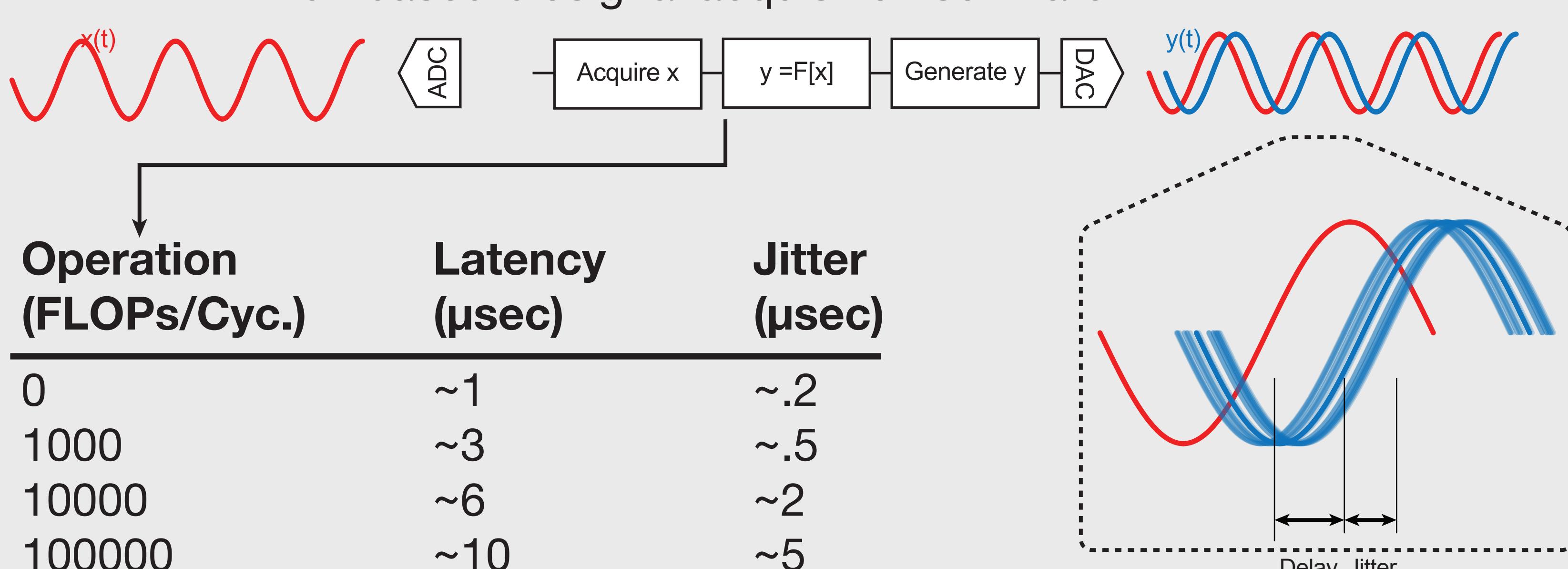


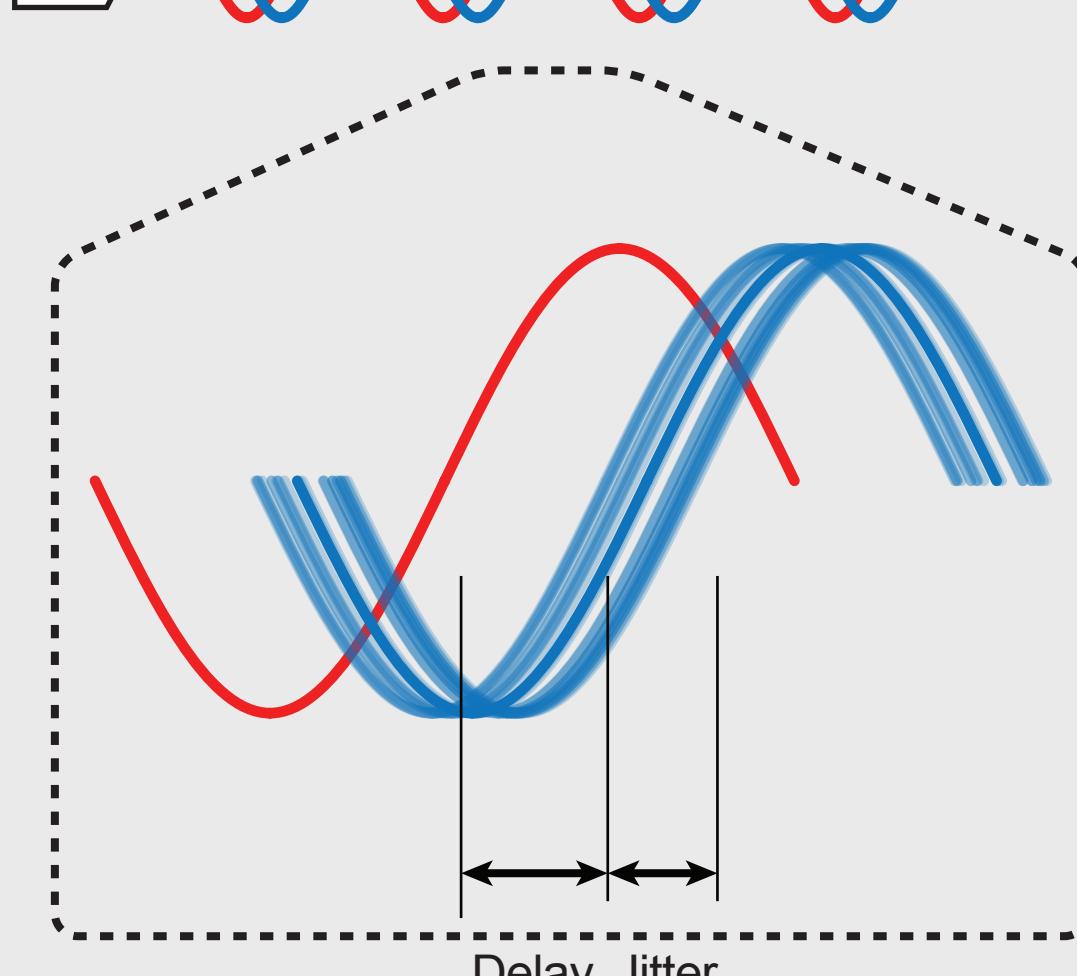
Hard real-time, closed-loop performance

Real-time kernel

- + Real-time threads make loop times deterministic
 - + RTXI: RTI linux based biosignal acquisition software



Operation (FLOPs/Cyc.)	Latency (μsec)	Jitter (μsec)
0	~1	~.2
1000	~3	~.5
10000	~6	~2
100000	~10	~5



