14 – 17, 2017, University of Navarra, Pamplona, Spain. (Nursing and IT faculty, IT grad and nursing undergrad and MBA students, B507 collaboration)

Syed, M. (2016) Cybersecurity in the context of Bangladesh panel, The 19th International Conference on Computer and Information Technology. Dhaka, December 18-20, 2016.

Veltsos, C. Professional Development - 3 Focus Areas for 2017. Invited presentation for the Minnesota chapter of the International Information Systems Security Certification Consortium, Minneapolis, MN (April 20, 2017).

Veltsos, C. (2017) Cyber risk dashboards — WhendData analytics and cybersecurity connect. Webinar presented to UHG/Optum DAKS webinar (12-15 minutes), live on April 20, 2017.

Veltsos, C. (2017) Five ways to improve your cyber risk communications. Invited presentation for the Minnesota chapter of the Information Systems Security Association, St. Paul, MN, April 18, 2017.

Bukralia, R. (2017) Presented two web-based presentations for Optum employees. Several hundred Optum employees located in multiple countries attended the following presentations:
February 7, 2017: Data Governance: Harnessing Value from Data
February 16, 2017: Creepy Algorithms: Mitigating Risks of Machine Learning

Veltsos, C. (2017) How to help your clients improve cyber risk decision-making. Invited presentation at the 2017 Midwest Legal Conference on Privacy and Data Security, January 26-27, 2017.

Veltsos, C. (2016) Cybersecurity — Seven ways to keep your small business running in the era of viruses, scams, and breaches. Small Business Forum hosted at the Cyber Security Summit in Minneapolis, MN, Oct 11, 2016.

Veltsos, C. (2016) Finding cyber gems — And steering clear of potential cybersecurity or privacy landmines. Closing keynote at the Cyber Security Investment Town Hall hosted at the Cyber Security Summit in Minneapolis, MN, Oct 10, 2016.



**Department of
Electrical & Computer Engineering &
Technology**

Zeng, J., Kim, T., Winstead, V., and Wu, L. (2017) Decoupling control for single-phase photovoltaic inverter with film capacitor, in Proc. IEEE Energy Conversion Congress & Exposition. Cincinnati, OH, Oct., 2017, (To appear)

He, N., Huang, H. and Qian, Y. (2016) Teaching touch sensing technologies through project-based learning, Proceedings of the ASEE/IEEE International Conference on Frontiers in Education, Erie, PA, Oct. 2016.

He, N. (2016) Scalable Bit-precise Formal Verification of Embedded Software, LAP LAMBERT academic publishing, Oct. 2016, ISBN:3659936545.

Gu, Z. and Wu, X. (2017) A novel SMA fed substrate integrated waveguide horn antenna, accepted by 2017 IEEE Antenna and Propagation Symposium.

He, N. and Huang, H. (2017) Use of model-based design to teach embedded systems programming, Accepted to the IEEE International Conference on Electro/Information Technology (EIT), Lincoln, NE, May, 2017.



Minnesota State Mankato Iron Range Engineering students Araina Boyd and Kortani Martin planned, managed and hosted a STEM Outreach event Feb. 10-11 for high school girls at Mesabi Range College in Virginia, Minn. It was the second year the event was held. The Mesabi Daily News wrote [an article](#) about the event.

Satish, S., **Swanson, J. J.**, Xiao, K., Pui, D. Y. H., Kittelson, D. B. (2016). Gravimetric measurements of filtering facepiece respirators challenged with diesel exhaust, In press, *Annals of Work Exposures and Health*.

Xue, J., Johnson, K., Durbin, T., Russell, R., Pham, L., Miller, W., **Swanson, J.**, Kittelson, D., Jung, H. (2017). Very low particle mass measurements from light-duty vehicles. (Accepted) *Environmental Science and Technology*.

Swanson, J. J., Franklin, L. M., Bika, A. S., Kittelson, D. B. (2017). Size and volatility of particle emissions from an ethanol fueled HCCI engine. *Aerosol Sci. Tech.*, 51(5), 614-625.

