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SUMMER SEMINAR: PHIL STAT*

SummerSeminarPhilStat.com

July 28-Aug 11

(7/20) DRAFT



Day 1	Sunday, July 28 (2030 Pamplin Hall) Popper birth date
9:30	Meet at Marriott to walk over to Pamplin Hall, 2030
10-11	Introductions
11-12:30	Statistical Inference as Severe Testing: How to Get the Beyond the Stat Wars (SIST ¹ : Excursion 1)
12:30-2	Lunch
2-3:30	Introduction to Empirical Modeling (Ch 1, PT & SI) ²
3:30-4	Discussion/Terms (coffee)
4-4:30	Tour of Locations
Day 2	Monday, July 29 (123A Burruss Hall) Fisher's death date 1962
9:30-11	Probability Theory as a Modeling Framework (Ch 2, PT & SI)
11-11:30	Break
11:30-1	Probability Theory as a Modeling Framework
1-2:30	Lunch
2:30-4	Induction and Confirmation; Events vs. Hypotheses (SIST: Excursion 2 Tour I)
4-4:30	Break
4:30-5	Discussion/Terms (2030 Pamplin Hall)
5-6	Loose Ends (2030 Pamplin Hall)
Day 3	Tuesday, July 30 (123A Burruss Hall)
9:30-11	The Concept of a Probability Model (Ch 3, PT & SI)
11-11:30	Break
11:30-1	A Simple Statistical Model (Ch 4, PT & SI)
1-2:30	Lunch
2:30-4	Falsification, Pseudoscience; Severity and Novelty (SIST: Excursion 2 Tour II)
4-4:30	Break
4:30-5	Discussion/Terms (2030 Pamplin Hall)
5-6	Loose Ends (2030 Pamplin Hall)


Day 4	Wednesday, July 31 (123A Burruss Hall)
9:30-11 11-11:30 11:30-1 1-2 2-3:30 7-8:30	From Probability Theory to Statistical Inference (Ch 10, PT & SI) Break From Probability Theory to Statistical Inference (Ch 10, PT & SI) Lunch (Box) Outside Pamplin 2030 Fallacies of Rejection, NHST, Replication Crisis in Psych (SIST: Excursion 2 Tour II) Special Invited Speaker: Richard Morey (123A Burruss)
Day 5	Thursday, August 1 (123A Burruss Hall)
9:30-11 11-11:30 11:30-1 1-2:30 2:30-4 4-4:30 4:30-5 5-6	Estimation (Ch 11, PT & SI) Break Estimation (Ch 12, PT & SI) Lunch Ingenious and Severe Tests (Excursion 3, Tour I ³) Break Discussion (2030 Pamplin Hall) Loose Ends (2030 Pamplin Hall)
Day 6	Friday, August 2 (123A Burruss Hall)
9:30-11 11-11:30 11:30-1 1-2:30 2:30-4 4-4:45 7-8:45	Hypothesis Testing (Ch 13, PT & SI) Break Hypothesis Testing (Ch 13, PT & SI) Lunch Capability and Severity: Deeper Concepts: Higgs Discovery; (SIST, Excursion 3 Tour III, part 3.6 of Excursion 3 Tour II ⁴) Break/Reception (meet Science Dean Sally Morton) (2030 Pamplin Hall) Special Invited Speaker: Stephen Senn (123A Burruss)
Day 7	Saturday, August 3 (2030 Pamplin Hall)
	A Day of Exercises and Practice with probability, estimation, tests
9:30-11 11-11:30 11:30-1 1-2:30 2:30-4 4-4:30 4:30-	Confidence Intervals and Tests (Excursion 3, Tour III 3.7) Break Excursion 3 Tours I and II Lunch Exercises & Practice Break (if continuing to drill more) Exercises & Practice
Day 8	Sunday, August 4 NO SEMINAR