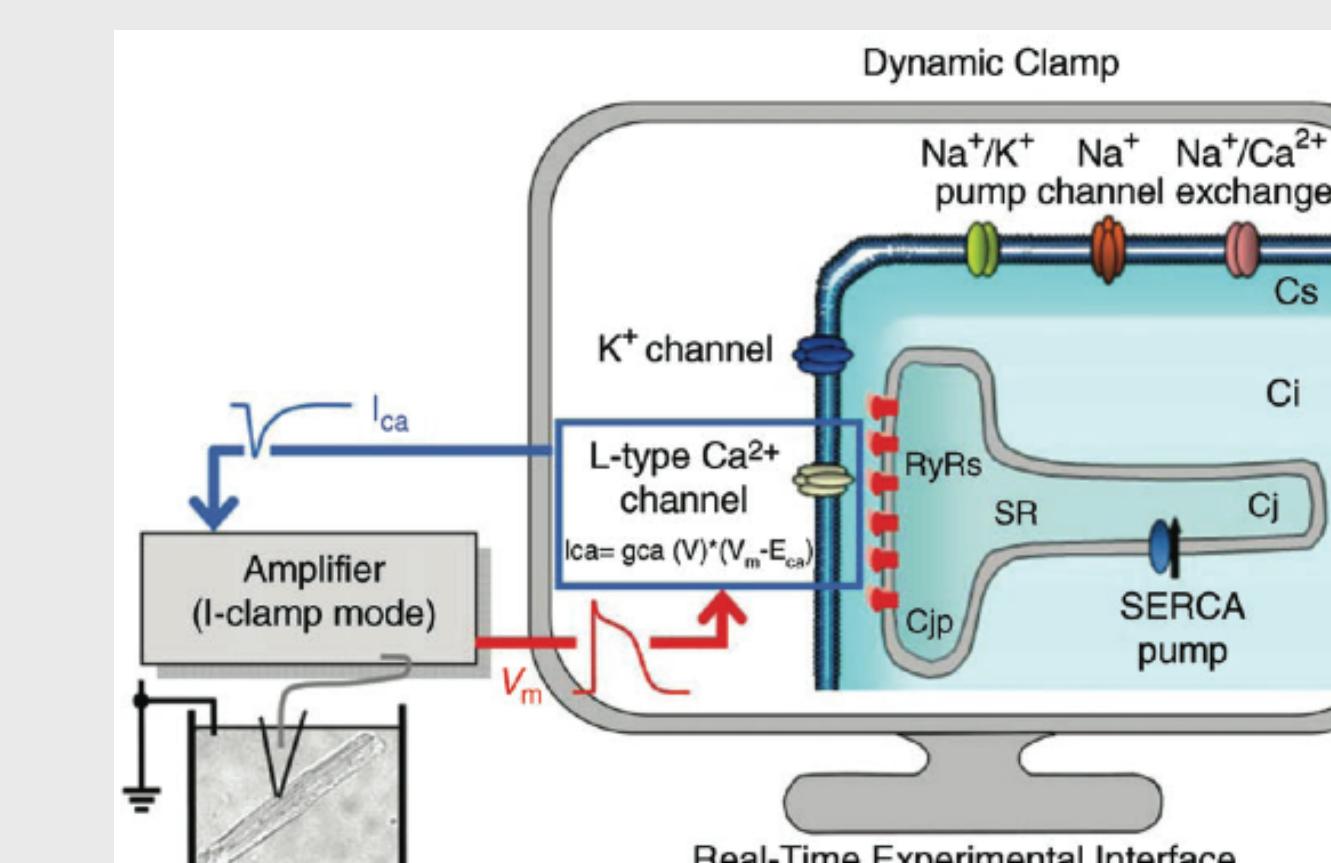
