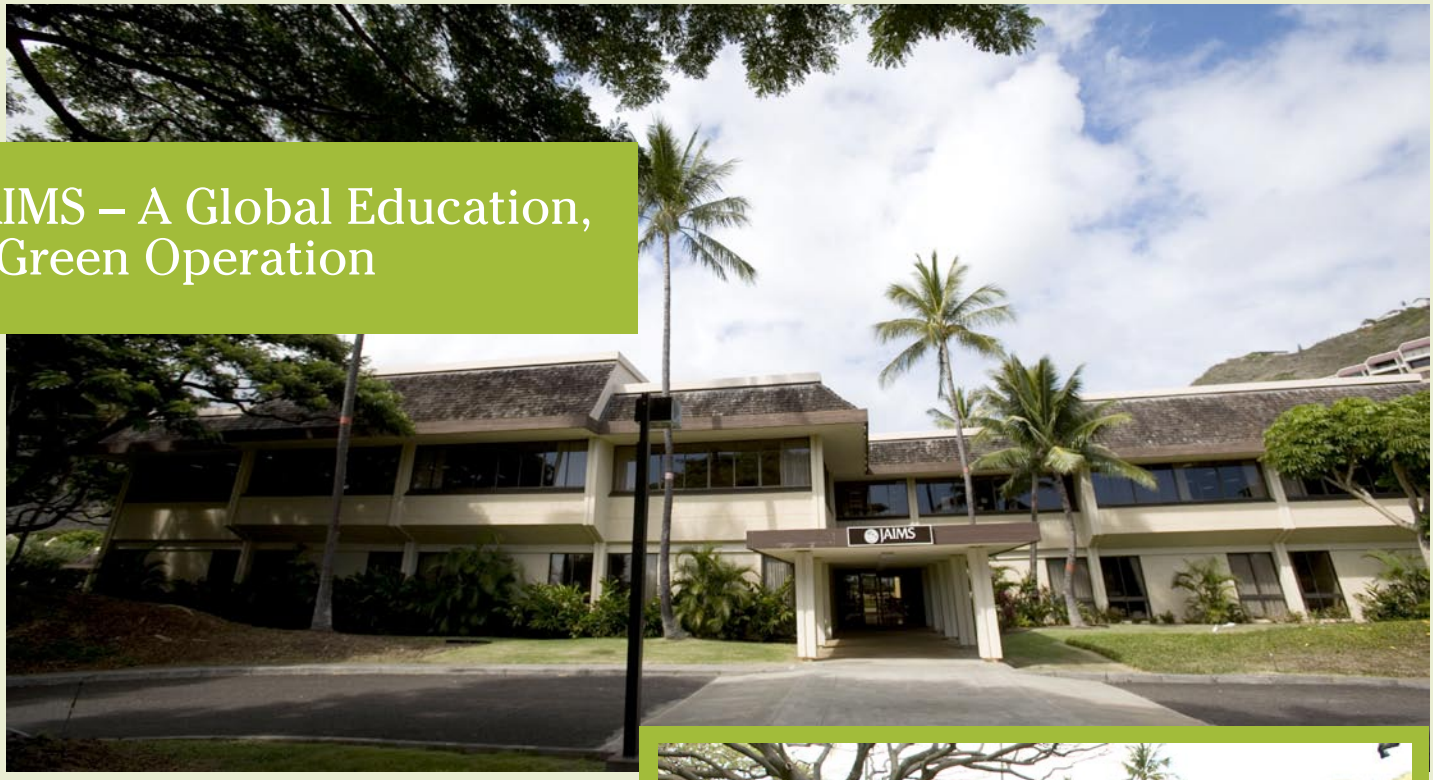
JAIMS – A Global Education, A Green Operation



Located in Hawai'i Kai, the Japan-America Institute of Management Science, JAIMS (pronounced "james") is a nonprofit, postgraduate educational institution that has been a pioneer in intercultural management education since 1972. Since its establishment by Japanese conglomerate Fujitsu Limited, over 22,000 participants from more than 50 countries have come to JAIMS to study intercultural business management, cross-cultural communications, business language, and information technology.