Swanson, J. J., Febo, R., Boies, A. M., Kittelson, D. B. (2016). Fuel sulfur and iron additives contribute to the formation of carbon nanotube-like structures in an internal combustion engine. *Environ. Sci. Tech. Letters*, 3, 364-368.

Stettler, M. J., Midglet, W. J. B., **Swanson, J. J.**, Cebon, D., Boies, A. M. (2016). Greenhouse gas and noxious emissions from dual fuel diesel and 2 natural gas heavy goods vehicles. *Environ Sci Technol*.

Wang, X., Grose, M., Caldow, R., Osmondson, B., **Swanson, J. J.**, Chow, J. C., Watson, J. G., Kittelson, D. B., Yang, L., Xue, J., Jung, H., Hu, S. (2016) Improvement of engine exhaust sizer measurement (EEPS) – II. *Engine Exhaust Aerosols. J. Aerosol Science*, 92: 95-108.

*Satish, S., **Swanson, J. J.**, Pui, D. Y. H., Kittelson, D. B. (2015). Gravimetric measurements of filtering facepiece respirators challenged with Diesel exhaust. (In press, *Annals of Occupational Hygiene*).

Wilson, D., **Bates, R.**, Scott, E., Painter, S., Shaffer, J. (2015) Differences in self-efficacy among women and minorities in STEM, *Journal of Women & Minorities in Science & Engineering*, vol. 21, no. 1, 2015, pp. 27-45, DOI:10.1615/JwomenMinorScienEng.2014005111.

Satish, S., **Swanson, J. J.**, Xiao, K., Pui, D. Y. H., Kittelson, D. B. (2016). Gravimetric measurements of filtering facepiece respirators challenged with diesel exhaust (In press, *Annals of Work Exposures and Health*).

Xue, J., Johnson, K., Durbin, T., Russell, R., Pham, L., Miller, W., **Swanson, J. J.**, Kittelson, D., Jung, H. (2017). Very low particle matter mass measurements from light-duty vehicles. (Accepted, Environmental Science and Technology).

Swanson, J. J., Franklin, L. M., Bika, A. S., Kittelson, D. B. (2017). Size and volatility of particle emissions from an ethanol fueled HCCI engine. *Aerosol Sci. Tech.*,51(5), 614-625.

Swanson, J. J., Febo, R., Boies, A. M., Kittelson, D. B. (2016). Fuel sulfur and iron additives contribute to the formation of carbon nanotube-like structures in an internal combustion engine. *Environ. Sci. Tech. Letters*, 3, 364-368.

Chan, L., **Sleezer, R.**, **Swanson, J. J.**, Ahrens, M., and **Bates, R.** (2017) Difficulty in predicting performance in a project-based learning program, Proc. 2017 American Society of Engineering Education Annual Conference.

Bates, R., Allendoerfer, C., **Ulseth, R.**, Johnson, B. (2016) On the use of outcomes to connect students to an engineering identity, culture and community, Proc. 2016 American Society for Engineering Education Annual Conference.

Allendoerfer, C., Wilson, D., Plett, M., **Bates, R.** Floyd-Smith, J., Veilleux, N. (2016) Student perceptions of faculty support: Do class size or institution type matter? Proc. 2016 American Society for Engineering Education Annual Conference.

Karlin, J., Allendoerfer, C., **Bates, R.**, Ewert, D., **Ulseth, R.** (2016) Situating the research to practice cycle for increased transformation in engineering education, Proc. 2016 American Society for Engineering Education Annual Conference.

Sleezer, R., **Swanson, J. J.**, **Bates, R.** (2016) Using failure to teach design, Proc. 2016 American Society for Engineering Education Annual Conference.

Kang, S., Pui, D., **Swanson, J. J.** (2016) Measurement of the porous coefficients of pleated filter media. 49th CFR Review Meeting, Center for Filtration Research Review Meeting, Minneapolis, MN, May 5 and 6th, 2016.

