



# TRIBOLOGY: FRICTION, WEAR, AND LUBRICATION

## A SUMMER PROFESSIONAL PROGRAM

21–25 JUNE 2021

### MONDAY, JUNE 21

	TOPIC	LECTURER
10:00-11:00 AM	1. Welcome, Course Overview	Prof. Nam P. Suh, Dr. Nannaji Saka
11:00-12:00 NOON	2. Introduction to Tribology	Prof. Nam P. Suh
12:00-1:00 PM	3. Surface Topography & Surface Properties	Dr. Nannaji Saka
1:00-2:00	BREAK	
2:00-3:00	4. Sliding Friction: Mechanisms & Models	Dr. Nannaji Saka
3:00-4:00	5. Sliding Wear	Dr. Said Jahanmir

### TUESDAY, JUNE 22

	TOPIC	LECTURER
10:00-11:00 AM	6. Tribological Testing I: Theory	Dr. Nicholas Randall
11:00-12:00 NOON	7. Tribological Testing II: Videos	Dr. Nicholas Randall
12:00-1:00 PM	8. Abrasive and Erosive Wear	Dr. Said Jahanmir
1:00-2:00	BREAK	
2:00-3:00	9. Wear of Ceramics and Brittle Materials	Dr. Said Jahanmir
3:00-4:00	10. Surface Temperature	Dr. Nannaji Saka
4:00-5:00	Virtual Social Hour	Students and Faculty



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### WEDNESDAY, JUNE 23

	TOPIC	LECTURER
10:00-11:00 AM	11. Wear of Polymers	Dr. Nicholas Randall
11:00-12:00 NOON	12. Wear of Coatings	Dr. Nicholas Randall
12:00-1:00 PM	13. Wear-Mechanism Maps	Dr. Nannaji Saka
1:00-2:00	BREAK	
2:00-3:00	14. Liquid and Solid Lubricants	Dr. Said Jahanmir
3:00-4:00	15. Boundary and Thin Film Lubrication	Dr. Said Jahanmir

### THURSDAY, JUNE 24

	TOPIC	LECTURER
10:00-11:00 AM	16. Fluid Film Lubrication	Dr. Said Jahanmir
11:00-12:00 NOON	17. EHD Lubrication	Dr. Vern Wedeven
12:00-1:00 PM	18. NanoTribology	Dr. Nicholas Randall
1:00-2:00	BREAK	
2:00-3:00	19. BioTribology	Dr. Said Jahanmir
3:00-4:00	20. Prospect and Perspective on Tribology: A Historical Perspective	Prof. Nam P. Suh
4:00-5:00	Virtual Social Hour	Students and Faculty



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### FRIDAY, JUNE 25 - PROBLEM SOLVING

	TOPIC	LECTURER
10:00-11:00 AM	21. Friction and Wear	Dr. Said Jahanmir
11:00-12:00 NOON	22. Boundary and Hydrodynamic Lubrication	Dr. Said Jahanmir
12:00-1:00 PM	23. EHD Lubrication: Gears and Rolling Element Bearings	Dr. Vern Wedeven
1:00-2:00	BREAK	
2:00-3:00	24. Tribology-by-Design	Dr. Vern Wedeven
3:00-4:00	25. Basic Strategies of Solving Engineering Problems	Prof. Nam P. Suh
	Farewell	