

Seattle Snowmass Summer Meeting 2022

Monday, July 18, 2022

Neutrino Physics Frontier: NF General Meeting - 130 (8:00 AM - 12:00 PM)

-Conveners: Patrick Huber; Elizabeth Worcester; Kate Scholberg

| time | [id] title | presenter |
|----------|---------------------------------------------|-------------------------------------------------------------|
| 8:00 AM | [124] Frontier Business and Logistics | WORCESTER, Elizabeth SCHOLBERG, Kate HUBER, Patrick |
| 8:45 AM | [125] Current Program: NOvA | VAHLE, Patricia VAHLE, Patricia |
| 9:05 AM | [126] Current Program: SBN | WILSON, Robert WILSON, Robert |
| 9:25 AM | [127] Current Program: Low Energy Neutrinos | LITTLEJOHN, Bryce LITTLEJOHN, Bryce LITTLEJOHN, Bryce |
| 9:45 AM | Coffee Break | |
| 10:15 AM | [128] DUNE: Report from CD1RR | RAMEIKA, Regina |
| 10:35 AM | [129] DUNE: Overview | MARSHALL, Chris |
| 11:15 AM | [130] Neutrino Town Hall | |

Tuesday, July 19, 2022

Neutrino Physics Frontier: DUNE P5 Strategy (Oscillation Physics) - 120 (8:00 AM - 10:00 AM)

-Conveners: Elizabeth Worcester

| time | [id] title | presenter |
|---------|---------------------------------------------------------------|----------------------------------------|
| 8:00 AM | [131] DUNE Oscillation Analysis | WILKINSON, Callum WILKINSON, Callum |
| 8:28 AM | [132] Neutrino Interactions and the DUNE Oscillation Analysis | MCFARLAND, Kevin |
| 8:56 AM | [133] DUNE Near Detector | CHERDACK, Daniel |
| 9:24 AM | [134] Oscillation Physics Global Context | AGARWALLA, Sanjib Kumar |
| 9:52 AM | Coffee Break | |

Neutrino Physics Frontier: DUNE P5 Strategy (Low Energy and BSM Physics) - 120 (10:00 AM - 12:00 PM)

-Conveners: Patrick Huber

| time | [id] title | presenter |
|----------|--------------------------------------------|----------------------------|
| 10:00 AM | Coffee Break | |
| 10:08 AM | [135] SNB/Solar Neutrinos in DUNE | PERSHEY, Daniel |
| 10:36 AM | [136] BSM Context and Motivation | COLOMA, Pilar |
| 11:04 AM | [137] Beyond 3-Flavor Oscillations in DUNE | SOUSA, Alexandre |
| 11:32 AM | [138] Direct BSM Detection in DUNE | YU, Jaehoon YU, Jaehoon |

Wednesday, July 20, 2022

Neutrino Physics Frontier: DUNE P5 Strategy (Expanded Physics Scope in Phase II) - 110 (8:00 AM - 10:00 AM)

-Conveners: Kate Scholberg

| time | [id] title | presenter |
|---------|-------------------------------------------------------|------------------------------|
| 8:00 AM | A141] Dark Matter | KELLY, Kevin KELLY, Kevin |
| 8:28 AM | A140] Neutrinoless Double Beta Decay | GRUSZKO, Julieta |
| 8:56 AM | A139] Low(er) Energy Physics | CARATELLI, David |
| 9:24 AM | A142] Tau neutrino appearance | BISHAI, Mary BISHAI, Mary |
| 9:52 AM | Coffee break | |

Neutrino Physics Frontier: DUNE P5 Strategy (Phase II Detector R&D) - 110 (10:00 AM - 12:00 PM)

-Conveners: Elizabeth Worcester

| time | [id] title | presenter |
|----------|-------------------------------------------|--------------------------------------------|
| 10:00 AM | Coffee Break | |
| 10:05 | A143] DUNE Context | BERTOLUCCI, Sergio |
| 10:25 | A144] ND-GAr | RAAF, Jennifer |
| 10:44 | A145] LArTPC Pixels | RUSSELL, Brooke |
| 11:03 | A146] Underground Argon | JACKSON, Christopher |
| 11:22 | A147] Photo-ionizing LAr | PSIHAS OLMEDO, Fernanda |
| 11:41 | A148] Theia | OREBI GANN, Gabriel OREBI GANN, Gabriel |

Thursday, July 21, 2022

Neutrino Physics Frontier: Blue Sky/Very Long Term ideas - 254 (8:00 AM - 10:00 AM)