Renee Nagaoka is JAIMS' Manager of Administrative Services. Renee proactively pursued energy-efficient options to enable JAIMS to save money and help the environment. As a first step, Renee contracted Les Taniyama of Power & Systems Inspection Group (PSIG) to conduct a facility assessment. In his study, Les identified various possible facility enhancements and energy conservation measures, placing the highest priority on renovating the facility's HVAC system.

For nearly two months, PSIG monitored the chilled water temperature produced by the chillers, as well as the energy usage of the entire chiller plant, including the cooling tower and pumps. During the process of the facility assessment, PSIG discovered a central plant control failure, which caused the chiller plant to operate continuously, 24 hours a day for several months. JAIMS immediately installed a timeclock for the chiller plant to temporarily correct the problem until it was able to replace the old controls and timeclocks with the direct digital controls and Energy Control and Management System (EMCS) recommended by PSIG. Consequently, JAIMS realized a very large and immediate energy savings.

This is the "team" of JAIMS workers who is helping to cultivate a "culture of energy efficiency" on campus. (left to right): Dori Lyn Hirata-Fujimori, Chiharu Iwamoto, Akiko Ishikawa-Tyler, Alison Ohata, Soutchay Viengkhou, Dr. Blair Odo, Lori Nakano, Yutaka Hasegawa, Renee Nagaoka, Kristen Kano.

With the installation of the EMCS, JAIMS is now better able to schedule and manage its energy usage in the building. The EMCS allows for easy remote scheduling changes via the Internet, and remote monitoring by PSIG of the HVAC system for any potential trouble. Another benefit of the EMCS is that it controls the exterior lighting at JAIMS because sensors are installed to monitor the outdoor lights surrounding the building.

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JAIMS Continued

The JAIMS building is separated into zones, so Renee uses the EMCS to turn off the air conditioning in unused areas. She also installed a VendingMiser® on the school's vending machine. The VendingMiser® monitors the ambient temperature and surrounding area/occupancy of the machine, and automatically adjusts its refrigeration temperature back during low traffic and unoccupied periods thereby reducing energy use. The entire JAIMS staff has also developed an energy efficient "culture" , which includes habits such as turning off lights in unoccupied areas, turning off equipment when not in use, and using power strips to eliminate phantom loads.

*Since the facility assessment was initiated, JAIMS' energy usage has decreased by **36 percent**, and Renee and PSIG continue to look for ways to save energy and make the facility "greener".*

Their next project involves a major lighting retrofit to convert their current T-8 fluorescent lamps to the more efficient Super T-8 fluorescent lamps and occupancy sensors. Another project scheduled to take place this fall will be to convert the air handling units from their present pneumatic controls to direct digital controls so that the EMCS can control the air handling units individually instead of just by zones.

The reduced energy usage at JAIMS has truly been the result of a team effort. Not only has its staff adopted a culture of energy efficiency, but JAIMS and PSIG also credit the success of their projects to the continued cooperation and support of Oahu Plumbing and Sheetmetal, their subsidiary Oahu Air Conditioning Service, Island Controls, and Control Tech. Congratulations to JAIMS and PSIG for not just conserving energy and saving money, but for creating a greener and cleaner environment for students to study and learn.

PSIG recommended immediate replacement of the twenty-year old cooling tower that was showing excessive signs of corrosion and operational problems. With neighboring homes located close to the chiller plant, PSIG recommended an Evapco cooling tower with an induced-draft fan with options designed for low-noise applications. Besides the quieter operation, the induced-draft cooling tower requires a smaller horsepower motor as compared to the original forced-draft unit. By incorporating various control schemes of the cooling tower fans, the speed of the fans is now kept low, thus reducing sediment and infiltration from neighboring trees.

The facility assessment also found that the original HVAC system had no automatic means to control the chilled water flow through each chiller, especially when one of them was off. As such, the warm return water from the building would blend with the cold supply water from the operating chiller, resulting in a warmer than desirable supply water to the building. This warmer supply water limited the ability to remove moisture from the building. Control valves were installed on each chiller to prevent the water from blending, thereby reducing humidity and improving the ambient conditions within the building.

left to right: Jody Tamayose, AC Technician (Oahu Air Conditioning Service, Inc.), Renee Nagaoka, Administrative Services Manager (JAIMS), and Les Taniyama, Vice President (Power & Systems Inspection Group).