

Eagle Behavior and Risk Modeling for Wind Energy

March 29, 2022

Note: All times in Mountain Standard Time

9:00 am | Project overview – Raphael Tisch, DOE
Overview of behavioral modeling framework — Eliot Quon

9:15 am	<p>Mesoscale Modeling</p> <ul style="list-style-type: none"> ● Wind Integration National Dataset (WIND) Tool Kit ● Atmospheric data retrieval example <p>Speaker: Caroline Draxl, NREL</p>
9:25 am	<p>High-Fidelity Microscale Modeling of the Atmosphere</p> <ul style="list-style-type: none"> ● Real flow modeling across landscape–facility scales of Top of the World ● Idealized flow modeling: orographic updrafts vs. thermal updrafts ● Development and validation of improved updraft models <p>Speaker: Regis Thedin, NREL</p>
9:35 am	<p>Simulation-Based Model for Facility-Scale Eagle Presence Mapping</p> <ul style="list-style-type: none"> ● Stochastic Soaring Raptor Simulator (SSRS) theory ● SSRS model validation at Top of the World ● Demo to follow in interactive session <p>Speaker: Rimple Sandhu, NREL</p>
9:50 am	<p>Heuristic Improvements to SSRS</p> <ul style="list-style-type: none"> ● Heuristic-SSRS approach ● H-SSRS model validation in Appalachia ● Demo to follow in interactive session <p>Speaker: David Brandes, Lafayette College</p>
10:00 am	<p>Data-Driven Probabilistic Model for Facility-Scale Eagle Simulation</p> <ul style="list-style-type: none"> ● Overview of GPS data ● Bayesian modeling theory ● Model development and calibration ● Track simulation <p>Speaker: Rimple Sandhu, NREL</p>
10:20 am	<p>Near-Turbine Eagle Tracking</p> <ul style="list-style-type: none"> ● Overview of IdentiFlight data ● Data processing approach ● Analysis of movements around wind turbines <p>Speaker: Chris Farmer, Western EcoSystems Technology, Inc.</p>

10:30 am	Application Example: Micrositing <ul style="list-style-type: none"> ● FLOW Redirection In Steady state (FLORIS) design tool ● SSRS + FLORIS example Speaker: Eliot Quon, NREL
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10:40 am	Break
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Open Q&A with Project Team

10:45 am	We welcome questions and comments regarding: <ul style="list-style-type: none"> ● Technical approach ● Expected project outcomes ● Recommendations for next steps
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Hands-On Code Exploration

11:15 am	GitHub Overview <ul style="list-style-type: none"> ● Code organization ● Installation instructions and resources Facilitator: Rimple Sandhu, NREL
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11:30 am	SSRS <ul style="list-style-type: none"> ● Overview of model inputs/outputs ● Step-by-step modeling walkthrough ● Exploratory period Facilitator: Rimple Sandhu, NREL
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11:45 am	Heuristics-based SSRS <ul style="list-style-type: none"> ● Overview of model inputs/outputs ● Model demonstration case study Facilitator: David Brandes, Lafayette College
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12:00 pm	Open feedback Extra time for code exploration
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12:30 pm	Adjourn
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