-Conveners: Louis Strigari; Kate Scholberg; Raimund Strauss

| time | [id] title | presenter |
|---------|-------------------------------------------------------|-------------------------------------------------------------|
| 8:00 AM | [1054] Low-threshold detectors | GOLWALA, Sunil |
| 8:15 AM | [1055] Ptolemy | TAN, Andi |
| 8:30 AM | [1056] Directional neutrino and dark matter detection | VAHSEN, Sven |
| 8:45 AM | [1057] Ultra-high energy neutrinos | OLINTO, Angela |
| 9:00 AM | [1058] Paleo detectors | EDWARDS, Tom |
| 9:15 AM | [1053] Panel discussion | MONREAL, Ben BARACCHINI, Elisabetta FREESE, Katherine |
| 9:50 AM | Coffee Break | |

Neutrino Physics Frontier: Experimental Neutrino Anomalies - 254 (10:00 AM - 12:00 PM)

-Conveners: Bryce Littlejohn; Alexandre Sousa; Pedro Machado; Georgia Karagiorgi

| time | [id] title | presenter |
|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:00 AM | Coffee Break | |
| 10:05 AM | [1053] Overview: Neutrino Experimental Anomalies | SOUSA, Alexandre LITTLEJOHN, Bryce KARAGIORGI, Georgia MACHADO, Pedro |
| 10:15 AM | [1054] Experimental Status: Atmospheric/Accelerator DIF and DAR | ROSS-LONERGAN, Mark |
| 10:30 AM | [1055] Experimental Status: Radioactive Sources and Reactors over the Past 10 Years | SURUKUCHI, Pranava Teja |
| 10:45 AM | [1056] Recent Theory Progress and Interpretation(s) | HOSTERT, Matheus |
| 11:05 AM | [1057] Panel: Path to Resolution through Neutrino Experiments and Beyond | MARINO, Alysia ARGÜELLES DELGADO, Carlos SCHMITZ, David KARAGIORGI, Georgia SPITZ, Joshua HEEGER, Karsten SCHOLBERG, Kate KELLY, Kevin LOVERDE, Marilena TOUPS, Matthew WALLBANK, Michael DIWAN, Milind SVOBODA, Robert PETTUS, Walter TABRIZI, Zahra |

Friday, July 22, 2022

Neutrino Physics Frontier: Optimizing Among Funding Agencies - 254 (8:00 AM - 10:00 AM)

-Conveners: Julieta Gruszko; Steven Gardiner; Kate Scholberg

| time | [id] | title | presenter |
|---------|------|-------------------------------------------|-----------|
| 8:00 AM | M12 | Neutrino Frontier Inter-Agency Discussion | |

Saturday, July 23, 2022

Neutrino Physics Frontier: BSM/Dark Sectors & Reactor Neutrinos (Early Career Presentations) - 254 (8:00 AM - 12:00 PM)

-Conveners: Julieta Gruszko; Jacob Zetlemoyer

| time | [id] title | presenter |
|----------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 8:00 AM | M154] First Results from MicroBooNE's Low Energy Excess Search and Constraints on eV-Scale Sterile Neutrino Oscillations | JO, Jay Hyun |
| 8:22 AM | M123] New bounds on axion-like particles from MicroBooNE | URREA, Salvador URREA GONZALEZ, Salvador |
| 8:44 AM | M124] Prospects for Dark Sector Searches at the Deep Underground Neutrino Experiment | JANG, Wooyoung |
| 9:06 AM | M125] Searching for dark matter with COHERENT at the Spallation Neutron Source | PERSHEY, Daniel |
| 9:28 AM | M126] Searches for New Physics at an Upgraded Fermilab Accelerator Complex: PIP2-BD and SBN-BD | ZETTLEMOYER, Jacob |
| 9:50 AM | M127] Bounds on Right Handed Neutrino Parameters from Observable Leptogenesis | SANDNER, Stefan |
| 10:12 AM | Break | |
| 10:32 AM | M128] Forthcoming Science from the PROSPECT-I Data Set | VENEGAS VARGAS, Diego |
| 10:54 AM | M129] The design and expanded physics reach of the PROSPECT-II detector upgrade | SUTANTO, Felicia |
| 11:16 AM | M130] CONFLUX – A standard framework for reactor neutrino flux calculation | ZHANG, XIANYI |
| 11:38 AM | M131] JUNO: Physics Prospects and Status | MANDUJANO, Roberto Carlos |

Neutrino Physics Frontier: DUNE & Neutrino Interactions (Early Career Presentations) - 241 (8:00 AM - 12:00 PM)