Swanson, J. J., Boies, A., Schulz, H-J. (2016) Effect of exhaust oxygen concentration on the performance of a catalytic stripper. 16th European Aerosol Conference, Tours, France, September 4th to 9th, 2016.

Swanson, J. J., Febo, R., Boies, A., Kittelson, D. (2016) Fuel sulfur impacts the formation of carbon nanotube-like particles in diesel engines. 20th ETH-Conference on Combustion Generated Nanoparticles, June 13th - 16th, 2016, Zürich, Switzerland.

Swanson, J. J. (2016) Topics in the measurement and control of solid particles, General Motors Seminar, GM, Detroit, MI, March, 2016.

Yuan, C., Duffy, C., Ahmed, S., **Swanson, J. J.** et al. (2016) Microglial immune response to low concentrations of silver nanoparticles: A novel in vitro model of brain health, 2nd International Conference on One Medicine One Science (iCOMOS 2016), Minneapolis, April 24–27, 2016.

Her, J., Smith, N., **Swanson, J. J.** (2016) Experimental determination of flow-through porous filter media. Presented at 30th NCUR Conference, Asheville, North Carolina, April 7-9th, 2016.

Tilley, J, White, B., **Swanson, J. J.** (2016) Development of an air quality sensor network to measure the dispersion of aircraft pollution near the Minneapolis-Saint Paul airport. Presented at 30th NCUR Conference, Asheville, North Carolina, April 7-9th, 2016.

Johnson, K., Miller, W., Jiang, Y., **Swanson, J. J.** (2016) Summary of black carbon emissions. CRC Real World Emissions Workshop, March 13-16, 2016, Hyatt Newport Beach, Newport Beach, CA.

Kittelson, D., **Swanson, J. J.**, Boies, A. (2016) Carbon nanotubes, nanorods, and nanoparticles from engines. 20th ETH-Conference on Combustion Generated Nanoparticles June 13-16, 2016 at ETH Zentrum, Zürich, Switzerland.

Pluskwik, E. (2017) Experiences of students as peer facilitators in project-based learning. Cooperative and Experiential Education Division at the Conference for Industry and Education Collaboration, ASEE. Jacksonville, FL.

Pluskwik, E., and Smith, C., (2016). PBL on the Iron Range workshop. Northeast Higher Education District Faculty Professional Development Day focused on Making Student Learning Active. Hibbing, MN.

Dean Kelley edits the Technical Reports Column for SIGACT News, the quarterly journal of the Algorithms and Complexity Theory group within ACM. As of January 2016, he is the longest-serving column editor for that publication

**Department of
Mathematics and Statistics**

Wu, H., Rahman, M. and Patwary, M. S. A.* (2016). A study of a generalized modified weibull model: An exponentiated weibull case. Advances and Applications in Statistics, Vol.49, No.5, 357-367.

Cai, Q., **Wu, H.**, and Chen, B. (2016). Using differentiated feedback messages to promote student learning in an introductory statistics course. *Proceedings of the 12th International Conference of the Learning Sciences*, Vol. 2, 795-798.

Rahardja, D., **Wu, H.**, Huang, S., & Chu, J. (2016). Confidence interval for the odds ratio of two independent binomial proportions using data with one type of misclassification. *Journal of Statistics & Management Systems*, Vol.19, No.2, 259-268.

Tsao, Y.L. (2016). Preservice teachers' knowledge of difficulties in decimal numeration. *The Journal of Mathematics Learning and Research*.1, 160-161.

Islam, M. D.* and **Rahman, M.** (2017). A note on beta weibull distribution MLE. *International Journal of Research and Scientific Innovation (IJRSI)*, **IV**(II), 1-6

Satterm, F. I.* and **Rahman, M.** (2016). Estimating beta inverse weibul distribution by the method of quantile estimates. *International Journal of Research and Innovation in Applied Science (IJRIAS)* www.ijrias.org, **I**(VI), 1-9.

