Alfred University

September 2020

Outside of the Classroom

A newsletter of faculty activities and accomplishments

Nick Schlegel happily provided an essay for Spain's legendary zombie magnum opus, *The Living Dead at the Manchester Morgue* (1974). Often cited as one of the greatest and most influential zombie films of all time, *The Living Dead at the Manchester Morgue* has been painstakingly renovated by one of the industry's premier film restorationists, Don May Jr., This Steelbook edition (one time pressing of 6,000 units) features liner notes from Spanish film scholar, Dr. Nicholas Schlegel of Alfred University. Cult movie director Edgar Wright (*Baby Driver*, *Shaun of the Dead*, *Hot Fuzz*, *Scott Pilgrim vs. The World*) has enthusiastically claimed: "*This is one of my favourite zombie films of them all!*"

In May, **Shelly Freyn** presented at the Institute of Competitive Intelligence (CI) conference in Bad Nauheim, Germany. This conference included attendees in the CI and market research fields, predominantly from Europe, Canada, South Africa and the U.S. The presentation reflected how Competitive Intelligence can aid U.S. healthcare systems in better managing data and information. Recent pandemic issues have elevated this need for healthcare organizations to work together to create a culture of information sharing for better strategies such as ensuring proper medical supplies and resources. This presentation was based on a paper co-written and recently published with Fred Farley in July: *Competitive Intelligence: A prescription for US healthcare?* I was honored to be recognized as one of the top speakers in the academic track.

Joseph Petrillo's paper "*On Constructing CAP-subgroups in Direct Products,"* has been accepted for publication in Archiv der Mathematik, a peer-reviewed journal published by Springer. This research is in finite group theory, which is the oldest branch of modern algebra. While elements of group theory permeate nearly every branch of mathematics, they also play vital roles in applications such as cryptography, crystallography, and theoretical physics. The paper explores the impact afforded by certain assumptions for the purpose of creating examples and counterexamples, studying well-known categories of groups, and discovering new types of subgroups.

Michelle Jaques-Leonard, PhD recently published the paper Small Town Living: Unique ethical challenges of rural pediatric integrated primary care. *Clinical Practice in Pediatric Psychology* Jaques-Leonard, M., Winnick, J., Chancey, L., Golden, M., Gavazzi, J., Brehm, L., Heier, J., Wicoff, M., Rutt, C., & Hosterman, S. (In press).

Michelle completed a fellowship in pediatric integrated primary care at Geisinger Medical Center prior to coming to Alfred. The objective of this paper is to address ethical and training considerations with behavioral health services practicing within rural, integrated primary care sites through the conceptual framework of an ethical acculturation model. Psychologists working in rural areas (like Alfred) often face unique ethical challenges and my colleagues and I provided some recommendations for training based on the ethical decisions made in a few case studies. We hope to help trainees work through potential ethical dilemmas they may face in order to provide the best service possible to their patients.

Bob Myers had his paper "What Scars Say About Sex and Stereotypes" regarding people's perceptions of scars, from ritual scarification to mastectomy marks, reveal biases about gender, character, and more, published on Sapiens.org.