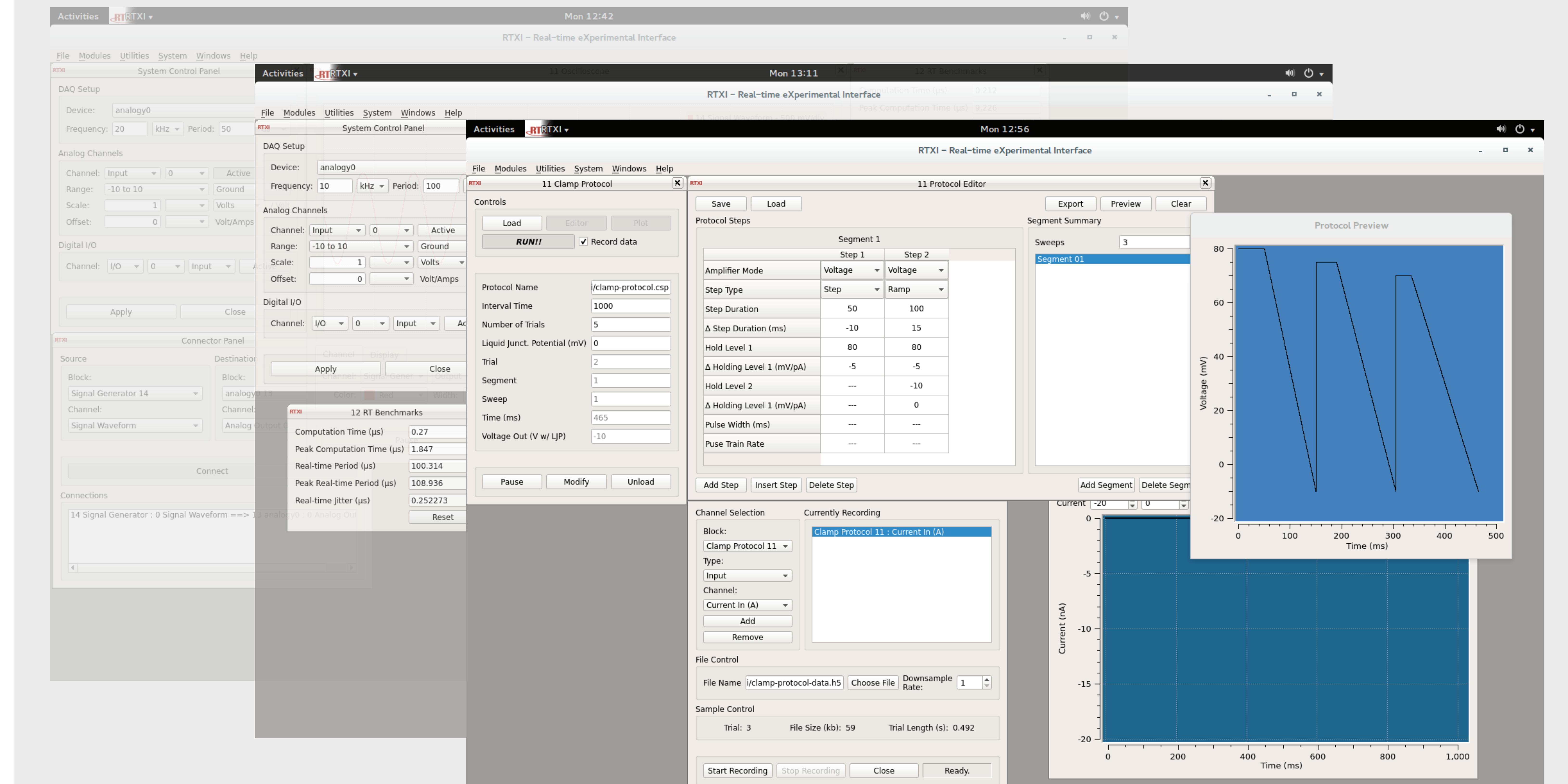
Key features

