Singapore-Delft Water Alliance

Presents

"datPAV – internet based data processing, analysis and visualization tool for experimental data exploration"

(Demonstration of the tool with case studies relevant to many SDWA projects)

by

Dr Raghuraj RAO

with the support of datPAV development team
(Ambarish Biswas, Sheela, Kalyan and Shivshankar)

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Time: **3.00 to 4.00 pm**
Venue: **E1-08-25 SDWA Conference Room**
National University of Singapore

Abstract

Designing systematic experiments/simulations and extracting relevant knowledge from the data is vital to many scientific investigations. Quality of the input data decides the efficiency of the sophisticated computer programs/packages used for detailed analysis. Systematic errors while conducting the experiments, misplaced samples, instrument errors, data handling errors, wrong model setups all can lead to serious misinformation during the analysis step. Hence, a preliminary exploration of the health of the data is a crucial step that helps in efficient analysis and judicious inference. Although a number of application specific tools are available for handling and processing of datasets the preliminary investigation of health of the experimental data poses different challenges than what these tools are designed to address. The spreadsheet software requires users to individually select the data in the columns and separately perform/repeat desired calculations. Higher level analysis software like MATLAB, SPSS and SAS require special training or programming skills apart from some of them being very expensive commercial packages. Hence, we foresee an important need for an easy-to-use, without having to download/install, a free software that can provide basic tools for preliminary investigation of any generic hydroinformatics data.

datPAV (data Process, Analyze and Visualize) is a new free online data exploratory tool designed keeping in my mind the above issues. It is developed to mainly address the basic requirements of the experimentalists – covering different aspects of research we undertake at SDWA. This presentation will demonstrate the features of the software and highlights its utility in general, SDWA community in specific. Though the target application is general data

processing and visualization, datPAV has also been successfully demonstrated here to be a useful tool for detailed data analysis for three specific applications involving sea level anomaly, water quality monitoring and metabolomics analysis. The software is designed, developed, owned by **Singapore-Delft Water Alliance, National University of Singapore** and is available freely for general public use at http://www.sdwa.nus.edu.sg/DATPAV/ . The tool and the demonstration will be specifically useful to all the researchers who deal with data collection/generation and analysis in any form. We rely on your inputs to add more features to the future versions.

About the speaker

Dr Rao Raghuraj is a research fellow with Singapore-Delft Water Alliance and is currently working in the MH Box project. He has graduated as PhD scholar from the Department of Chemical and Biomolecular Engineering, National University of Singapore. His research interests mainly include data based modeling, multivariate statistics, Hydrodynamic/Biological/Environmental systems analysis.

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