



INSAR THEORY AND PROCESSING
ISCE, INTERPRETATION AND TIME SERIES
UNAVCO, HEADQUARTERS - BOULDER, CO
AUG 12 - AUG 16, 2019

UNAVCO, a non-profit membership-governed consortium, facilitates geoscience research and education using geodesy.

INSTRUCTORS:

- Paul Rosen, JPL
Gareth Funning, UC Riverside
Piyush Agram, JPL
Heresh Fattahi, JPL
David Bekaert, JPL
Scott Baker, UNAVCO

MONDAY, AUG 12 - 9:00AM - 5:30PM

Table with 2 columns: Time and Activity/Instructor. Rows include: 8:15 Carpools to UNAVCO - meet in Lobby (Shuttle Bus), 9:00-9:15 Introductions (Funning/ Charlevoix), 9:15-9:45 Jupyterhub Access setup (Baker/All), 9:45-10:45 Radar and SAR Theory (Rosen), 10:45-11:00 Break, 11:00-12:00 Stripmap Data Processing - Focusing (Fattahi/ All), 12:00-1:00 Lunch (Kitchen), 1:00-2:00 InSAR theory (Rosen), 2:00-3:30 Stripmap Data Processing - Interferometry (Fattahi/ All), 3:30-3:45 Break, 3:45-4:45 Accessing Data + DEM from archives (Baker/ All), 4:45-5:15 Ensuring data setup for Day 2 + Homework (Agram/ All), 5:30 Carpool to Hotel (Shuttle Bus).

TUESDAY, AUG 13 - 9:00AM - 5:00PM

Table with 2 columns: Time and Activity/Instructor. Rows include: 8:15 Carpools to UNAVCO - meet in Lobby (Shuttle Bus), 9:00-10:00 Interpreting a co-seismic interferogram (Paper exercise) (Funning), 10:15-10:30 Break, 10:15-12:00 TOPS Data Processing - Pt 1 (Agram/ All), 12:00-1:00 Lunch (Kitchen), 1:00-3:00 TOPS Data Processing - Pt 2 (Agram/ All), 3:00-3:15 Break, 3:30-4:45 Preparing InSAR data for modeling (Funning/ All), 4:45-5:15 Ensuring data setup for Day 3 + Homework (Bekaert/ Agram), 5:30 Carpool to Hotel (Shuttle Bus).



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**WEDNESDAY, AUG 14 – 9:00AM - 5:00PM**

8:15	Carpools to UNAVCO – meet in Lobby.....	Shuttle Bus
9:00 – 10:15	Introduction to GDAL .....	Bekaert/Agram
10:15 – 10:30	<i>Break</i>	
10:30 – 12:00	Raster data manipulation with GDAL.....	Bekaert/Agram
12:00 – 1:00	<i>Lunch</i>	
1:00 – 1:45	Raster Data Tiling + Map Projections .....	Agram/ Baker
1:45 – 3:15	Troposphere + GACOS .....	Bekaert
3:15 – 3:30	<i>Break</i>	
3:30 – 5:00	Ionosphere + Split Spectrum.....	Fattahi
5:15	Ensuring data setup for Day 4 + Homework review .....	Fattahi/ Agram
5:30	Carpool to Hotel.....	Shuttle Bus

**THURSDAY, AUG 15 – 9:00AM - 5:00PM**

8:15	Carpools to UNAVCO – meet in Lobby.....	Shuttle Bus
9:00 – 9:30	Exploring data from InSAR archives .....	Bekaert / Baker/ Funning
9:30 – 10:30	Time-series theory .....	Agram
10:30 – 10:45	Interferogram stacks: Temporal and spatial statistical considerations.....	Bekaert
10:45 – 11:00	<i>Break</i>	
11:00 – 12:00	ARIA tools – Cropping and Stitching InSAR products .....	Bekaert/All
12:00 – 1:00	<i>Lunch</i>	
1:00 – 1:15	<i>Group picture</i>	
1:30 – 2:00	Intro to MintPy .....	Fattahi/All
2:00 – 3:15	Time Series Analysis with MintPy .....	Fattahi/All
3:15 – 3:30	<i>Break</i>	
3:30 – 4:15	Time Series Analysis with MintPy – Error analysis and noise reduction.....	Fattahi/All
4:15 – 4:45	Visualization and exporting results .....	Fattahi/All
4:45 – 5:00	Homework exercises .....	All
5:30	Carpool to Hotel.....	Shuttle Bus

**FRIDAY, AUG 16 – 9:00AM - 12:00PM**

8:15	Carpools to UNAVCO – meet in Lobby.....	Shuttle Bus
9:00 – 9:30	Intro to stack processing.....	Agram
9:30 – 9:45	Preparing data for stack processing .....	Baker
9:45 – 10:45	Demo of Sentinel Stack processing.....	Fattahi
10:45 – 11:45	Students present their homework results/ discussion .....	All instructors
11:45 – 12:00	<i>Conclusion</i>	