

CASPER / PIRE DSP Workshop and Summer School Block Schedule. 12-16 Aug. 2019

v. 19Aug10

Start Times	Early Career		Research, Practicals, Working Groups		
	Monday	Tuesday	Wednesday	Thursday	Friday
8:30	Coffee	Coffee	Coffee	Coffee	Coffee
9:00	Welcome - C. Alcock CfA Dir. Logistics - LOC/SOC/Board	DSP Pipelines nonRT Hosts - Dowell	RFSoc - Multi-beam Beamforming @ 28 GHz, Ariyaratna	Algorithms - Adaptive RFI Filter on ROACH2, Curotto	Facility Instruments - African Lessons for Astro., Kapp
9:20	Radio Astronomy Principles Marrone	DSP Pipelines nonRT Hosts - Dowell	RFSoc - Spectrometer Porting to ZCU111, Bradford	Algorithms - Finite Precision Math in PFBs, Myburgh	Facility Instruments - Narrowband Correlator Dev., van der Byl
9:40	Radio Astronomy Principles Marrone	DSP Pipelines nonRT Hosts - Dowell/Renard	RFSoc - Superconducting Array Readout, Sinclair	Algorithms - Analog/Digital Wave Eqn. Solver, Udayanga Patel	Facility Instruments - Adding Reconfigurability to CASPER Toolflow, Patel
10:00	Fourier Transforms I - Gorthi	DSP Pipelines nonRT Hosts - Renard	Hardware - SKARAB Design, Isaacson	Facility Instruments - SNAP2 Applications, Zhao	Facility Instruments - Eth. Multicast Networking, Manley
10:20	Fourier Transforms I - Gorthi	DSP Pipelines nonRT Hosts - Renard	Hardware - Design Trades w/ Wideband ADCs, Kriel	Facility Instruments - African VLBI Commensal Backend, James Smith	Facility Instruments - Tools for MeerKAT Correlator/BF, Rust
10:40	Coffee	Coffee	Coffee	Coffee	Coffee
11:00	Interferometry Principles - Marrone	Packetized Instruments, Networks - Manley	Hardware - Enabling 100 GbE with VCU cards, Hlophe / Roshanineshat	Facility Instruments - Geodetic VLBI Backend, Ruszczyk	Experiments - Cosmic Ray detection firmware, Plant
11:20	Interferometry Principles - Marrone	Packetized Instruments, Networks - Manley	Hardware - Low Cost 4-bit 16 GS/s ADC board, Jiang	Facility Instruments - Arizona W/B Spectrometer, Forbes	Experiments - Mapping Processes in Thunderstorms, Tilles
11:40	Fourier Transforms II - Gorthi	Packetized Instruments, Networks - Manley	Hardware - White Rabbit Wei Liu	Facility Instruments - SDR Pulsar Timing in Argentina, Gancio	Experiments - RFSOC Readout for MKIDS, Jenny Smith
12:00	Fourier Transforms II - Gorthi	Packetized Instruments, Networks - Manley	Hardware -Meerkat GPU X-Engine, Callanan	Facility Instruments - CASPER Pulsar Processors, Karuppasamy	Working Group Reports
12:20	Distilled Essence of the PFB - Moran		Hardware - SNAP2 and Other Platforms, Shu	Facility Instruments - ALPACA Beamformer DBE, Bumett	
12:40	Lunch (Phillips)	Lunch (Phillips)	Lunch (Phillips)	Lunch (Pratt)	Lunch (Pratt)
13:00					
13:20					
13:40	DSP Instrumentation & CASPER - Werthimer	Xilinx Industry Event RFSoc intro - Lysaght	Lightning Talks (Phillips)	Prac Sessions, Working Groups, Board Meeting	Prac Sessions, Working Groups
14:00	DSP Instrumentation & CASPER - Werthimer	Xilinx Industry Event RFSoc intro - Lysaght		Prac Sessions, Working Groups, Board Meeting	Prac Sessions, Working Groups
14:20	CASPER Hardware - Hickish	Xilinx Industry Event RFSoc deep dive - Lysaght	Prac Sessions, Working Groups, MetaSat discussion	Prac Sessions, Working Groups, Board Meeting	Prac Sessions, Working Groups
14:40	FPGA Basics - Haworth	Xilinx Industry Event RFSoc deep dive - Lysaght	Prac Sessions, Working Groups	Prac Sessions, Working Groups, Board Meeting	Prac Sessions, Working Groups
15:00	FPGA Basics - Haworth	Xilinx Industry Event RFSoc deep dive - Lysaght	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups
15:20	Coffee (Phillips)	Coffee (Phillips)	Coffee (Pratt)	Coffee (Pratt)	Coffee (Pratt)
15:40	LINUX introduction - van Tonder	SoC Red Pitaya tutorial-demo - New	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups
16:00	DSP on FPGAs - Martens	SoC Red Pitaya tutorial-demo - New	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups
16:20	DSP on FPGAs - Martens	SoC Red Pitaya tcpborphserver - van Tonder	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups
16:40	DSP on FPGAs - Martens	casperfpga - van Balla	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups

Phillips Auditorium

Pratt Conference Room

17:00	End of Day Auditorium Cleanup	casperfpga - van Balla	Prac Sessions, Working Groups	Prac Sessions, Working Groups	Prac Sessions, Working Groups
17:20		End of Day	End of Day	End of Day	End of Day
17:45				Radio-horn, SDR, & Spectroscopy Demo - Langston, Patel	
19:00				Pivotal Discoveries in Radio Astronomy, at Bell Lab - R.W. Wilson	

Presentations are in 60 Garden St, Building D, ground floor, Phillips Auditorium.

Enter off the parking lot at the top of Observatory Hill(ock)

Lightning Talks

P. Bikkina	poster	Low-Power RF ADCs for Radio Astronomy
D. Bouquin	Pre-breakout introduction	CASPER meet MetaSat
J. D'Ewart	poster	SMuRF readout electronics for microwave SQUID multiplexing
G. Langston	poster	Experience with Student-Constructed Telescopes for Radio Astronomy
B. LaRoque	poster	Online signal processing in Cyclotron Radiation Emission Spectroscopy for precision measurement of the tritium beta-decay spectrum
O. Mahgoub	poster	Cooling Next Generation CASPER Hardware
R. van Wyk	poster	SKARAB Embedded Software Challenges and Insights
K. Virkler	poster	ROACH-2-based Radio Astronomy Spectrometer for NASA's Deep Space Network
A. bin Zahid	poster	40 MHz Level-1 Trigger Scouting for CMS

Plate Stacks / DASH Tours

Wednesday	2:45-3:20, 3:45-4:15
Thursday	2:45-3:20, 3:45-4:15
Friday	2:45-3:20, 3:45-4:15

Wifi network: Harvard University
 username: casper2019@cfa.harvard.edu
 password: to be announced