March 2017 Gwen Frostic Doctoral Fellowship Recipients Announced

The Graduate College is pleased to announce that three WMU doctoral students have been named recipients of Gwen Frostic Doctoral Fellowships for the 2017–18 academic year. The Gwen Frostic Doctoral Fellowships are funded generously from an endowment made possible by the late poet, artist, and naturalist, Gwen Frostic, a WMU alumna, Class of 1929. Awards are given to assist recipients with the completion of the doctoral dissertation in all disciplines.

The 2017–18 Gwen Frostic Doctoral Fellowships recipients are as follows:

**Basil Ahmed – Department of Chemistry**

Basil M. Ahmed will receive the Gwen Frostic Doctoral Fellowship for his dissertation titled, *NANOJARS: Versatile Platform for the Discovery of Novel Reactivity, Properties and Selective Extraction of Anions.* According to his advisor, Dr. Gellert Mezei, Basil’s research “addresses the need for selective anion extraction agents for the efficient removal of harmful or toxic anions from industrial and agricultural wastes, contaminated lakes and rivers, and also of those anions that interfere with certain technological processes. “The research group to which Basil belongs has recently developed a new class of anion encapsulating agents, termed nanojars, which demonstrate a high affinity for various anions of interest, including highly toxic arsenate and chromate ions,” writes Dr. Mezei. Basil, a fifth year doctoral student, has published 10 journal articles in peer-reviewed journals, all of which have high impact factors, high citation indexes, and low acceptance rates. Basil is not only a researcher but also a teacher who has trained six undergraduate students, as well as two high school students in Dr. Mezei’s research laboratory. Dr. Mezei considers him a “fast learner and a very dedicated researcher,” who has become a “master of various synthesis and characterization/instrumentation techniques and has demonstrated an excellent work ethic.” Upon graduation, Basil will continue his research and explore possibilities as a tenure track professor, where he will lend his skills to the education and cultivation of future researchers.

**Tai-Hsien Wu – Department of Paper and Chemical Engineering**

Tai-Hsien Wu will receive the Gwen Frostic Doctoral Fellowship for his dissertation research titled, *A3D Simulation of Leukocyte Adhesion in Blood Flow*. His advisor, Dr. Dewei Qi, writes that Tai-Hsien is a “talented and motivated researcher who has already made a solid contribution to academic research and whose exceptional work will inform multiple disciplines in ways that join scientific inquiry with humanitarian goals.” His current research will study the critical link of inflammation, as a disease-provoking agent, to such illnesses as cancer and cardiovascular disease. This work will establish three goals: 1. The creation of a highly realistic simulation approach, based on the integration of several numerical models for the phenomenon of WBC adhesion in blood flow; 2. The investigation of the fundamental mechanism of influences on the geometries and elasticity of vessel walls, and 3. The development of parallel computing implementations to accelerate the computing speed of the simulations. The research will bring forth a deeper understanding of the complex interactional dynamics among blood cells, blood flow, and vessel walls in the circulation system. As an evolving scholar, Tai-Hsien has a total of 5 manuscripts currently under review in peer-reviewed journals and has presented his research at
12 national and international conferences. His work will make exhilarating and significant contributions to the multidisciplinary fields of chemical engineering, computer science, and bio-engineering.

John Byczynski – Department of History

John Byczynski will receive the Gwen Frostic Doctoral Fellowship for his dissertation research titled, *Everyday Lives of Capitalism: Crow Wing County, Minnesota, 1750 – 1950*. Dr. Eli Rubin, John’s dissertation advisor, describes John’s dissertation as written in the style of the *longue duree*, studying one place as it changes and evolves throughout multiple centuries of time, and derived from the French school of historical thought known as the Annales school in the 1930s – 50s. “This style stems from a reawakening across multiple disciplines of the importance of the environment, and the interaction between long term human processes… and ecological processes,” writes Dr. Rubin. John’s research will contribute to an understanding of the rural Midwest and the tide of capitalism as a gateway that leads to a cogent understanding from socio-political and economic perspectives, among others. Historians liken the Midwest to a “foreign country,” a place lost to historical inquiry – a dead zone in terms of the history of the United States. This research will use a case study approach to unmask the key components of capitalism, fur trade, railroads, the lumber industry, agriculture, mining, tourism, and place them into the context of one narrative that sheds light on the rural Midwest and, more importantly, the role of the rural Midwest within the context of the history of the United States and in the evolution of capitalism.