

PCCr2/AfLS2 – Accra, Ghana – [28<sup>th</sup> January-2<sup>nd</sup> February 2019] (programme draft 2019-01-31)

Monday Jan 28									
Dr. Paul Acquah Seminar room		Ghana-Korea ICT		Dr. Kofi Wampah Hall		Dr. Ernest Addison Hall			
				IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , theory and hands on					
8.00 – 10.30	registration	Pre Conference Workshop on Protein Crystallization (Emmanuel Nji)		8.45 – 9.00	Welcome address – C. Lecomte				
		Keynote speaker: Prof. Tom Blundell		9.00 – 10.30	Diffraction physics - G. Artioli				
10.30 – 13.00	registration		Pre Conference Workshop on Protein Crystallization (Emmanuel Nji)  Invited speaker: W.-D. Schubert  Practical 1: Ralf Flaig <i>Remote data collection lecture and practicals</i>  Practical 2: E. Nji – M. Nidi <i>Protein Crystallization</i>  Practical 3: M. Nidi – R. Garratt <i>Protein crystal imaging/harvesting</i>  Feed back from participants	10.30 – 11.00	coffee break		AfLS2 Workshop 1 : Towards the AfLS		
				11.00 – 13.00	Introduction to powder diffraction geometry and instrumentation – G. Artioli		10.30-13.30	Grenoble Innovation Campus: The role and impact of ESRF Synchrotron 30'	MITCHELL, Edward
		13.00 – 14.00	lunch		13.30 – 14.30	lunch			
		10.30 – 19.30		14.00 – 15.30	Introduction to Pair Distribution Function Analysis (PDF) – E. Bendeif		AfLS Workshop 2 : African Consortia: Towards local and regional infrastructure enhancing LS access		
				15.30 – 17.00	Powder neutron diffraction and applications – F. Porcher		14.30 – 17.30	Cryo EM as feeder infrastructure in Regional Facilities 30'	MIKE LAWRENCE, Mike
				17.00 – 17.30	coffee break			MetalJet Source for High-Throughput Screening in the Home Laboratory 30'	ESPES, Emile
				17.30 – 19.00	Introduction to hands on / Presentation of the Bruker D2 diffractometer – D. Cochet			Latest developments in laboratory SAXS/WAXS instruments 30'	BOSSAN, Frederic
								Development of Compton compact X ray sources 30'	DUPRAZ, Kevin
								Panel Discussion : AfLS2 Workshop 2 : African Consortia: Towards the AfLS : Learning from other LSs, partnering with other LSs 60'	NORRIS, Lawrence