Rahman, M., Al-thubaiti, S.*, Breitenfeldt, R. W.*, Jiang, J.*, Light, E. B.*, Molenaar, R. H.*, Shaha A Patwary, M.*, and Wuollet, J. A.* (2016). A note on adaptive box-cox transformation parameter in linear regression. *International Journal of Research and Innovation in Applied Science (IJRIAS)* www.ijrias.org, **I**(IV), 1-9.

Shaha Alam Patwary, M.*, Gokhale, D. V. and **Rahman, M.** (2016). On testing equality of two independent proportions: To pool or not to pool. *Far East Journal of Theoretical Statistics*, **52**(3), 193-312.

Kim, I.-J., Shader, B., and Vander Meulen, K. Spectrally arbitrary pattern extension, *Linear Algebra and its Applications* **517** (2017), 120-128.

Mohammed-Awel, J., **Zhao, R.**, Numfor, E., and Lenhart, S. (2017) Management strategies in a malaria model combining human and transmission-blocking vaccines. *DCDS-B*, **22**:977-1000, 2017.

Skeel, R. D., **Zhao, R.** and Post, C. B. A minimization principle for transition paths of maximum flux for collective variables. *Theoretical Chemistry Accounts*, **136**:14, 2017.

Ngonghala, C. N., Mohammed-Awel, J., **Zhao, R.** and Prosper, O. (2016) Interplay between insecticide-treated bed-nets and mosquito demography: implications for malaria control. *J. Theor. Biol.*, **397**:179-192, 2016.

Cheon, E., Homma, M., Kim, S. and **Lee, N.** (2017) On a number of rational points on a plane curve of low degree, *Discrete Mathematics* Vol. **340**, Issue 6, pp. 1327-1334, 2017.

Cheon, E., Kageyama, Y., Kim, S. and **Lee, N.**, Construction of two-weight codes over finite fields and its applications, *Bulletin of the Korean Mathematical Society*, Vol. **54**, 2017.

Tsao, Y.L. (2016). Preservice elementary school teachers' attitude towards geometry. Proceedings 2016 of Clute Institute International Academic Conference- San Francisco. p.337, CA, July 31-August 4, 2016.

Dr. In-Jae Kim gave a series of talks on data analytics at the Data Analytics Winter School at Sungkyunkwan University, South Korea from December 21, 2016 to December 23, 2016.

Kim, I. J. (2016) Data analytics of the people, by the people, for the people. Data Analytics Summer School on June 25, 2016, Jeju National University, South Korea.

Zhu, K. (2016) Solvability of dirac-type equations. AMS Central Sectional Meeting "Symplectic Geometry and Contact Geometry." St. Thomas University, October, 2016 (The paper is at <https://arxiv.org/abs/1407.6936> and is in review process)

Dr. Ruijun Zhao presented a paper at the Joint Mathematics Meetings, Atlanta, January 4--7, 2017.

Dr. Ruijun Zhao presented a paper at the Midwest Mathematical Biology Conference, University of Wisconsin at La-Crosse, May 21--22, 2016.

Lee, N. (2016) Microarray cancer data analysis through the TDA looking glass. Midwest Mathematical Biology Conference, University of Wisconsin, LaCrosse, May 21-22, 2016.

Lee, N., (2016) Mathematical modeling of crystal precipitation, Brigham Young University, Provo, Utah, May 23-26, 2016.

Lee, N., (2017) How to find good industrial mathematics problems? Joint Math Meeting, Atlanta, Georgia, January 4-7, 2017.

Department of Mechanical & Civil Engineering

A group of students from the Department of Mechanical & Civil Engineering won a student video competition sponsored by the American Society of Civil Engineering.

Swanson, K. J., **Druschel, S. J.,** Gad, J., and Archer, J. (2016) Ultra-low phosphorus removal pilot study. Minnesota Pollution Control Agency, Emerging Contaminants Wastewater Initiative Study Report, Mankato, Minnesota, May, 2016.