Modular framework

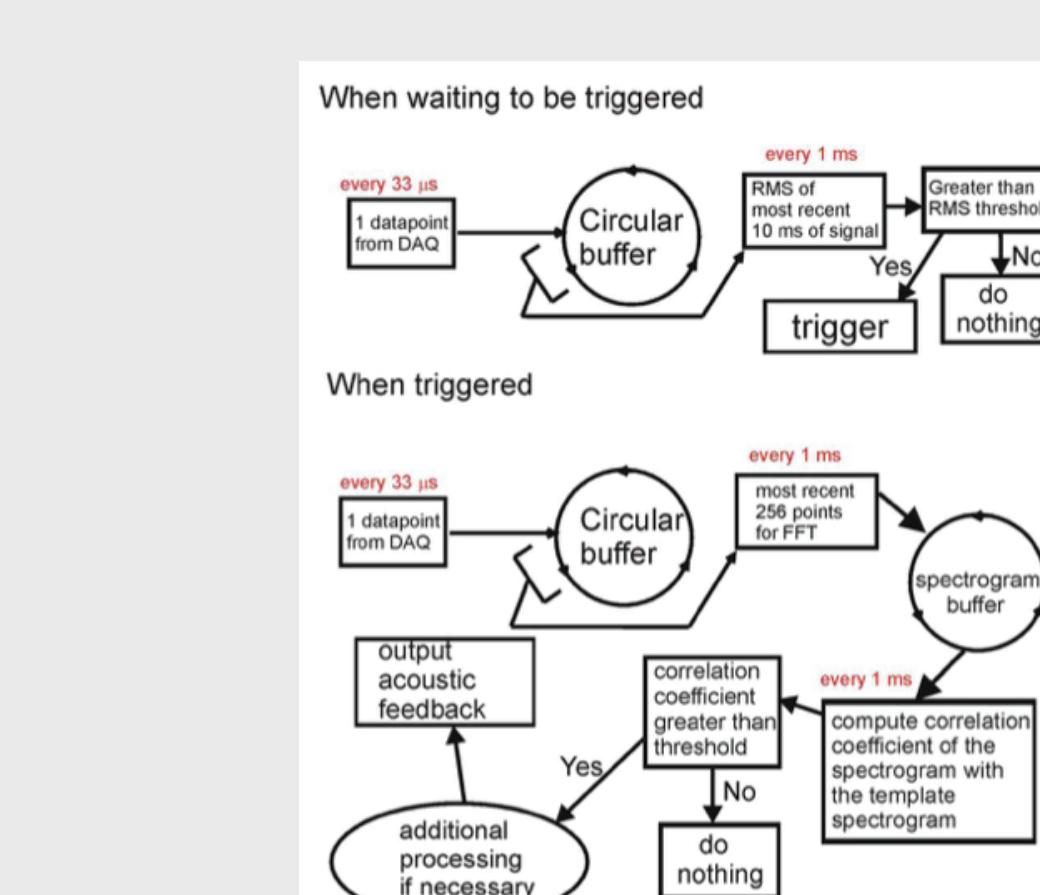
- + features implemented as standalone modules
 - + dynamic loading/unloading of modules into signal chain
 - + written in C++ and uses Qt
 - + user-specific modules easy to create and implement