## Tuesday Jan 29

Bank of Ghana Auditorium						Dr. Nashiru Issahaku Seminar Room		Amissah Arthur Hall							
9.00 – 11.30	Opening Ceremony		Robert Kingsford-Adaboh		“Crystallography in Ghana” 30’										
			University of Ghana Pro-Vice Chancellor		President of Ghana										
					Minister of Environment, Science, Technology and Innovation										
			Jean Paul Ngome		UNESCO 10’										
			Michele Zema		IUCr Africa Initiative 10’										
Simon Connell		AFLS 10’													
11.30 – 12.00 Coffee break + Poster Presentation															
Dr. Kofi Wampah Hall					Ernest Addison Hall										
12.00 – 14.00	PCCr2 session <b>Bio crystallography</b> Chairs: R. Garratt - W-D. Schubert		S. Onesti		“Structural biology @Elettra: an integrated approach to DNA replication and repair” 20’		12.00 – 14.00	AFLS2: Block 2b	D’ALMEIDA, Thierry		“XTech-SD: a unique regional training initiative within the Sèmè City hub in Benin” 30’				
			W.-D. Schubert		“Virulence factors of <i>Listeria monocytogenes</i> and their host receptor interactions” 20’				DAVID, Dodoo-Arhin		“Nanostructured Cuprous Oxide Powder via High Energy Milling” 15’				
			M. Lawrence		“Structural principles of venom insulins: can these be applied to the development of new therapies for diabetes?” 20’				KOBOR, Diouma		“PZN-4.5PT single crystals and nanoparticles thin Films Characterization using XRD and Synchrotron Light Sources” 15’				
			E. Nji		“Crystallization of Membrane Proteins aided by an engineered Green Fluorescent Protein Thermal Shift Screen (GFP-TS)” 20’				VON DER HEYDEN, Bjorn		“Synchrotron science applied to the Earth Sciences” 15’				
			D. Traore		“Molecular architectures of essential components the pCW3 DNA transfer apparatus” 20’				OLADIJO, Philip Oluseyi		“Characterization of HVOF Inconel 625 Coating by X-ray diffraction and Synchrotron XRD” 15’				
			M. Rizzi		“A structural biology approach for the discovery of aldehyde dehydrogenases 1A isozymes specific inhibitors” 20’				FLAIG, Ralf		“The impact of CryoEM and the centre for cryoEM at Diamond” 30’				
14.00 – 15.00 Lunch															
Dr. Kofi Wampah Hall					Dr. Ernest Addison Hall					Dr. Nashiru Issahaku Seminar Room		Amissah Arthur Hall			
15.00 – 17.00	PCCr2/AFLS2 joint session <b>Molecular Materials and Large Facilities</b> Chairs: C. Lecomte – J.A. Tenon		P. Fertey 25’		“X-ray diffraction Synchrotron light for molecular materials”		15.00 – 17.00	AFLS2 : Block 3b	JAKATA, Kudakwashe		“Palaeontology: Highlights of X-ray computed tomography at the Synchrotrons” 30’				
			E. Bendeif 25’		“Structural study of functional nanomaterials by combining in situ X-ray total scattering and NMR spectroscopy”				SCHUBERT, Wolf-Dieter		“Bioscience Highlights from South Africa” 30’				
			A.B. Voufack 15’		“Experimental charge and spin densities studies on perovskite of YTiO3 through Joint refinement of X-ray and polarized neutron diffraction data”				CAMPANELLI, Mario		“Science communication: from the CERN example to a wider audience” 15’				
			J. Benedict 25’		“Atoms in Motion: Creating and Characterizing Dynamic Crystalline Materials”				EVANS-LUTTERODT, Kenenth		“Kinofoms for High Energy Photons” 15’				
			E. Annan 15’		“The role of X-ray analysis of magic balls for fluoride removal”				BIIRA, Saphina		“Structural changes of swift heavy ion irradiated spark plasma sintered ZrC/SiC solid solution” 15’				
			P. Kenfack 15’		Structural and Gas Sorption Properties of a Potential Material for Indoor Autonomous Moisture Control at Low range values				MOGODI, Mashikoane		“Thermoresponsive behaviour of (NH <sub>4</sub> ) <sub>0.5</sub> CO <sub>1.25</sub> (H <sub>2</sub> O) <sub>2</sub> [BP <sub>2</sub> O <sub>8</sub> ].(H <sub>2</sub> O) <sub>0.5</sub> with CZP framework topology” 15’				
17.00 – 17.30 Coffee break + Poster Competition															
Dr. Kofi Wampah Hall					Dr. Ernest Addison Hall					Dr. Nashiru Issahaku Seminar Room		Amissah Arthur Hall			
17.30 – 19.00	PCCr2 additional session <b>Inorganic Materials</b> Chair: D. Dodoo-Arhin		E. Nyankson 15’		“Synthesis, Characterization and Environmental Application of Ag-Ag <sub>3</sub> PO <sub>4</sub> Photocatalyst”		AFLS2 Poster Session: Block 4b + Exhibition								
			K. Seham 15’		“Crystal, electronic structure, optical and electrical studies of new 2D hybrid perovskite promising for photovoltaic applications”										
			N. CheRandy 15’		“Goethite functionalized cyclodextrin nanosponge for the removal of organic, inorganic and microbial contaminants from drinking water”										
			A. Abosede 15’		“Cocrystals and Metal Complexes: Synthesis, Structural Elucidation and Applications”										
			S. Ayeni 15’		“ Synthesis, Bond Parameters and Elucidation of Polymorphism in New Piperazyl Mannich bases of p-cresol”										
			M. Bediako 15’		“How Crystallography can Influence the Sustainability of Cement-based products”										
19.00 Close of the day															

IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , hands on  
Damien Cochet (Bruker)

Using the Cambridge Structural Database for Research and Education  
Amy Sarjeant and Suzanna Ward (CCDC)