Druschel, S. and Yilmaz Wodzinski, N. A. (2017) Public–private–student partnerships: Using undergraduate researchers to diffuse tensions among stakeholders. Minnesota’s Transportation Conference, March 2017, St. Paul, MN

Druschel, S. and Yilmaz Wodzinski, N. A. (2016) Flocculation BMPs for reducing the sediment in construction water discharge. Minnesota Water Resources Conference, October 2016, St. Paul, MN.

Druschel, S. and *Anderson, B. (2016) Phosphorous removal evaluation at Mankato WWTP done by student-professional collaboration. Minnesota Water Resources Conference, October 2016, St. Paul, MN.

*Kloos, M. and *LaGuardia, J. (2017) Methanogenesis of paper boxes. 2017 National Conference on Undergraduate Research, Memphis, T. (**Steve Druschel**, faculty advisor).

*Benson, E. and *Rudolph, J. (2017) Salinity of snow cast off of the North Star Bridge. 2017 National Conference on Undergraduate Research in Memphis, TN. and Posters on the Hill, St. Paul, MN, March, 2017. (Steve Druschel, faculty advisor).

Tebbe, P. (2016) Online lessons to help engineering students transition . 2016 Minnesota eLearning Summit.

Tebbe, P. and Budge, A. (2017) Online lessons to help engineering students transition. 2017 Educational Innovations Reception and Pitch Presentations meeting, Minnesota State (aka MnSCU).

Tebbe, P. Julius, M. (SCSU) and Peterson, B. (MN State Energy Center). (2017) Minnesota State Energy Center Renewable Electric Energy Research Program, 2017 Worthington Bioscience Conference.

Department of **Physics & Astronomy**

The Faculty Research Committee and Karin Lindstrom Bremer, director of the Center for Excellence in Scholarship and Research, recently announced Minnesota State Mankato's 2017 Distinguished Faculty Scholars. The three individuals honored this year were **Paul B. Eskridge**, Department of Physics & Astronomy; Jeffrey A. Buchanan, Department of Psychology; and John W. Seymour, Department of Counseling and Student Personnel.

Distinguished Faculty Scholars are tenured professors whose body of scholarship and current level of scholarly activity warrant distinction within the university community. The Center for Excellence in Scholarship and Research and the Faculty Research Committee annually select up to three Distinguished Faculty Scholars. Once named a Distinguished Faculty Scholar, recipients

maintain the distinction for the remainder of their tenure at Minnesota State University, Mankato. Distinguished Faculty Scholars are recognized on the University website and at the annual Celebration of Excellence Dinner.

Palma, R. L., Pepin, R. O., Westphal, A. J., Schlutter, D. J., Gainsforth, Z. and Frank, D. (2017). Helium and neon in comet 81P/Wild 2 samples from the NASA Stardust Mission. *Meteoritics & Planetary Science* (in review).

Westphal, A. J., Bridges, J. C., Brownlee, D. E., Butterworth, A. L., De Gregorio, B. T., Dominguez, G., Gainsforth, Z., Flynn, G. J., Ishii, H. A., Joswiak, D., Nittler, L. R., Ogliore, R. C., **Palma, R.**, Pepin, R. O., Stephan, T. and Zolensky, M. E. (2017). The future of stardust science. *Meteoritics & Planetary Science* (in press).

Wong, K-W, Irwin, J. A., Wik, D. R., Sun, M., Sarazin, C. L., Fujita, Y., & Reiprich, T H. (2016) Suzaku X-ray observations of the nearest non-cool core cluster, Antlia: Dynamically young but with remarkably relaxed outskirts, *Astrophysical Journal*, 829, 49.