Free and open-source

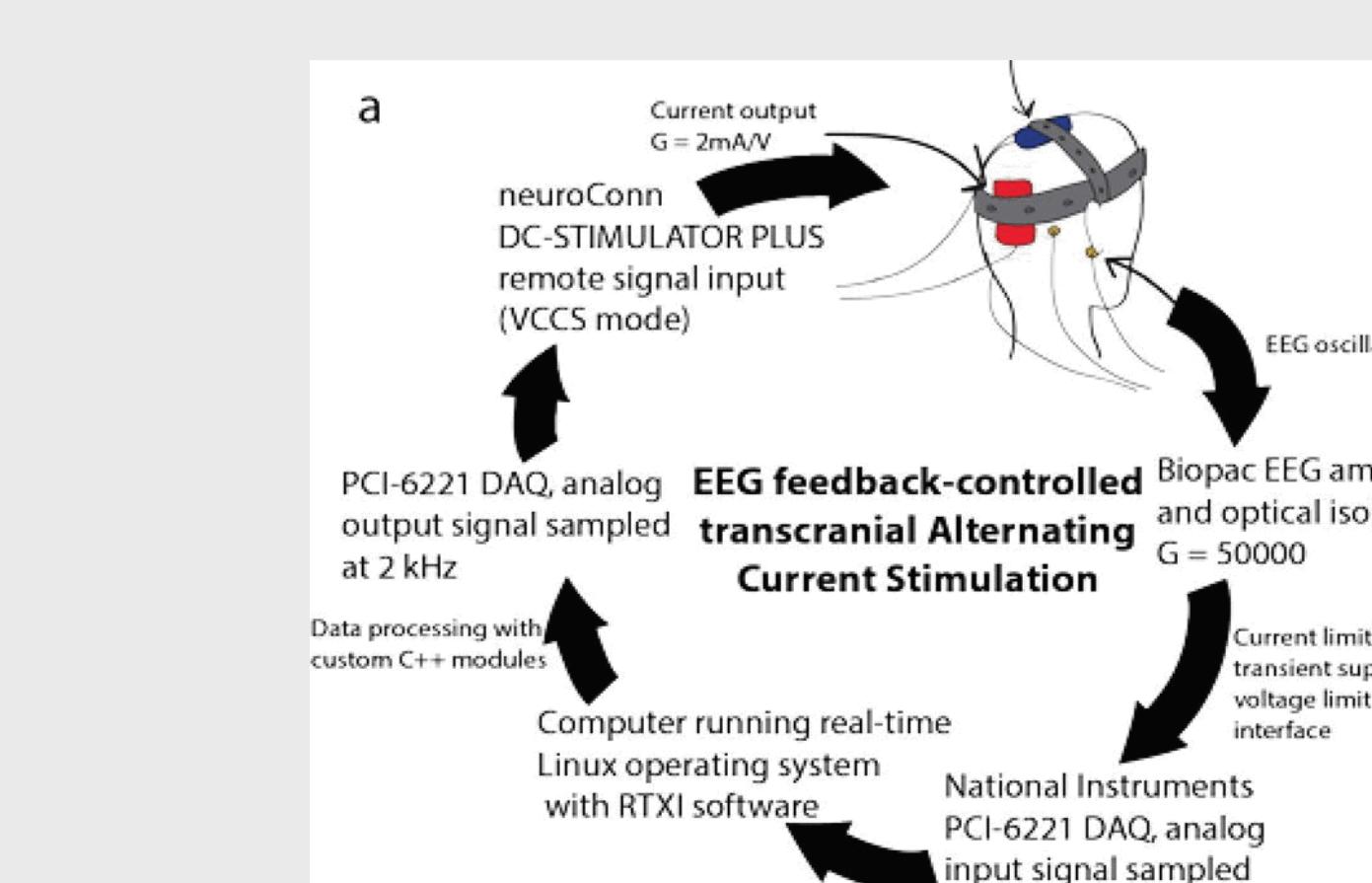
- + All code open-source and on GitHub
 - + Linux: free and compatible with any modern desktop
 - + Xenomai: modification to Linux that runs in real-time
 - + Analogy: community driven driverset for a variety of DAQs



