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This SEEDS project facilitate the research exchange between Dr. Zuo and the Department of Energy (DOE). The SEEDs fund was mainly used to support three research exchange activities:

- Dr. Amir Roth’s visit to the UM (12/04-12/05/2014)  
  1. Dr. Roth gave a seminar titled “Building Energy Modeling: A Multi-Purpose Tool for Building Energy Efficiency” about DOE’s activities in building energy modeling. This is joint seminar of SEEDS, Green U, School of Architecture and College of Engineering. About 30 students, faculties and local industry people attended the seminar and there was a long discussion after the lecture.  
  2. A panel discussion about Smart Energy Campus was held. Participants include Dr. Roth, Dr. el-Khoury (Dean of SoA), Brian Gitlin (Assistant Vice President, Real Estate), Dr. Nanni (Chair of CAE), Mr. Bezos (Director of Energy Management System), Mr. Kenneth (Director of UM Environmental Health Services), Mr. Miranda (President of UCI Engineering).  
  3. Provost Dr. LeBlanc met Dr. Roth (Drs. Nanni and Zuo also participated in the meeting).  
  4. Dean Tien met Dr. Roth.  
  5. Dr. Roth visit Dr. Zuo’s project site.  
  6. Zuo’s students presented their research in building energy efficiency to Dr. Roth. Dr. Roth provided valuable comments on their research.  
  7. Dr. Roth discussed with other UM faculties, such as Drs. Celik, Trussoni, and Onyango, for possible research opportunities from DOE.

- Dr. Michael Wetter’s visit to the UM (5/13/-5/14/2015)  
  2. Drs. Zuo and Wetter had a series of discussions on various research ideas and papers on building energy modeling.

- Dr. Zuo’s attendance of ASHARE Conference and visit to the Oak Ridge National Laboratory (ORNL) (6/26-7/2/2015)  
  1. Dr. Zuo present his research at the ORNL and visited their facilities.  
  2. Dr. Zuo had meetings with some ORNL scientists, such Drs. Liu, New, Im, and Shen, for possible research collaborations.  
  3. Dr. Zuo met many DOE researchers and officers, including Dr. Muehleisen from Argonne National Laboratory (ANL).
The outcomes of the project are summarized as follows:

1. Dr. Zuo (PI) developed a $3 million NSF proposal titled “NRT-DESE: Big Data for Better Buildings” in May 2015. Dr. Amir provide a strong support letter on behalf of the US DOE for the proposal. This proposal is currently under review.

2. Dr. Zuo and other participants of the panel discussion on Smart Energy Campus (Nanni, Onyango, and Gitlin) developed a $1 million joint internal proposal for the “University of Miami U Green Revolving Fund” in Feb 2015.

3. Drs. Zuo, Muehleisen and others developed a $1.5 million concept paper to DOE through the ANL in 7/2015. The concept paper is currently under ANL internal review.

4. Drs. Wetter, Amir and Zuo are in discussion of having Dr. Zuo’s group participating in the DOE’s research development of Spawn-of-EnergyPlus. If succeed, a multi-year DOE funding for the UM can be expected.

5. Drs. Liu and Zuo are in discussion of funding Dr. Zuo’s group to build a virtual lab for ORNL’s heat pump laboratory. More proposals will then be developed based on the virtual and physical heat pump lab in ORNL.

6. Drs. Zuo and Wetter jointly published one journal paper, and had one conference paper accepted and one conference paper submitted.

7. Dr. Wetter agreed to serve on Ph.D. Thesis committee of Dr. Zuo’s student.