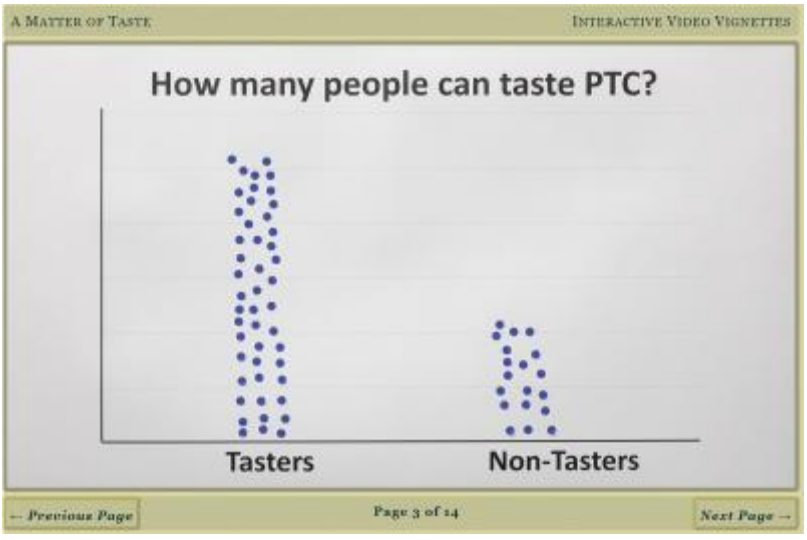
Raul Barcenes presented the session "Leading in a Culture that Can't Change: How to Navigate your new position successfully amongst obstacles" for the Maine Music Educators Association held in Maine on the weekend of May 5, 2020. This session helps secondary music instructors facing tremendous challenges in their new positions reframe their perception and work toward the ultimate goal, "doing what's best for kids." This includes

dealing with urban vs rural issues, administration, socio-economic barriers, and other issues. This session is scheduled to be presented in two other states this year.

Raul also had a critical edition of "Three of Us" for three B-flat trumpets by Carl Busch published by Triplo Music Press, the leading publisher for trumpet ensemble music. This project was completed with student Nicholas Weikle and is available through Triplo. This critical edition uncovers an older work and corrects publishing errors (through extensive research) and re-introduces it to the secondary school musician market. Having Nicholas work with this project exemplifies the AU commitment to experiential learning and allowed a student to share in the real world experience of music publishing and scholarship.

In July, **Shelly Freyn** participated in a webinar presentation with co-author Fred Hoffman on Competitive Intelligence and Artificial Intelligence (AI) based on our article: *The Future of Competitive Intelligence in an AI-enabled World.* This was sponsored by the CI council. The topics included preparing current analysts how AI will continue to evolve and impact data collection along with how information is analyzed and communicated. The presentation also covered curriculum development and how to prepare future analysts for AI. The value of business and data analytics was discussed and AU's new degrees were mentioned! Participants received a survey asking for their feedback on curriculum development; look for a paper in the near future.

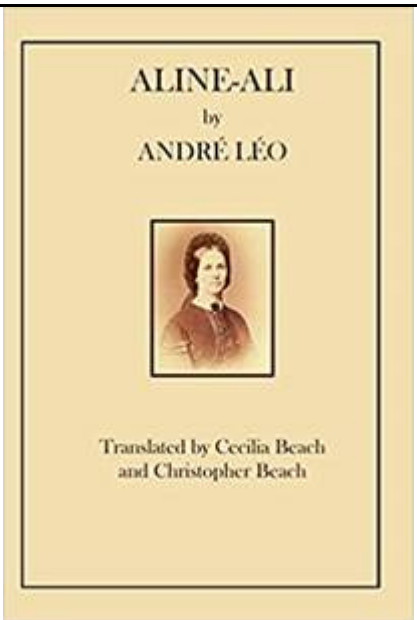
Jean Cardinale and her research group had a paper published over the summer. Newman DL, Cardinale JA, Wright LK. 2020. Interactive Video Vignettes (IVVs) to help students learn genetics concepts. *CourseSource*.



Many video resources exist to teach Mendelian genetics, but most consist of passive delivery of information rather than active construction of knowledge by users. We have created two interactive video vignettes (IVVs) that can be used together or separately to introduce students to core concepts of genetics, using principles of active learning (e.g., elicit-confront-resolve, directed feedback, reflection). These online resources are free and can be assigned as homework for students to complete outside of class. Each IVV features a realistic scenario of undergraduate students investigating genetic phenomena by collecting and analyzing data. During the IVVs, the user is integrated into the process, answers conceptual questions, receives feedback based on their answers, and reflects on the

experience by comparing their original ideas to their new understandings. *Marfamily* is primarily designed to teach pedigree construction and analysis, while *A Matter of Taste* addresses common misconceptions about dominance. Both also demonstrate the scientific method. Users cannot advance without answering the questions, although they can review past scenes. Resources for both formative and summative assessment are provided. The IVV is easily integrated into any course where an introduction to or review of basic genetics is needed.

