



PET Reconstruction STIR update

Kris Thielemans

Software for Tomographic Image Reconstruction

- Software for image reconstruction and data manipulation (STIR 2.4 only PET, STIR 3.0 added SPECT)
- Research enabler
- Portable to any system with a capable C++ compiler
 - GNU C++, MS Visual Studio, Clang, Intel C++
 - Linux, Windows, MacOS, Solaris, ...
- Open Source
(L)GPL now, Apache 2.0 soon
- Long history: Based on PARAPET code first released in 2000

Forthcoming release

- OPENMP support
 - Gradient-computation for projection-based reconstruction
 - Full projections
 - Scatter simulation
- Siemens mMR support
 - List mode data (32-bit)
 - Projection data (conversion of Interfile header)
 - Normalisation file (no dead-time yet)
- Maximum Likelihood estimation of normalisation factors and randoms for PET
- Some improvements to MATLAB/Python interface