Fujita, Y., Akahori, T., Umetsu, K., Sarazin, C. L., & **Wong, K-W**. (2017) Probing WHIM around galaxy clusters with fast radio bursts and the Sunyaev-Zel'dovich effect, *Astrophysical Journal*, 824, 13

Schneider, M. L., Moore, C. F., Adkins, M., Barr, C. S., Larson, J. A., Resch, L. M., **Roberts, A.** Sensor processing in Rhesus monkeys: Developmental continuity, prenatal treatment, and genetic influences, *Child Development* v.88 no.1.

Steinke, S., Matlis, N. H., van Tilborg, J., Shaw, B. H., Geddes, C. G. R., Gonsalves, A. J., Nakamura, K., Mittleberger, D. E., Daniels, J., **Roberts, A. D.**, Sokollik, T., Sshiriasi, J. Vay, L., Esarey, E., Schroeder, C. B., Benedetti, C., Toth, C., Leemans, W. P. Staged acceleration experiments. *AIP Conference Proceedings* volume 1777 no .

Sawant-Pokam, P. M., Suryavanshi P., **Mendez, J. M.**, Dudek, F. E., Brennan, K. C. (2017) Mechanisms of neuronal silencing after cortical spreading depression. *Cereb Cortex*, Feb 2017.

Palma, R. (2016) NASA's Genesis and Stardust Missions. Le Centre de Recherches Pétrographiques et Géochimiques, "Missions Spatiales" series, Nancy, France, November 8, 2016.

Palma, R. (2016) Stardust light noble gas studies at the University of Minnesota and Minnesota State University, Mankato. Le Centre de Recherches Pétrographiques et Géochimiques, Nancy, France, October 24, 2016.

Wong, K-W., Irwin, J. A., Wik, D. R., Sun, M., Sarazin, C. L., Fujita, Y., & Reiprich, T. H. (2017) Entropy, gas fraction, and temperature scaling relations of galaxy clusters and groups at R200, 230th American Astronomical Society Meeting, #310.03.

Dall'Asén, A. G., *Mittelstaedt, J., *Kim, J-S., *Baer, B., *Paul, R., *Gerton, J. M., *Bromley, B. C., *Kenyon, S. J. (2017) Comparative study of carbonaceous meteoritic fragments by micro-Raman spectroscopy and SEM/EDS. APS April Meeting, Washington D.C., January 2017.

Dall'Asén, A. G., *Mittelstaedt, J., *Kim, J-S., *Baer, B., *Paul, R., *Bromley, B. C., *Gerton, J. M., *Kenyon, S. J. (2017) Comparative study of carbonaceous meteoritic fragments by micro-Raman spectroscopy and SEM/EDS. Conference for Undergraduate Women in Physics (CUWiP), University of Wisconsin, Madison, January 2017.

Dall'Asén, A. G. and *Rudquist, D. (2017) Structural characterization of carbonaceous meteorites by micro-Raman spectroscopy. Undergraduate Research Symposium, MSU-Mankato, April 2017.

*Pouliot, W., *Couchman, C., *Bukkila, J., and *Miller, N. Gamma radiation effects on the mortality and fertility rates of *Drosophila melanogaster*. Undergraduate Research Symposium, MSU-Mankato, April 2017.

Roberts, A. D., Rudquist, D., Miller, N., *O'Brien, M., Pouliot, W., Koehler, E., *Arneson, S. (2016) Radiation dose characterization surrounding a 400 KeV deuteron accelerator. 24th Conference on Application of Accelerators in Research and Industry, November 2016.

Urbano, C. M., **Mendez, J. M.,** Cooper, B. G. (2016) HVC controls song timing by synchronizing the activation of multiple respiratory motor systems, Society for Neuroscience Meeting, San Diego, 2016.

Perlegos, A., Perkes, A., **Mendez, J. M.** (2017) Identification of a neural circuit that carries viscerosensory feedback to forebrain song control nuclei, Society for Neuroscience Meeting, San Diego 2017.

Sawant, P. M., **Mendez, J. M.,** Suryavanshi, P., Theriot, J., Brennan, K.C. (2017) Prodromal events in the propagation of cortical spreading depression. Society for Neuroscience Meeting, San Diego, 2017.