Day 9	Monday, August 5 (Pamplin 2030) Neyman's death date, 1981
9:30-11	It's the Methods, Stupid; Chestnuts and Howlers; P-values and Error Probabilities (SIST, Excursion 3 Tour II)
11-11:30	Break
11:30-1	Biassing selection effects (Court case of Dr. Paul Hack) (Excursion 4, Tour III, 4.6)
1-2:30	Lunch
2:30-4	Bayesian Methods
7-8:45	Special Invited Speaker: Nathan Schachtman (Burruss 123A)
Day 10	Tuesday, August 6 (Pamplin 2030)
9:30-11	Rejection Fallacies: Who's Exaggerating What? (Jeffreys-Lindley Paradox; Statistical significance and sample size; Bayes Factors; SIR (SIST: Excursion 4 Tour II)
11-11:30	Break
11:30-1	Power: Pre-data and Post-data (SIST: Excursion 5 Tour I)
1-2:30	Lunch
2:30-4	The Frequentist Interpretation of Probability and its Critics
4-4:30	Break
4:30-6	Discussion/Terms/Participants (3)
Day 11	Wednesday, August 7 (Pamplin 2030)
9:30-11	Chance Regularities and Probabilistic Concepts: Intro to Misspecification (M-S) Testing (Ch 5, PT & SI)
11-11:30	Break
11:30-1	Objectivity in Error Statistics & Bayesian Philosophies (SIST: Excursion 4 Tour I; Excursion 6 Tour I) ⁵
1-2	Lunch (Box)
2-3:30	Objectivity and Model Checking; All Models are False; Falsificationist Bayesians (Excursion 4 Tour IV 4.8, 4.9, 4.11 ⁶ , Excursion 6 Tour II, 6.6)
3:30-4	Break (Johnston Student Center, Seattle Coffee)
4-5:45	Special Invited Speaker: Andrew Gelman (Burruss 123A)
Day 12	Thursday, August 8 (Pamplin 2030)
9:30-11	How Not to Corrupt Power, The Diagnostic Model of Tests (Excursion 5 Tour II: 5.5, 5.6)
11-11:30	Break
11:30-1	The Diagnostic Model of Tests, Criticism of Severity (Excursion 5 Tour II 5.6) ⁷
1-2:30	Lunch
2:30-4	Misspecification (M-S) Testing (Ch 15, PT & SI; SIST Excursion 4 Tour IV: 4.11)
4-4:30	Break
4:30-6	Discussion/Terms/Participants (3)

Day 13	Friday, August 9 (2030 Pamplin)
9:30-11	Deconstructing the N-P vs Fisher Debates; Statistical Theatre; Fiducial, Confidence Distributions (Excursion 5 Tour III)
11-11:30	Break
11:30-1	Deconstructing the N-P vs Fisher Debates Continued
1-2:30	Lunch
2:30-4	Curve-fitting and Akaike-type model Selection
4-4:30	Break
4:30-5:30	Discussion/Terms/Participants (2)
7-8:30	<i>Future Zoom (Mayo) Using a Bit of Logic to Break Through the Breakthrough (on “Birnbaum’s Argument for the Likelihood Principle”)</i>
Day 14	Saturday, August 10 (2030 Pamplin Hall)
9:30-11	(probabilist) Foundations Lost and (probative) Foundations Found; Farewell Keepsake (SIST Excursion 6) ⁸
11-11:30	Break
11:30-1	Yule-Simpson Paradox Revisited
1-2:30	Lunch
2:30-5:30	Participants Presentations (7-8)
7:30	Dinner (depends on when we end) Reception (Thebes)
Day 15	Sunday, August 11
	BRUNCH Certificates Airport

Note: Any session of more than 1.5 hours will have a short break even if not indicated

The Captain’s Library gives links to related readings, indicating the day of the Seminar

***Sponsors:** College of Liberal Arts and Human Sciences; College of Science; Data and Decisions; Department of Philosophy; Department and Economics; Fund for Experimental Reasoning, Reliability, Objectivity and Rationality of Science 

¹ *Statistical Inference as Severe Testing: How to Get Beyond the Statistics Wars* (Mayo 2018, CUP).

² *Probability Theory and Statistical Inference* (Spanos 2019, CUP)

³ Likelihoodists vs. Error Statisticians SIST: Excursion 1 Tour II, 1.4-1.5

⁴ It will be useful also to look at pages on Fiducial probability from 5.8: 382-4; 388-391

⁵ Take a peek at 6.7 Farewell Keepsake: 436-444

⁶ Especially SIST pp. 296-305; 307-320.

⁷ I will also discuss Achinstein 2010, Mayo 2010

⁸ The focus will be on the sections not covered, according to participant interest