



# UNIVERSITY of ROCHESTER

## TELEMETRIC and HOLTER ECG Warehouse

### Newsletter

[www.thew-pr](http://www.thew-pr)

This electronic Newsletter is a publication with updates about the activities of the Telemetric and Holter ECG Warehouse (THEW) Initiative at the University of Rochester (UR), NY.

#### **Issue: 4: THEW Update – May 2009**

- **Annual THEW Meeting sponsored by the FDA,**
- **ECGs with drug-induced TdPs coming into the warehouse,**
- **Alliance between the Telemetric and Holter ECG Warehouse (THEW) and High Performance Computing Consortium (HPC<sup>2</sup>),**
- **IBM BlueGene Supercomputer available for the THEW research activities.**
- **THEW enables research project with Academic European Centers,**

On behalf of the THEW team, we would like to thank all speakers and registrants of the THEW Meeting. The event was a success with more than 40 registered companies. The meeting was an opportunity to learn about the recent developments of our initiative and the interest for the use of Holter and telemetric ECG in drug safety trials. If you would like to learn more about this topic, please go to our website to download the presentations from this event: [www.thew-pr](http://www.thew-pr)

#### Developments from 2009 First Quarter:

##### **More data in the THEW...**

The THEW team is glad to announce the signature of the THEW Data Sharing Agreement with the University of Munich (Germany). In this agreement, Munich University has agreed to share its electrocardiographic data with our initiative. Once this data is loaded in the warehouse, we will have the access to high-resolution 24-hour Holter ECGs recorded in patients with drug-induced TdPs, as well as recordings from patients with congenital long QT syndrome and experienced TdPs. All TdP events are fully recorded in the Holter files, they include post-episode ECGs, enabling the evaluation of ECG markers for the risk stratification of these patients or the identification of triggering signs of TdPs. In addition, this agreement includes a set of short-term ECG recordings from a group of 34 cardiac patients with and without predisposition to drug-induced TdPs. These markers could be evaluated to identify patients with an increased risk for TdPs.

##### **Alliance between the Telemetric and Holter ECG Warehouse (THEW) with the High Performance Computing Consortium (HPC<sup>2</sup>)**

The New York State Foundation for Science, Technology and Innovation's (NYSTAR) program will provide storage resources to the THEW initiative. NYSTAR's HPC<sup>2</sup> Consortium at University at Buffalo will provide the initial storage requirements for THEW as well as a lasting partnership. Through this collaboration, University of Buffalo will open a secure channel for the distribution of ECG data to the THEW Members. Dr. Couderc, Director of the THEW initiative, said: "This is great news for our initiative. The storage space allocated by the NYSTAR

creation of a secured FTP server will facilitate the distribution of the THEW data. In part, high-resolution Holter ECGs from the recent drug safety trial received from Roche included. One will be able to download quickly all this data from this remote server of the THEW. to benefit from the NYSTAR program.” Michael Ridley, Director of the NYSTAR commented: “Having a world class cyber-infrastructure provided through HPC<sup>2</sup> to research State allows innovative researchers like Dr. Couderc to focus on their research rather than complexities of implementing high performance computing applications. HPC<sup>2</sup> member from the University at Buffalo is a well known expert and leader in deploying HPC researchers like Dr. Couderc. Dr. Furlani’s expertise and assistance was a critical factor in this initiative. This partnership is a resounding success where both programs and University well as the added benefit of New York State resources being used to their fullest potential.

### **IBM BlueGene Supercomputer available for the THEW research activities.**

We are glad to announce that the THEW initiative received access to unique computer resources. Blue Gene super computers currently hosted at the University of Rochester Center for Research. This supercomputer has 4096 cores providing a 13.9 TFlops system. It represents a tool for the validation of ECG-based technologies because thousand of Holter can be analyzed in minutes (for regular process). The THEW team is currently evaluating the appropriateness of the use of this resource. We expect this resource to be available for research activities beginning next year.

### **THEW enables research activities in Europe...**

The Academy of Sciences of Czech Republic and their Institute of Scientific Instrumentation are using data from the THEW for the validation of methods for the modeling of QT/RR intervals on surface electrocardiograms. The research proposal for this project has been reviewed and approved by members of the THEW Research Scientific Committee consisting of world experts in electrophysiology and individuals from the FDA.