Co-translated from French by **Cecilia Beach** and Christopher Beach, *Aline-Ali* (Whitlock Publishing 2020) is the most overtly feminist novel by André Léo, one of the most prolific French women writers of the second half of the nineteenth century. In this novel, the character Aline de Maurignan rejects the social conventions of her time by breaking off her engagement with her fiancé and taking on a new identity as a man, Ali de Maurion. Passing as a man, she freely travels to the Swiss Alps and to Florence, where she is able to access both the public sphere and the milieu of homosociability from which women are generally excluded. Exposing the social inequality within French society and disputing the accepted idea that women are inferior to men, *Aline-Ali* can also be read as a queer novel before its time.



Junjun Ding My group published two journal papers during the pandemic as part of the 48th SME North American Manufacturing Research Conference, NAMRC 48 (cancelled due to COVID-19).

1. Liu, Chao, and Junjun Ding. "Carbon nanotubes reinforced alumina matrix nanocomposites for conductive ceramics by additive manufacturing." *Procedia Manufacturing* 48 (2020): 763-769.

Alumina has been extensively used due to its high toughness and hardness, low bulk density, and thermal stability without interaction with the matrix at high temperature. However, the non-conductivity at room temperature narrows its broader applications. Carbon nanotube (CNT) is a suitable candidate to adjust the electrical property of alumina matrix composites due to its high electrical conductivity. By using material extrusion 3D printing (ME3DP), we fabricated 3D CNT/alumina green bodies using inks with controlled rheological properties for high printability. The printed green bodies with CNT loading from 3 wt% to 10 wt% were thermally treated to remove binders and sinter the 3D parts at temperatures from 900 to 1400

°C. The sintered samples showed a good dispersion of CNT in the alumina matrix and improved electrical conductivity. The electrical conductivity of the composites measured up to 10-1 S/m at 7 wt.% CNT loading, compared to the electrical conductivity of 10-13 S/m of pure alumina.

2. Gao, Yuqi, and Junjun Ding. "Low solid loading, low viscosity, high uniform shrinkage ceramic resin for stereolithography based additive manufacturing." *Procedia Manufacturing* 48 (2020): 749-754.

In this work, a three-dimensional (3D) ceramic scaffold of barium titanate (BaTiO3) is realized by stereolithographic (SLA) of BaTiO3 powder and photopolymer with a high resolution and followed by a controlled thermal treatment. The fabricated BaTiO3 and photopolymer composite part shows homogeneous dispersion of BaTiO3 microparticles. With a controlled thermal treatment, the photopolymer was carefully removed from the composite during the debinding process. Further sintering of the debinded ceramic parts at 1100 ℃, 1200 ℃, and 1300 °C shows a huge-volume shrinkage of up to 98.25% at a low concentration of ceramic powders (10 wt%). The ultra-high shrinkage rate in this process provides a way to create complex 3D ceramic scaffolds with higher resolution than the SLA printing resolution. With the success of sintering ultralow solid loading ceramic-polymer composites, low-cost SLA 3D printers could be used to manufacture various ceramic parts with an improved resolution. This process allows widely application of 3D printed ceramics parts in the area of biomedical, aerospace, automotive, and energy fields.

In the midst of the COVID-19 pandemic, just when STEM instructors were asked to teach remotely, **Dr. Mina Sedaghatjou** from Alfred university and her colleagues, Dr. Hughes, Ontario Tech University (Canada): Dr. Liu, Simon Fraser University (Canada); Dr. Ferrara, University of Torino (Italy); Dr. Howard, Johns Hopkins University; and Dr. Mammana, University of Catania (Italy) conducted an exploratory study entitled **“COVID-19 and the Need for STEM Remote Learning: From Crisis to Opportunities**”.