

# Workshop Schedule

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## Week 1

### Day 1, Jan 3

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	ERD/DPS	Introductions and Goals
10:30 – 10:45	Morning Break		
10:45 – 12:00	Livecode	DPS	Basics in R (R Studio; importing, exporting, cleaning data; data classes)
12:00 – 13:30	Lunch		
13:30 – 14:45	Livecode	DPS	Slightly more advanced R (custom functions, flexible arguments, loops)
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Practice manipulating raw data

### Day 2, Jan 4

Time	Activity	Speaker	Topic
9:00 – 10:00	Lecture	ERD/DPS	Overview of Movement Ecology and Analyses
10:30 – 10:45	Morning Break		
10:45 – 12:00	Livecode	DPS	Introduction to spatial data in R
12:00 – 13:30	Lunch		
13:30 – 14:45	Livecode	DPS	Movement data in R (movebank, ltraj objects, path metrics)
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Practice plotting tracks and extracting path metrics

### Day 3, Jan 5

Time	Activity	Speaker	Topic
9:00 – 11:00	Lecture	ERD	Home ranges and utilization distributions
11:00 – 11:15	Morning Break		
11:30 – 12:00	Livecode	DPS	MCP, KDE home range estimation in R
12:00 – 13:30	Lunch		
13:00 – 14:15	Livecode	ERD	Convex hull methods - LoCoH
14:15 – 14:30	Afternoon Break		
14:30 – 16:30	Hands on	—	Home Range Estimation Activity

## Week 2

### Day 4, Jan 8

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	WMG	Space-time considerations
10:30 – 10:45	Morning Break		
10:45 – 12:00	Livecode	ERD	TLoCoh
12:00 – 13:30	Lunch		
13:30 – 14:45	Livecode	ERD	T-LoCoH derived metrics; alternative methods (Brownian bridges)
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Activity

### Day 5, Jan 9

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	ERD	Modelling habitat selection: common selection models
10:30 – 10:45	Morning Break		
10:45 – 12:00	LiveCode	DPS	Habitat Selection Analysis in R
12:00 – 13:30	Lunch	—	
13:30 – 14:45	LiveCode	ERD/DPS	Step Selection Functions and Beyond in R
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Selection Activity

### Day 6, Jan 10

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	WMG	Behavioral analysis; FME, CAM, and movement syndromes
10:30 – 10:45	Morning Break		
10:45 – 12:00	Livecode	ERD	Extracting behavioral state from movement tracks (BCPA, HMM)
12:00 – 13:30	Lunch		
13:30 – 14:45	Livecode	DPS	Identifying movement syndromes; metrics for classification
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Behavioral State Activity

### Day 7, Jan 11

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	DPS	Simulating movement; when and why?
10:30 – 10:45	Morning Break		

Time	Activity	Speaker	Topic
10:45 – 12:00	Livecode	ERD	Simulating movement 1
12:00 – 13:30	Lunch		
13:30 – 14:45	Livecode	ERD	Simulating movement 2
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Hands on	—	Simulation Activity

## Day 8, Jan 12

Time	Activity	Speaker	Topic
9:00 – 10:30	Lecture	WMG	Epidemiological models
10:30 – 10:45	Morning Break		
10:45 – 12:00	LiveCode	WMG	Modeling Epidemics in Nova and fitting parameters
12:00 – 13:30	Lunch		
13:30 – 14:45	Lecture	DPS/ERD	An brief introduction to hierarchical models in Ecology
14:45 – 15:00	Afternoon Break		
15:00 – 16:30	Wrap Up	—	Questions and Final Discussion