

CCPi Exec Meeting – Tuesday 8 February 2022

Via 'zoom' video-conference 3pm-5pm

Minutes

Attendees [11]

Apologies ([1] Evelina Ametova)

- Martin Turner (Manchester, MT)
- Philip Withers (Manchester, PW)
- Llion Evans (Swansea, LE by email)
- Jay Warnett (Warwick, JW)
- Jakob Sauer Jørgensen (DTU JJ)
- Gemma Fardell (STFC, GF)
- Evangelos (Vaggelis) Papoutsellis (STFC, EVP)
- Rebecca Cross (Manchester, RC)
- Laura Murgatroyd (STFC, LM)
- Bill Lionheart (Manchester, BL)

Minute	Item	Action
08.02.01	<p>Spending schedule for Phase 2 extension until 31 Dec 2021</p> <ol style="list-style-type: none"> 1. ARTisT simulation software 3-user license - Amin Garbout has an installation schedule at NXCT.ac.uk PAID 2. PostReality 2.0 studio: AR (Augmented Reality Presentations Platform) for posters - 5 seat license: Llion Evans put together a Working Group PAID 3. Website development: approx £7k inc VAT PAID 4. Funds for IBSIM 2021 - £1,000 Request 2022 5. Funds for ToScA 2021 - £500+ £350 LATE and Request 2022 6. Summer training session £10k EXTRA on current £10k funds for continual training courses this year requested PAID <p>For Phase 3</p> <ol style="list-style-type: none"> 1. Sponsorship deal for NPL dimensional-XCT 2022 Request £1,000 plus some student fees and possible international visits. <p>Action: All requests approved and further funding projects / activities for Phase 3 2022-2025</p> <p>Action: further training – one-day; DVC course; autumn training session; training at IBSim 2022; training CIL 27 April 2022 LINK courses to NXCT</p> <p>Action: taking forward the (30 users from Summer; 15 from December session) to become CIL software users.</p> <p>Note: Underspend is about £5k from Phase 2.</p>	<p>TALK Q2 2022</p> <p>Ongoing access request LL/MT</p> <p>April 2022 Start</p> <p>Approved</p> <p>ALL</p> <p>DevTeam: EP</p> <p>MT/JW</p>
08.02.02	<p>Submission, allocations and LoS for grant; Main applications failed, but some requesting resubmission next round.</p> <p>Submission, ROKE grant and Rich Tomography; Approved with kick-off meetings ongoing.</p>	
08.02.03	<p>Update on RICH tomography and SAR (Synthetic Aperture Radar) projects from BL</p> <p>Code running on CSF (UoM compute facility) and in a parallel effort porting by Francis Watson (using CCPi-CIL routines).</p>	<p>Invited Presentation</p>

	<p>Points raised:</p> <ul style="list-style-type: none"> -Complex number forward and backward projection works now so how do you regularise this. -FISTA reconstruction method needs optimisation. -Low counts are a challenge and Neutron and x-ray diffraction tomography experiments need further non-linear solutions. -Electron Tomography links (Gemma) <p><i>“Francis <has> got a toy time-domain bistatic SAR problem to work with FISTA/TV from CIL, this is all his own python code so separate from the project with DSTL and QinetiQ.”</i></p> <p>Action: Continual liaison between Francis Watson and CIL developers</p>	<p>Held up for real data.</p> <p>Ongoing – request talk from Cambridge group</p>
08.02.04	<p>Brief status reports since last meetings</p> <ul style="list-style-type: none"> 3.1 Software updates EP/BL 3.2 Networking updates MT 3.3 Links to National Facilities etc JW 3.4. Links to Industrial Collaborations LE 	
08.02.05	<p>Brief review of CCPi CIL/software links (By EP) to software release V21.3.1</p> <p>Accelerated PDHG; Further SIRF integration; TIGRE integration; Addition Intel IPP; PDHG memory opt</p> <p>Demonstration: DVC interface GUI: used by Brian and Catherine</p> <p>Demonstration: EPAC GUI being developed (to be a CIL general interface / application)</p>	<p>Training to be scheduled.</p> <p>Video to be uploaded to youtube channel.</p>
08.02.06	<p>Actions for CIL: requests asked for including</p> <ul style="list-style-type: none"> -Simple recon pipeline for non-experts (CoR/BeamHardening + FDK/TV) -Faster and higher efficiency system (see also hackathon below) -Requests; phase contrast/ IMAT non-negativity / SAR non-linearity / data readers / arbitrary projects + ray-masking <p>Training: CIL April 27, 2022 and SIRF+CIL May 28, 2022</p> <p>Hackathon support: Stochastic algorithms (), and Mathe met Image (Berlin Apr 22, 2022)</p>	<p>Ongoing</p> <p>Case study: Graham Davis</p>
08.02.07	<p>Action: Link with NXCT for GUI etc. and integrate within their visualisation lab. Aim to install a version of CIL and start June/July 2022</p> <p>Invite Nicola Wadeson to Exec Committee.</p> <p>Reader for Warwick machine – Tescan – with test dataset.</p>	<p>Presentation to be uploaded to youtube channel</p> <p>GF</p> <p>MT</p> <p>JW/JJ</p>