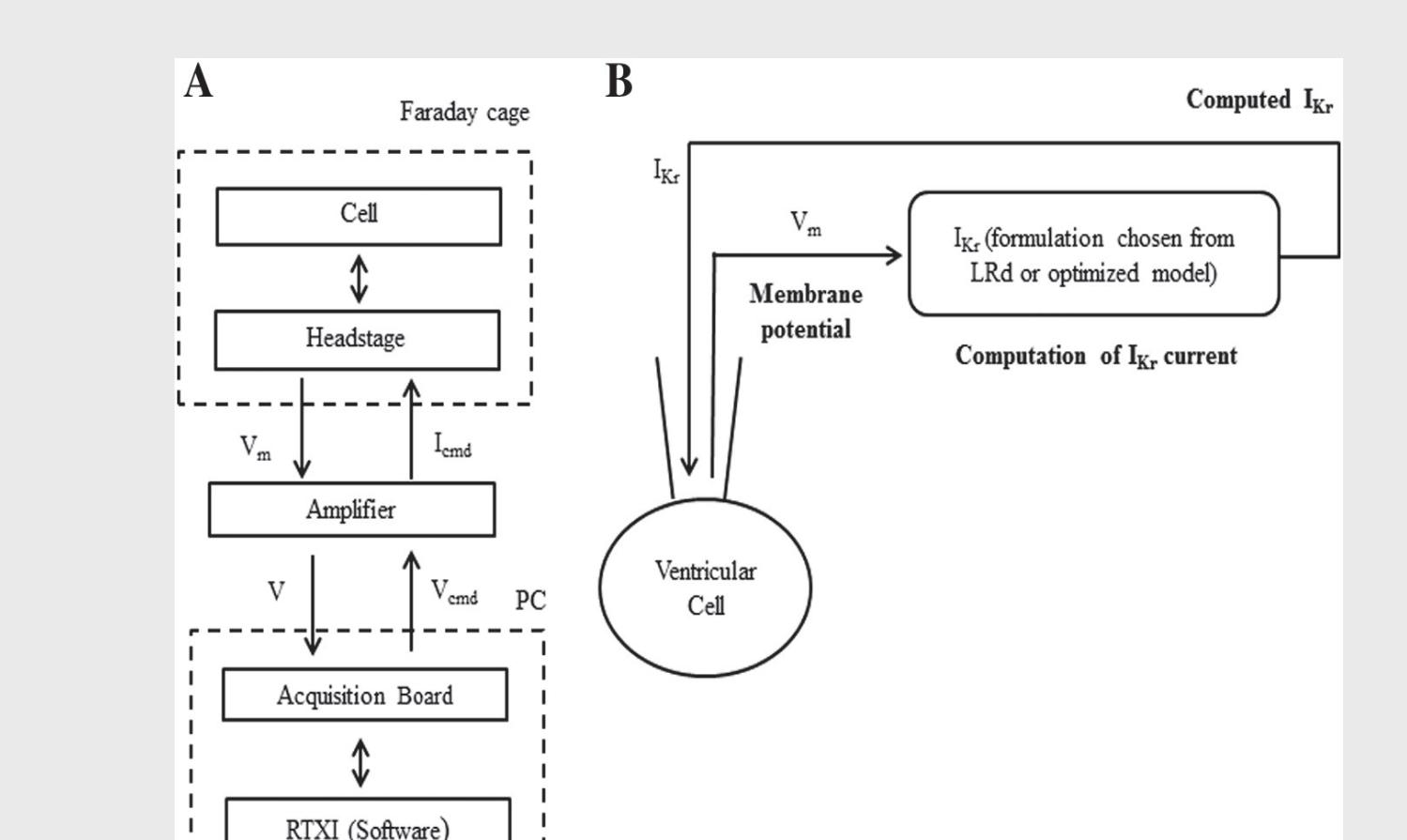
Madhvani, Roshni V., et al. "Shaping a new Ca²⁺ conductance to suppress early afterdepolarizations in cardiac myocytes." The Journal of physiology 589.24 (2011): 6081-6092.



Skocik, Mike, and Alexay Kozhevnikov. "Real-time system for studies of the effects of acoustic feedback on animal vocalizations." *Frontiers in neural circuits* 6 (2012).



Boyle, Michael R., and Flavio Frohlich. "EEG feedback-controlled transcranial alternating current stimulation." Neural Engineering (NER), 2013 6th International IEEE/EMBS Conference on, IEEE, 2013.



Chiara Bartoluccia et al. "Combined action potential- and dynamic-clamp for accurate computational modelling of the cardiac IKr current." Journal of Molecular and Cellular Cardiology Vol. 79, February

