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SUMMER SEMINAR: PHIL STAT*

SummerSeminarPhilStat.com

July 28-Aug 11

(8/8) Installment

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	Brief Tour of Locations (3 & 5 minutes away)
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	From Probability Theory to Statistical Inference (Ch 10, PT & SI)
11-11:30	Break
11:30-1	From Probability Theory to Statistical Inference (Ch 10, PT & SI)
1-2	**Lunch (Box)** Outside Pamplin 2030
2-3:30	Fallacies of Rejection, NHST, Replication Crisis in Psych (SIST: Excursion 2 Tour II)
3:30-4	Discussion/Terms
7-8:30	Special Invited Speaker: Richard Morey (123A Burruss)
Day 5	***Thursday, August 1*** *(123A Burruss Hall)*
9:30-11	Estimation (Ch 11, PT & SI)
11-11:30	Break
11:30-1	Estimation (Ch 12, PT & SI)
1-2:30	**Lunch**
2:30-4	Ingenious and Severe Tests **(**Excursion 3, Tour I^3)
4-4:30	Break
4:30-6	Discussion/Terms/Loose Ends (Note on Excursion 3 Tour II, 3.6) *(2030 Pamplin Hall)*
Day 6	***Friday, August 2*** *(123A Burruss Hall)*
9:30-11	Hypothesis Testing (Ch 13, PT & SI)
11-11:30	Break
11:30-1	Hypothesis Testing (Ch 13, PT & SI)
1-2:30	**Lunch**
2:30-4	Capability and Severity: Deeper Concepts: Higgs Discovery; (SIST, Excursion 3 Tour III)
4-4:30	Break/Reception (meet Science Dean Sally Morton) *(2030 Pamplin Hall)*
7-8:45	Special Invited Speaker: Stephen Senn (123A Burruss)
Day 7	***Saturday, August 3*** *(2030 Pamplin Hall**)***
9:30-11	Confidence Intervals and Tests (Excursion 3, Tour III 3.7^4)
11-11:30	Break
11:30-1	Excursion 3 Tours I and II: Exercises & Practice
1-2:30	**Lunch**
2:30-4	Exercises & Practice with probability, estimation, tests
4-4:30	Break (if continuing to more drill)
4:30-	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	Bayesian Methods
1-2:30	**Lunch**
2:30-4	Biasing selection effects (Court case of Dr. Paul Hack) (Excursion 4, Tour III, 4.6)
7-8:45	Special Invited Speaker: Nathan Schachtman (Burruss 123A)
Day 10	***Tuesday, August 6*** *(Pamplin 2030)*
9:30-11	The Frequentist Interpretation of Probability and its Critics
11-11:30	Break
11:30-1	Rejection Fallacies: Who's Exaggerating What? (Jeffreys-Lindley Paradox; Statistical significance and sample size; Bayes Factors; SIR (SIST: Excursion 4 Tour II)
1-2:30	**Lunch**
2:30-4	Power: Pre-data and Post-data (SIST: Excursion 5 Tour I)
4-4:30	Break
4:30-6:30	Discussion/Participant Presentation (4)
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)** Outside Pamplin 2030
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, Subway)
4-5:45	Special Invited Speaker: Andrew Gelman (Burruss 123A)
Day 12	***Thursday, August 8*** *(Pamplin 2030)*
9:30-11	Misspecification (M-S) Testing (Ch 15, PT & SI; SIST Excursion 4 Tour IV: 4.11)
11-11:30	Break
11:30-1	How Not to Corrupt Power, The Diagnostic Model of Tests (Excursion 5 Tour II: 5.5, 5.6)
1-2:30	**Lunch**
2:30-4	The Diagnostic Model of Tests, Criticism of Severity (Excursion 5 Tour II 5.6)[7]
4-4:30	Break
4:30-6	M-S Testing Break-out Groups

Day 13	***Friday, August 9*** *(2030 Pamplin)*
9:30-11 11-11:30 11:30-1 1-2:30 2:30-4 4-4:30 4:30-6:00	Curve-fitting and Akaike-type model Selection Break Deconstructing the N-P vs Fisher Debates; Statistical Theatre; Fiducial, Confidence Distributions (Excursion 5 Tour III) **Lunch** Deconstructing the N-P vs Fisher Debates Continued & Loose Ends Activity.* Break Discussion/ Participant Presentations (3) **Jamboree** *FUTURE ZOOM: Using a Bit of Logic to Break Through the Breakthrough (on "Birnbaum's Argument for the Likelihood Principle")
Day 14	***Saturday, August 10*** *(2030 Pamplin Hall)*
9:30-11 11-11:30 11:30-1 1-2:30 2:30-4:15 5-6 6-7 7-8:40 8:45	Yale-Simpson Paradox Revisited and Seminar Reflections Break (probabilist) Foundations Lost and (probative) Foundations Found; Farewell Keepsake (SIST Excursion 6)[8] **Lunch** Participant Presentations (3) Participant Presentations (2) DELPHI Conference Room, 2205 Maple (see directions) **Pizza** Participant Presentations (3) **Reception (Thebes)**
Day 15	***Sunday, August 11***
	BRUNCH (Marriott, 9:30 am) Certificates Airport

Note: Updates will be posted at SummerSeminarPhilStat.com. Any session of more than 1.5 hours will have short break(s) even if not indicated; participant presentations should be 20-22 minutes. Participants will organize these sessions.
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] We will also discuss Achinstein 2010, Mayo 2010, Howson 1997.
[8] The focus will be on the sections not covered, according to participant interest