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## Wednesday Jan 30

Bank of Ghana Auditorium				Dr. Nashiru Isshaku Seminar Room				
9.00 – 10.00	Plenary lecture	T. Blundell	“Structure-guided Fragment-based Drug Discovery for Cancer and Tuberculosis: Fighting the Emergence of Resistance”					
10.00 – 10.30	Coffee break + Exhibition + Poster Competition							
Dr. Kofi Wampah Hall			Ernest Addison Hall			9.00 – 12.30	IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , hands on  Damien Cochet (Bruker)	
10.30 – 12.30	PCCr2 session <b>Crystal engineering / structural chemistry</b>  Chairs: C. Malla Reddy - D. Haynes – M. Camara	Alessia Bacchi	“Turning liquid active ingredients into crystals” 30’		SWAINSON, Ian			“IAEA support to utilization of large scale facilities by developing countries” 30’
		A. Cruz-Cabeza	“Polymorphism in Molecular Crystals: New and Old Stories” 30’		TUMAINI, Mkwizu			“START - Synchrotron Techniques for African Science and Technology” 15’
		Jules Abodou Tenon	“Presentation of the Diffractometers Center of Abidjan” 15’		THABETHE, Thabsile			“Irradiation effects of swift heavy ions on palladium films deposited on 6H-SiC substrate” 15’
		Dzesse Tekouo Christelle	“Single crystal to single crystal transformations in Co(II)-tricarboxylate metal-organic frameworks” 15’		BUAH-BASSUAH, Paul Kingsley			“Laser Sources and their Applications - An Overview” 15’
		Domink Schaniel	“Combining photocrystallography and infrared spectroscopy for the study of nitric oxide and nitrite linkage isomers” 15’		DOBBINS, Tabbetha			“Understanding Complex Metal Hydrides via Synchrotron X-ray Studies” 15’
		Mamoudou Diallo	“Lanthanide-transition metals molecular materials: Synthesis and Crystal structure” 15’		CASALIS, Loredana			“Model membrane systems to elucidate cell-membrane processes: from signalling proteins to extracellular vesicles interaction.” 15’
		KAPPO, Abidemi Paul	“Expression, purification and preliminary crystallization of Schistosomal universal stress G4LZ13 protein towards new schistosomide discovery” 15’					
12.30 – 14.00	Lunch							
14.00 – 16.00	PCCr2 Session <b>Chemical Databases</b>  Chair: S. Coles	Suzanna Ward (CCDC)	“Sharing structures around the world” 30’		BILLINGE, Simon	“Synchrotron x-rays: helping build communities and get drugs to market” 30’		
		Amy Sarjeant (CCDC)	“One million structures to power chemical science” 30’		MITCHELL, Edward	“OPEN SESAME: European support to the SESAME Light Source in the Middle East” 30’		
		Tom Blanton (ICDD)	“Advanced Materials Characterization Using Powder Diffraction Techniques and the Powder Diffraction File” 20’		MALAMUD, Ernest DIAZ, Olivia	“Suggested steps towards funding an Advanced Light Source Facility on the African Continent” 30’		
		Abdelkrim Rachedi	“ Structural Targets Annotation Database STAD” 20’		YUSENKO, Kirill	“BAMline 2.0 – further technical developments for a broader multipurpose hard X-ray beamline @ BESSY II (Berlin, Germany)” 15’		
		Samuel Tetteh	Assessment of the O-O bond in terminal dioxygen first row transition metal complexes: A CSD/DFT study 20’		GUILHERME, Ana Buzanich	“Hard X-ray Spectroscopy and Imaging at the BAMline and μSpot beamlines @ BESSY II (Berlin, Germany)” 15’		
16.00 – 16.30	Coffee break + Exhibition + Poster Competition							
BOG Auditorium				Dr. Nashiru Isshaku Seminar Room				
16.30 – 17.10	Review of AfLS, LAAAMP and IUCr-Openlab	Simon Connell 15’		“The African Light Source Project” 20’		IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , hands on  Damien Cochet (Bruker)		
		Sekazi Mtingwa 15’		“Lightsources for Africa, the Americas, Asia and Middle East Project (LAAAMP): An IUPAP and IUCr ICSU-Funded Project” 20’				
		Michele Zema 10’		“IUCr-UNESCO OpenLabs” 20’				
17.30 - 19.00	PCCr2 additional session  <b>Diffraction Physics and Phase transitions</b>  Chair: D. Dodo-Arhin	I. Thiam 15’		“Heterotrimeric complex of (Ni-K-Ni) and Co-crystal structure of a dinuclear (Zn-Y) and a trinuclear (Zn-Y-Zn)”		IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , hands on  Damien Cochet (Bruker)		
		P. Rodenbough 15’		“Chemistry on Computers in East Africa – Lesson Plans from Collaborative Exchange”				
		Tumaini 15’		“Crystalline Phase Stabilization and Structure Dynamics of Oxide-ion Conducting Bismuth Oxides Doped with Rare-earth Cations”				
		Tomchick 15’		“Trypanosoma brucei polyamine biosynthesis enzyme structures provide information about novel metabolism and regulation”				
		S. A Osenni 15’		“Physicochemical characterization of siliceous sands from Houeyogbe in Benin Republic” 15’				
		Gift Mehlena 15’		“Metal-Organic Frameworks as Candidates for Catalytic Hydrogenation of Carbon dioxide to High Value Chemicals”				
19.00	Close of the day							