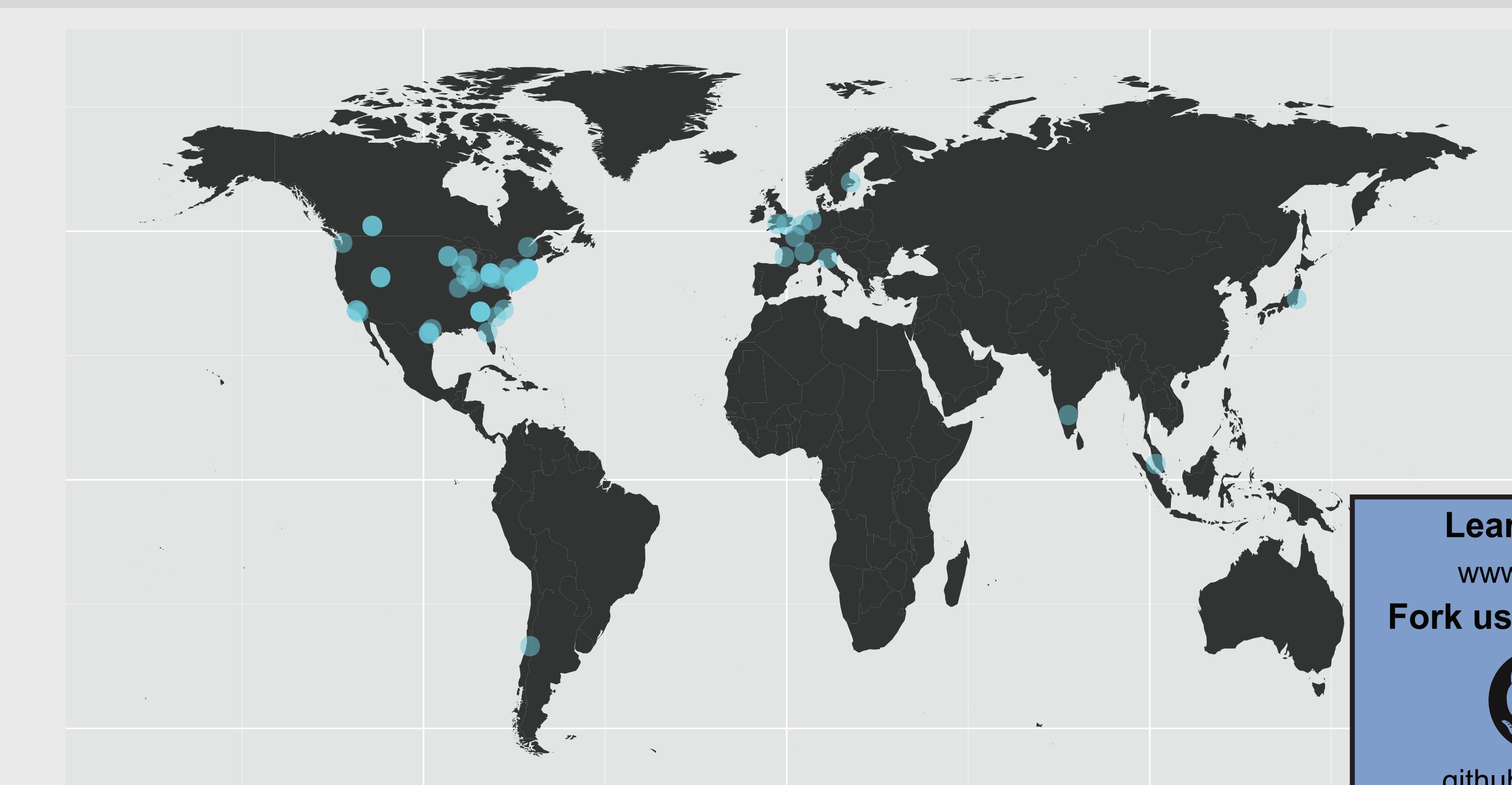
RTXI Resources and Community

Information available online:

- + 32 and 64-bit Live CDs and installation instructions
 - + source code
 - + publications with relevant RTXI modules
 - + bug reports, feature requests, contact information

Other resources available

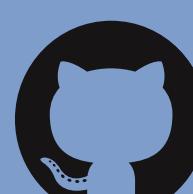
- + full-time technical support via email/-phone
 - + on-site installation and troubleshooting support



Learn more

www.rtxi.org

Fork us on GitHub



github.com/rtxi