-Conveners: Jacob Zetlemoyer; Steven Gardiner; Vishvas Pandey

| time | [id] title | presenter |
|----------|------------------------------------------------------------------------------------------|--------------------------------|
| 8:00 AM | M132] A Gaseous Argon-Based Near Detector to Enhance the Physics Capabilities of DUNE | MOHAYAI, Tanaz |
| 8:22 AM | M133] The Modular LArTPC – Design and Prototype for the DUNE ND | VALLARI, Zoya |
| 8:44 AM | M134] Sensitivity to Heavy Neutral Leptons with the SAND detector at the DUNE ND complex | GHORBANIMOGHADDAM, zahra |
| 9:06 AM | M135] Studies of tau neutrino appearance at the DUNE Near Detector complex | RAZAFINIME, Soamasina Herilala |
| 9:28 AM | M136] Probing active-sterile neutrino mixing in LED and 3+1 scenarios with DUNE | VANEGAS FORERO, David |
| 9:50 AM | M137] BSM Targets at a Target-less DUNE | TABRIZI, Zahra |
| 10:12 AM | Break | |
| 10:32 AM | M138] The NOVA Test Beam Program | WALLBANK, Michael |
| 10:54 AM | M139] MicroBooNE's Neutrino Cross-Section Program | BHATTACHARYA, Meghna |

| | | |
|----------|---------------------------------------------------------------------------------------------------|-----------------|
| 11:16 AM | [240] Prospects for DUNE Measurements of Deep Inelastic Charged-Current Tau Neutrino Interactions | YAEAGY, Barbara |
| 11:38 AM | [241] Bubble Chamber Detectors with Light Nuclear Targets for Neutrino Scattering | RAMSON, Bryan |

Sunday, July 24, 2022

Neutrino Physics Frontier: New Opportunities in Neutrinos (Early Career Presentations) - 022 (10:00 AM - 12:00 PM)

-Conveners: Jacob Zetlemoyer; Tanaz Mohayai

| time | [id] title | presenter |
|-------|-----------------------------------------------------------------------------------------------|-------------------------|
| 10:00 | A242 [A242] Low-energy neutrino physics at Theia | BAGDASARIAN, Zara |
| 10:20 | A243 [A243] High energy physics program at Theia | PICKARD, Leon |
| 10:40 | A244 [A244] Accelerator Neutrino Oscillation Experiments: This Generation and Next | WOOD, Kevin |
| 11:00 | A245 [A245] Physics at the MeV-Scale in LArTPCs | FOREMAN, William |
| 11:20 | A246 [A246] Low Energy Physics Program of DUNE | SOGO BEZERRA, Thiago |
| 11:40 | A247 [A247] Doped Liquid Argon TPCs as a Neutrinoless Double Beta Decay Platform | PSIHAS OLMEDO, Fernanda |

Neutrino Physics Frontier: The Future is Now (Early Career Presentations) - 175 (10:00 AM - 12:00 PM)

-Conveners: Samuel Hedges; Jacob Zetlemoyer

| time | [id] title | presenter |
|-------|---------------------------------------------------------------------------------------------------------|--------------------|
| 10:00 | A248 [A248] Mobile Antineutrino Demonstrator project | KYZYLOVA, Olga |
| 10:24 | A249 [A249] Design of novel plastic scintillator technologies for neutrino detection at LLNL | ROCA, Cristian |
| 10:48 | A250 [A250] EOS: A tonne-scale testbed for hybrid neutrino detectors | KAPTANOGLU, Tanner |
| 11:12 | A251 [A251] Enhanced Particle Identification in Water-based Liquid Scintillator | AKINDELE, Tomi |
| 11:36 | A252 [A252] CUPID, CUPID-1T, and the DEMETER demonstrator | HANSEN, Erin |

Neutrino Physics Frontier: Beyond neutrino mass physics reach of precision beta-decay experiments - 238 (10:00 AM - 12:00 PM)

-Conveners: Bryce Littlejohn; Ian Shoemaker; Diana Parno

| time | [id] title | presenter |
|-------|-----------------------------------------------------------------------------------------------|-------------------------|
| 10:00 | A212 [A212] Experimental overview of precision beta-decay measurements | LEACH, Kyle |
| 10:30 | A213 [A213] Overview of BSM reach in beta-decay experiments | BRDAR, Vedran |
| 11:00 | A214 [A214] Overview of sterile-neutrino sensitivity in beta-spectrum measurements | SURUKUCHI, Pranava Teja |
| 11:30 | A215 [A215] Further discussion | |

Neutrino Physics Frontier: Community Engagement Success Stories - 026 (10:00 AM - 12:00 PM)

-Conveners: Elizabeth Worcester

| time | [id] title | presenter |
|-------|--------------------------------------------------------------|------------------|
| 10:00 | A149 [A149] SURF Outreach and Community Relations | HEADLEY, Mike |
| 10:20 | A150 [A150] SURF Neutrino Day | WALTER, Connie |
| 10:40 | A151 [A151] IceCube Outreach | MADSEN, Jim |
| 11:00 | A152 [A152] nuSTEAM | CHERDACK, Daniel |
| 11:20 | A153 [A153] MicroBooNE VR | DEL TUTTO, Marco |

| | | |
|----------|------------|--|
| 11:40 AM | Discussion | |
|----------|------------|--|