SSWR Task 6.03a Meeting Agenda 3/30/2018

1) Updates
   a. Presentations
      1. AWWA Sustainable Water Conference March 25-28, Seattle. Session 3/27.
      2. Water Reuse Research Conference May 7-8 Atlanta Preconference workshop May 6
   b. Products. A transformative technology toolkit library. Q4 FY18. Cissy
   c. Manuscripts
      1. Human health impact of non-potable reuse of distributed wastewater and greywater treated by membrane bioreactors accepted, Microbial Risk Analysis https://doi.org/10.1016/j.mran.2018.01.003s)
      2. Constructed wetlands for greywater recycle and reuse: A review. STOTEN https://doi.org/10.1016/j.scitotenv.2018.02.218
      3. Effect of Nutrient Removal and Resource Recovery on Life Cycle Cost and Environmental Impacts of Small Scale Wastewater Treatment Morelli, Ben; Cashman, Sarah; Ma, Xin; Garland, Jay; Turgeon, Jason; Fillmore, Lauren; Bless, Diana; Nye, Michael Submitted to ES&T (Cissy)
      4. Holistic Analysis of Urban Water Systems in the Greater Cincinnati Region: (1) Life Cycle Assessment and Cost Implications Xue, Xiaobo; Cashman, Sarah; Gaglione, Anthony ; Mosley, Janet ; Weiss, Lori ; Ma, Xin; Cashdollar, Jennifer; Garland, Jay. Submitted to ES&T (Cissy)
      5. Resource Use of an Urban Water System: An Emergy Accounting Approach. Detailed emergy analysis of the Cincinnati drinking water and wastewater systems (Companion to LCA analysis). Internal reviews complete, Water Research/ES&T (into QA by end of CY17) Sam?
      6. Validation of predictive model of Norovirus occurrence (Mike working on draft, targeting EST submittal by end CY17
      7. Follow up paper focusing on cross connection (Mary & Mike working on initial draft, journal TBD, end of FY18)
      8. Life Cycle Assessment of a Rainwater Harvesting System Compared with AC Condensate Water System (Santosh)
      9. Environmental Accounting for the Urban Water System: Past, present, future. Using a variety of metrics including population, monetary expenditures and emergy inputs, reconstruct the historical development of urban water service sectors and show: (1) how at both the national and municipality level development follows a previously hypothesized hierarchical pattern and (2) system resource consumption over time increases as the inputs required for provision of additional services are greater than the reductions achieved through the incremental improvements in efficiency of existing services. Then contextualize near-term options intended to improve system sustainability in a terms of past development patterns. Environmental Research Letters (still in development) (Sam)

10. Nutrient recovery from municipal wastewater for sustainable food production systems: An alternative to traditional fertilizers. (technical reviews in progress) (Ranjani)
11. Comparative Emergy Evaluation of Nutrient Removal and Nutrient Recovery Technologies and the Implications to Nutrient Management (FY 2018) (Ranjani)
12. Emergy Expenditure Among Municipal Wastewater Treatment Systems Across US (2nd quarter 2018) (Ranjani)
13. Modeling energy recovery at the Dayton OH waste reclamation plant using GPS-X: An approach towards self-sustainability or revenue generation via efficient/increased biogas production. (Vincent's involvement is questionable, may need to transition to Ranjani, but #10-12 are her top priorities)

2) On-going Research
   a. QMRA work. Finalizing LRT model validation paper, developing cross connection paper (see above)
   b. Status of wastewater LCA work. Scenarios have been finalized; analysis on-going
   c. Status of rainwater LCA. Jay, John, and Santosh met March 12. Santosh going to compare rainwater and AC condensate reuse for an eastern (using Washington DC data) and western (San Francisco) climate. Focus on a commercial (or mixed use?) building, Need to work with Michael on defining treatment for both rainwater and condensate.
   d. LCA of atmospheric water generation. ERG has developed a memo outlining planned scenarios for the AWG-bottled waster LCA work as well as a data form for AWG (presently filled out with data for Watergen and Ecololab; info for AquaSciences pending). Main discussion item for this meeting. Also need to discuss QAPP for the LCA component of the LCA work (we have developed a Level A QAPP for the warter quality testing component)
3) Any other updates
   a. Jay had the opportunity to meet with the US Green Building Council last week regarding planning for their upcoming WaterBuild Summit (a 1 day workshop preceding their annual Green Build conference in Chicago next Nov. 14-16); will provide update.
   b. Schedule reminder; Jay will be out of the office from March 30-April 16. Should plan on a group meeting as needed.