

# MPI 2022 Program

**38<sup>th</sup> Annual Mathematical Problems in Industry Workshop**

**June 13-17, 2022**



**WPI**



## MPI 2022 Program

Sponsored by SIAM, WPI Center for Industrial Mathematics and Statistics, WPI Mathematical Sciences Department, NSF, Renal Research Institute, Vironix Inc., DEKA Research and Development Corp., and Goldman Sachs Asset Management

<b>Monday June 13, 2022 - <a href="https://wpi.zoom.us/j/92628293688">https://wpi.zoom.us/j/92628293688</a> Pass: 933512</b>		
<b>Time</b>	<b>Location</b>	<b>Day 1</b>
8:30 – 9:00 am	Zoom	Registration & Breakfast
9:00 – 9:15 am	Zoom	Welcoming Remarks
9:15 – 9:45 am	Zoom	First Problem: <b>Pre-processing and Model Identification from Sparse Non-Uniform Data</b> Alhaji Cherif, Renal Research Institute, New York, NY
9:45 – 10:15 am	Zoom	Second Problem: <b>Patient Data Generation and Machine-Learning Utilizing Clinical Data to Predict the Severity of Presentation of Chronic Lung Diseases</b> Sumanth Swarminathan, Vironix, Inc., Austin TX
10:15 – 10:45 am	Zoom	Break
10:45 – 11:15 am	Zoom	Third Problem: <b>Commitment Planning for Drawdown Vehicles in a Stochastic Setting</b> Kai Sikorski, Goldman Sachs Asset Management, New York, NY
11:15 – 11:45 am	Zoom	Fourth Problem: <b>Finding the Limits of Machine Learning in Optimization</b> Derek Kane, DEKA Research and Development Corp., Manchester, NH
	Workshop Picture	TBD Lunch Delivered to Dorm and Hotel
1:30 – 3:00 pm	<b>Rooms</b>	<b>Work on Individual Problems</b>
	TBA	Renal Research Institute
	TBA	Vironix, Inc
	TBA	Goldman Sachs Asset Management
	TBA	DEKA Research
3:00 – 3:30 pm		Break
3:30 – 5:00 pm		Work on Individual Problems
6:00 pm	<b>Volturno's TBD</b>	<b>MPI Banquet</b>

<b>Tuesday, June 14, 2022 – Salisbury Labs (SL)</b>		
<b>Time</b>	<b>Location</b>	<b>Day 2</b>
8:30 – 9:00 am	Outside SL 402	Light Breakfast
9:00 – 10:30 am	<b>Rooms</b>	<b>Work on Individual Problems</b>
	SL 406	Renal Research Institute
	SL 402	Vironix, Inc
	SL 411	Goldman Sachs Asset Management
	<b>SL 305</b>	DEKA Research
10:30 – 10:45 am	Outside SL 402	Break
10:45 am – 12:00 pm		Work on Individual Problems
12:00 – 1:30 pm	Outside SL 402	Lunch
1:30 – 3:00 pm		Work on Individual Problems
3:00 – 4:30 pm	SL 402	<b>Networking Event: Students/Postdocs and Industrial Representatives</b> Refreshments outside SL 402
	SL 115	<b>MPI Organizing Committee Meeting</b>
5:00 – 6:00 pm	SL 115	Progress Summary

<b>Wednesday, June 15, 2022 – Salisbury Labs (SL)</b>		
<b>Time</b>	<b>Location</b>	<b>Day 3</b>
8:30 – 9:00 am	Outside SL 402	Light Breakfast
9:00 – 10:30 am	<b>Rooms</b>	<b>Work on Individual Problems</b>
	SL 406	Renal Research Institute
	SL 402	Vironix, Inc
	SL 411	Goldman Sachs Asset Management
	<b>SL 305</b>	DEKA Research
10:30 – 10:45 am	Outside SL 402	Break
10:45 am – 12:00 pm		Work on Individual Problems
12:00 – 1:30 pm	Outside SL 402	Lunch
1:30 – 3:00 pm		Work on Individual Problems
3:00 – 3:30 pm	Outside SL 402	Refreshments
3:30 – 5:00 pm		Work on Individual Problems
5:00 – 6:00 pm	SL 115	Progress Summary

<b>Thursday, June 16, 2022 – Salisbury Labs (SL)</b>		
<b>Time</b>	<b>Location</b>	<b>Day 4</b>
8:30 – 9:00 am	Outside SL 402	Light Breakfast
9:00 – 10:30 am	<b>Rooms</b>	<b>Work on Individual Problems</b>
	SL 406	Renal Research Institute
	SL 402	Vironix, Inc
	SL 411	Goldman Sachs Asset Management
	<b>SL 305</b>	DEKA Research
10:30 – 10:45 am	Outside SL 402	Break
10:45 am – 12:00 pm		Work on Individual Problems
12:00 – 1:30 pm	Outside SL 402	Lunch
1:30 – 3:00 pm		Work on Individual Problems
3:00 – 3:30 pm	Outside SL 402	Refreshments
3:30 – 5:00 pm		Work on Individual Problems
5:00 – 6:00 pm	SL 115	Progress Summary

<b>Friday, June 17, 2022 – Salisbury Labs (SL) 115</b>		
<b>Time</b>	<b>Location</b>	<b>Day 5</b>
8:30 – 9:00 am	SL Lounge	Light Breakfast
9:00 am – 10:20 am	SL 115	Reports from Each Working Group
10:20 am – 10:30 am		Break
10:30 am – 12:00 pm	SL 115	Continued Reports from Each Working Group