	<p>Key one: "Ability to use CIL on the remote vis machines (dedicated Linux reconstruction workstation) from the NXCT" Contact NW,TB et al. and support from GF (as done before at UCL, DTU, etc). Need a Champion Role within Manchester.</p> <p>Upload a slidedeck for 'why CIL is useful' to website (from examples already done).</p> <p>Request to JW for a time-resolved test scan – eg with Kate Dobson's student. Upload to training server (new jupyter notebook).</p>	<p>MT/JW</p> <p>EP/...</p> <p>CIL team/JW</p>
08.02.08	<p>Looking into a potential InnovateUK proposal. Request for any experience on these, with a project relating to CT. Let Llion.Evans@swansea.ac.uk, know who/ask them to send LE a quick message.</p> <p>Further people needed to trial the AR poster tool to get in touch with LE. https://ibsim.co.uk/ARposter</p>	<p>ALL</p> <p>MT advertise etc and encourage for d-XCT posters.</p>
08.02.09	<p>Future Conferences: Agreed CCPi will support this. ToScA / d-XCT / ...</p> <p>Action: Link to USA ToScA 2023 May at Texas – install in Lab CIL before the conference and promote.</p>	<p>MT/JW</p>
08.02.10	<p>4. Current plans for activities 5. Discussion on prioritisation of network and CoSeC efforts</p>	<p>MT</p>
08.02.11	<p>Social Software: Discord, Zenodo, jiscmail, LinkedIn...</p>	<p>MT add/nudge new members.</p>
08.02.12	<p>Dimensional-XCT 13-16 June 2022: Update and Needs https://www.ccp.i.ac.uk/DimensionalXCT -Training all up and ready: https://www.ccp.i.ac.uk/node/1002 -Abstract 200 words submission set up -Exhibitors roles £600 set up -And you can register now!</p>	<p>MT coordinate</p>
08.02.13	<p>4 January - 30 June 2023 Newton Institute - Rich and Nonlinear Tomography - a multidisciplinary approach: https://www.newton.ac.uk/event/rnt/ Possible activities:</p> <ul style="list-style-type: none"> -Royal Society Phil Trans A special Issue in RNT -Consider XCT/Neutron scan time in 2022 for presentation of work in 2023. -Invite international speakers not on the Newton Inst list -CCPi pay for travel to Cambridge and visit XCT labs (NXCT spokes / DLS ...) as appropriate. -Coordinate CIL training sessions – say one week: virtual and at Cambridge. -CIL research papers presented at a conference/workshop at 	<p>Ongoing from last minutes</p> <p>List of names who is there (BL)</p> <p>BL to consider a date for a CIL workshop</p>

	Cambridge. As a 'Fringe meeting style' -“Bring your own data" hack week getting together application scientists, software devs and mathematicians to get recon of their challenging data implementing in Core Imaging Library” -Create video tours of facilities as a portfolio	
AOB	Note LM is funded by EPAC for the specific work. Discussion on LoS for: Radar; Fast Tomo (Chris Johnson et al); Photon Therapy (BL contacts); CLS; Fibre Tracking training workshop; Discussion on SmartAdaptive .and computational time/size overheads (dask) 2k^3 is still the target – aim on a 60GB + 24 core machine	Separate (Fri) meeting requested.
Dates	For next meetings: Working Group needed Exec Meeting	
Minute	Action	Person Responsible
	SEE ABOVE	

CoSeC activity involved the following members of staff:

Edoardo Pasca Email: edoardo.pasca@stfc.ac.uk
Gemma Fardell Email: gemma.fardell@stfc.ac.uk
Evangelos Papoutsellis evangelos.papoutsellis@stfc.ac.uk
Evgueni Ovtchinnikov evgueni.ovtchinnikov@stfc.ac.uk
Laura Murgatroyd laura.murgatroyd@stfc.ac.uk

Other Developers – on SAR reconstruction: Synthetic Aperture Radar
Sophia Coburn,
Valerie Titarenko
Francis Watson

Statistics 08/02/2022:

CCPi-MEMBERS@jiscmail.ac.uk 384 members
CCPi-DEVEL@jiscmail.ac.uk 29 members
LinkedIn CCPi group created ../groups/9090791/ 32 members
Zenodo CCPi community data sets/files ../collection/user-ccpi 67 open documents
Discord Channel: 32 members

CIL Potential work;

- Simple pipeline for non-expert users
- Faster/higher efficiency in algorithms
- User Requests
- Release Schedule v22
- Training: April (CIL specific 27th) and May (PSMR2022 with SIRF)

- Hackathon Stochastic Alg + Maths meets Image (Cambridge and Berlin)

User Request;

- DTU, Rajmund Moksus, phase contrast,
- Graham Davis high quality TV scans;
- ISIS/IMAT
- SAR links
- Helical scans etc...

21.6.11 Extra Items:

Future key events:

Newton Institute - Rich and Nonlinear Tomography - a multidisciplinary approach RNT 4 January 2023 to 30 June 2023 <https://www.newton.ac.uk/event/rnt/>

Action: BL et al to look at being editors for a Royal Society Phil Trans A special Issue in RNT

Dimensional XCT 2022 (13-16 June) will be held at UoM and linked to the Royce Institute

Action: MT/TL website and activities to be organised and invitation for assistance:

<https://www.ccpi.ac.uk/DimensionalXCT>