The mission of AAPT’s Committee on History & Philosophy in Physics (HPP) is to promote interest in the history and philosophy of physics among the Association members, work towards the preservation and deepening of a historical perspective in physics education at all levels, develop increased sensitivity among members to the need to preserve careful records of current happenings, and cooperate, as appropriate, with AIP’s Center for the History of Physics and APS’s Forum on the History of Physics. Here are some of its recent activities.

The HPP sponsored a session, The Cold War at its Winter 2017 meeting in Atlanta, Georgia. John Krige from the Georgia Institute Of Technology spoke on “Atoms for Peace – Or for Proliferation.” He addressed the question, “Did Atoms for Peace make the world a safer place, or did it contribute to the spread of nuclear weapons beyond U.S. control?”

Krige’s colleague at Georgia Tech, Kristie Macrakis, spoke on “Our Machine in Havana: The Cuban Missile Crisis and Espionage.” She argued that it was not U-2 spy planes that simply discovered the missiles, but rather that the Central Intelligence Agency used intelligence from Cuban refugees and subsequently verified the existence of medium-range missiles on Cuba with the U-2 spy plane.

At the AAPT Summer 2016 meeting in Sacramento, California, the Committee sponsored a session, The History of Accelerator Physics. Gabriela Quiros, a reporter for KQED in San Francisco, spoke and showed the film, “Homegrown Particle Accelerators,” tracing the history of particle accelerator development—from Lawrence’s cyclotron at the University of California, Berkeley to the Bevatron and beyond.

William Barletta, from USPAS, MIT and UCLA, spoke on “Focus on Invention: Accelerator Developments in Lawrence’s Laboratory.” He outlined developments at the University of California, Berkeley campus in the 1930s, and at the Stanford Linear Accelerator Center, in Menlo Park in the 1970s. These were precursors to the Large Hadron Collider.

Herman Winick, from the SLAC National Accelerator Laboratory, spoke on “Synchrotron Light Sources; Then and Now.” He discussed the 50+ synchrotron light sources now in operation around the world, including facilities in Brazil, Korea, and Taiwan.

The HPP also co-sponsored a session with AAPT’s Committee on Space Science and Astronomy at the Summer 2016 meeting on Searching for Extraterrestrial Intelligence.

Andrew Siemion from the University of California at Berkeley spoke on “Beyond the Singularity: The Search for Extraterrestrial Technologies and the Break-through Listen Initiative.” He elaborated on the 10-year, 100-million-dollar search for extraterrestrial intelligence called Breakthrough Listen, its current observational status, early results and plans for the future.

Gerald Harp from the SETI Institute spoke on “Radio SETI Observations at the SETI Institute.” He reviewed results from SETI searches spanning decades of observing, and the conclusions drawn to date.

I first learned of the AIP Niels Bohr Library & Archives when I was searching for correspondence of American astronomers with Dutch astronomer and Marxist Anton Pannekoek (1873-1960). Much has already been written by historians on Pannekoek, but this literature almost exclusively discusses his important role in the development of socialism in the first two decades of the twentieth century. Pannekoek’s equally important significant contributions to astronomy are almost entirely neglected. In my PhD research, I try to uncover what Pannekoek contributed to the development of astronomy and astrophysics during the first half of the twentieth century.

In my search, I quickly found that Pannekoek had many correspondences with prominent astronomers such as Henry Norris Russell, Harlow Shapley, Ted Dunham Jr., Einar Hertzprung, Karl Schwarzschild, and others. A couple of Pannekoek’s main correspondents worked at Harvard, so their letters could be found at their University Archives. Most of the other correspondence, however, was spread out over many different universities throughout Europe and the US. I was delighted therefore, when I found out that, as part of the Sources for the History of Modern Astrophysics, many of these letters were collected in microform format in a single repository. This is a major advantage because the amount of letters exchanged and the topics discussed are often unclear in advance. From the Center for History of Physics, I received a Grant-in-Aid that allowed me to travel to College Park and visit the Niels Bohr Library & Archives to conduct my research. As an added bonus, this also made it possible for me...
to make a slight detour and visit the Harvard University Archives.

When I arrived in College Park, I immediately started looking through the massive amount of microfilm reels and microfiche cards that formed the SHMA. In some cases, I was slightly disappointed by the amount of correspondence between Pannekoek and a colleague. In the case of Russell, for example, I only found a single exchange of letters where Pannekoek asks Russell for more detail on data he had published, which he duly provided. In many other cases, however, there was a lot more than I had anticipated. In the correspondence of Otto Struve, for example, I not only found letters with Pannekoek, but also letters exchanged with Bart Bok discussing the topics of the 1935 Harvard Summer School where Pannekoek was one of the teachers. Another great find was a short clip shot by Leo Goldberg of Pannekoek and Marcel Minnaert reading through a proposal for the 1948 IAU General Assembly in Zurich. This was the first time I had ever seen moving images of Pannekoek.

The most interesting correspondence I found was that between Hertzsprung and Pannekoek, which started all the way back in 1907 when Pannekoek was working in Berlin as teacher in historical materialism for the German Social Democratic Party (SPD), and lasted until the 1950s when they both reached their 70th birthday. The early correspondence mostly concerned research topics, such as photographic plates of Aquila that Hertzsprung made for Pannekoek, or Pannekoek’s early naked eye measurements of the periodicity of the Pole Star. Later on, however, as both become directors of their own astronomical institutes, administrative topics come more to the fore, like the exchange of students, the founding of a national astronomy journal, or who should be suggested as new member for the Royal Academy of Sciences.

The highlight of my trip to College Park was when I met with David DeVorkin of the Smithsonian National Air and Space Museum and Laurence Marschall of Gettysburg College. Marschall had studied Pannekoek in detail himself in the 1980s, but his research never led to a publication. He brought along his notes and letters that he received from students and family of Pannekoek, a wealth of information that will greatly benefit my own research. DeVorkin, meanwhile, is an authority in the field of early quantitative astrophysics, so it was great to exchange thoughts about parallel developments of astrophysics in Europe and the US and the significance of Pannekoek’s work.

I spent the second week of my research trip in Cambridge, MA, where I visited the Harvard University Archives, the MIT Archives, and the Schlesinger Library on the History of Women in America. The most important correspondence I found at Harvard was the one exchanged between Harlow Shapley and Pannekoek, which spanned several decades and contained letters about photographic plates to be taken at the Boyden Observatory, the 1935 Harvard Summer School, and the Harvard Tercentenary celebrations the following year, where Pannekoek received an honorary doctorate. There were also letters written to Shapley by colleagues who were concerned that Pannekoek would be targeted by the Germans during the Second World War as a result of his communist background. Shapley was able to reassure them by showing them letters in which Pannekoek was still mainly concerned with astronomical problems, an indication that he was under no immediate threat. The most fascinating story, however, revolved around Elsa van Dien, a Dutch Jewish student of Pannekoek, who received a scholarship in 1939 to finish her doctoral research at Radcliffe College. Before she could sail to the US, however, the war broke out and she had to go into hiding. After the war, she received another scholarship and worked at Harvard for two years. After a short research trip to the Dominion Observatory near Vancouver, Canada, however, she was denied access back to the US as her visa had expired. With the help of a young John F. Kennedy, the Harvard astronomers tried unsuccessfully to obtain another visa for her.

I am very grateful for the Grant-in-Aid provided by the Center for the History of Physics. It allowed me to find a wealth of information that would have otherwise remained outside of my reach and it has provided me with a greatly enhanced understanding of the astronomical community in the first half of the twentieth century. ■