The Imaging and Analysis Center (IAC) supported by PCCM is a world-leading facility for materials characterization. Its central mission is the education, research, and training of students at Princeton University and beyond. The IAC also collaborates with researchers in industry and other academic institutes.

The IAC’s advanced instrumentation is open to all qualified users, whether from Princeton or outside. Recent IAC users include over 280 students and researchers from 18 departments and centers on campus. The IAC also supports more than ten regular courses annually and offer a full range of short courses.

In 2020, the normal operation was interrupted due to COVID-19 and the IAC was closed down in March 2020. Since the reopening in June 2020, the IAC gradually allowed only internal users into the facility to conduct research in accordance with the CDC’s and University’s recommendations for social distancing. The award-winning course, MSE505 “Characterization of Materials,” is continuously offered in the IAC, while all students strictly follow the IAC’s social distancing rules, hygiene protocol, room occupancy limits and other safety requirements. The IAC also continues to offer training courses (required for instrument access) with direct experimental demonstrations and hands-on instruction, on basic sample preparation devices to high-end electron microscopes. Since June, many courses have been conducted remotely via Zoom, TeamViewer and Video camera. In this fashion, we have successfully conducted 50 courses with more than 120 enrollments.

Ultra-high resolution atomic imaging and elemental mapping done in the Imaging and Analysis Center, showing the atomic interlayer stacking of topological magnetic kagome lattice in TbMn_{6}Sn_{6}. (Nature 583, 533 –536 (2020)). (Image courtesy of G. Cheng & N. Yao)