## Thursday Jan 31

Bank of Ghana Auditorium				Dr. Nashiru Isshaku Seminar Room					
9.00 – 10.00	Plenary lecture	E. Collet	“Studying ultrafast out-of-equilibrium transformation with time-resolved techniques at synchrotron and X-FEL “						
10.00 – 10.10	Sponsors	Company Rep	Dectris Inc						
10.10 – 10.20	Sponsors	Company Rep	Xenocs						
10.20 – 10.30	Sponsors	Company Rep	Excillum (Emil Espes)						
10.30 – 11.00	Coffee break + Poster Competition + Exhibition								
Dr. Kofi Wampah Hall			Dr. Ernest Addison Hall						
11.00 – 13.00	PCCr2 session <b>Inorganic materials</b> Chairs: D. Billings –F. Porcher	KEYNOTE : Michele Zema	“Multi analyses on inorganic materials” 30’	11.00 – 13.00	AfLS2: Block 10c	SETTE, Francesco	“The European Synchrotron Radiation Facility - 30 years of Science” 30’	9.00 – 12.30	IUCr-UNESCO-LAAAMP OpenLab: powder diffraction , hands on  Damien Cochet (Bruker)
		Michelle Nyoni	“Investigating lithium vanadium phosphate cathode materials for lithium-ion batteries” 15’			BISCARI, Katerina	“Science at ALBA : Research highlights, Socio-economic impacts and insights the AfLS” 30’		
		Adam Bouraima	“Crystal structure of a silver-, cobalt- and iron-based phosphate with an alluaudite-like structure: Ag <sub>1.655</sub> Co <sub>1.64</sub> Fe <sub>1.36</sub> (PO <sub>4</sub> ) <sub>3</sub> ” 15’			ABE, Hitoshi	“XAFS as a tool to obtain chemical states and local structures” 30’		
		KEYNOTE : Gilberto Artioli	“Building the future: sustainability of construction materials” 30’			PAOLUCCI, Giorgio	“Science at SESAME : Research highlights, Socio-economic impacts and insights for the AfLS” 30’		
		Moustapha Sawadogo	“Refractory bricks worked out with raw materials from Burkina Faso: effect of the nature of grog and the alumina contents in the mineral binder” 15’						
		Lébé Prisca M.-S. Kouakou	“Clays and bricks” 15’						
13.00 – 14.00	Lunch								
14.00 – 18.00	Guided Tour City of Accra								
19.00 – 21.00	Conference Dinner with Ghanaian Culture and Dance + Poster Awards (Venue: ISSER Conference ANNEX- UNIVERSITY OF GHANA CAMPUS)								



## Friday Feb 1

Bank of Ghana Auditorium			Dr. Nashiru Issahaku Seminar Room		
9.00 – 10.00	Plenary lecture	G. Vaughan	“Advanced diffraction techniques for operando and ex-situ studies of real systems”		
10 – 10.30	Coffee break + Poster Presentation + Exhibition				
Ernest Aryeetey Hall					
10.30 – 12.30	PCCr2/AfLS2 Joint Session <b>Large scale facilities</b> Chairs: G. Kamel – S. Coles	CONNELL, Simon	“Political and Strategic Outcomes planned for AfLS2” 10’		
		NTSOANE, Tshepo	“Review of SA associate membership of the European Synchrotron Radiation Facility (ESRF)” 10’		
		NGABONZIZA, Prosper	“A possible Pan-African Consortium Membership of an International Synchrotron” 10’		
		MITCHELL, Edward	“The case for industry involvement in Light Sources” 15’		
				Key Notes from various African Government SET Department representatives 15’	
		MTINGWA, Sekazi	“Light Sources and developing countries” 15’		
		CATLOW, Richard	“Realizing the African Light Source” 15’		
		AZAIEZ, Faïçal	“iThemba LABS and the Africal Light Source” 15’		
		DAPARE DAKORA, Felix	<i>Panel Discussion : Realising the Pan African Synchrotron I 15’</i>		
12.30 – 14.00	Lunch				
Ernest Addison Hall			Dr. Nashiru Issahaku Seminar Room		
14.00 – 16.00	PCCr2/AfLS2 Joint Session <b>Strategy</b>	KINGSFORD-ADABOH, Robert	“Deliberations from PCCr2 and an African Light Source” 15’		
		SETTE, Francesco	“The Extremely Brilliant Source at the ESRF” 30’		
		ELSEN, Eckardt	“CERN and AfLS Roadmap” 15’		
		BISCARI, Caterina	“ALBA and the AfLS Roadmap” 10’		
		PAOLUCCI, Giorgio	“SESAME and the AfLS Roadmap” 10’		
		KHUMBAH, Nkem	“Pan African thinking and strategy” 15’		
				<i>Panel Discussion : Realising the Pan African Synchrotron II</i>	
16.00 – 16.30	Coffee break				
Bank of Ghana Auditorium					
16.30-17.30	AfCA: African Crystallographic Association - Progress in the constitution Future PCCr3 and PCCr4 Closing Ceremony – Robert Kingsford-Adaboh				
18.00	Close of the day				

## Saturday Feb 2

14.00 – 18.00	A whole day Tour to Cape Coast Castle, Kakum National Park			
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