

SIRF-CIL Training School

SIRF:

Synergistic Image Reconstruction Framework

CIL:

Core Imaging Library

Kris Thielemans

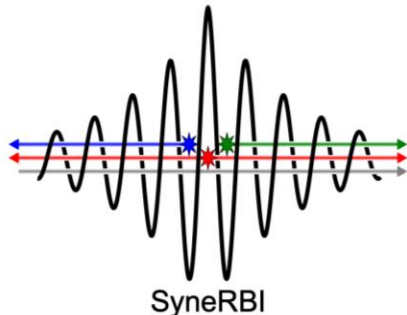
University College London, UK

on behalf of the

Collaborative Computational Projects on

Synergistic Reconstruction for Biomedical Imaging (CCP SyneRBI)

Tomographic Imaging (CCPi)



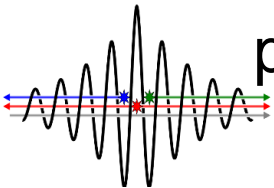
<http://www.ccpsynerbi.ac.uk>

<http://www.ccp.ac.uk>

CCPi
Tomographic
Imaging

Zoom info

- Zoom session will be recorded
 - Recording will be made available to participants
 - Main information sessions will be shared openly via the website
- Zoom users
 - Mute microphone as much as possible (either your device or via the zoom interface)
 - Do not enable video (but do so during discussion)
 - Use “chat” facility for short communications (e.g. to notify you want to ask a question, note about problems with sound, etc)



Overall time-table

- **Week 1 Basic concepts**

- Image display, acquisition models, forward projections, back (adjoint) projections, simple reconstruction, basic input/output
- Familiarity with Python, Jupyter notebooks, other tools

social session on the last Friday “night”

- **Week 2 Iterative Reconstruction and Regularisation**

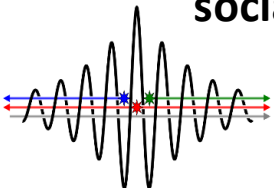
- General and modality-specific optimisation
- Smooth and non-smooth regularisers

social session on the last Friday “night”

- **Week 3 Advanced Topics**

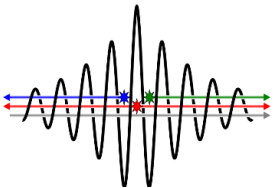
- Guided and Synergistic reconstruction
- Post-reconstruction deep learning

social session on the last Friday “night”



This week's schedule

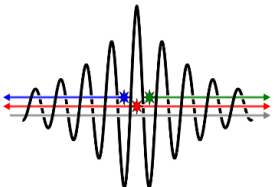
- **Monday 14:00 – ~16:30: Orientation**
joint session
- **Tuesday 14:00 – 15:00: Tech support**
- **Wednesday 14:00 – 16:00: Live support**
partially overlapping sessions
(use overlap for unsolved problems, but ideally join next session)
 - Address any questions posted on HackMD
 - Zoom breakout rooms for detailed topic
- **Friday 14:00 – ~16:00: Summary and outlook**
joint session
 - Address unresolved questions posted on HackMD
 - Participant participation: you show your solutions
 - What happens next week?



Gather.Town reminder

- open 24/7
- show up at
 - 9:00-9:15 every week-day morning
 - 14:00-14:15 every Tuesday and Thursday
- add yourself to the HackMD page
- social gathering every Friday after the Live session (especially the last one!).

<https://hackmd.io/@SIRF-CIL-Fully3D/SyZHD-sh>



Schedule for today

- **Introduction**
Kris Thielemans
 - **Introduction to iterative reconstruction and regularisation**
Andrew Reader
 - **Implementation in SIRF/CIL**
Kris Thielemans
- Short break
- **Split into modalities**
 - 15:00 CT (Jakob Jørgensen)
 - 15:30 MR (Christoph Kolbitsch)
 - 16:00 PET (Andrew Reader + Kris Thielemans)

