Status of NF Parallel Talk Organization for CSS meeting

Jacob Zettlemoyer, Fermilab, for the quasi-committee

NF Topical Group Meeting

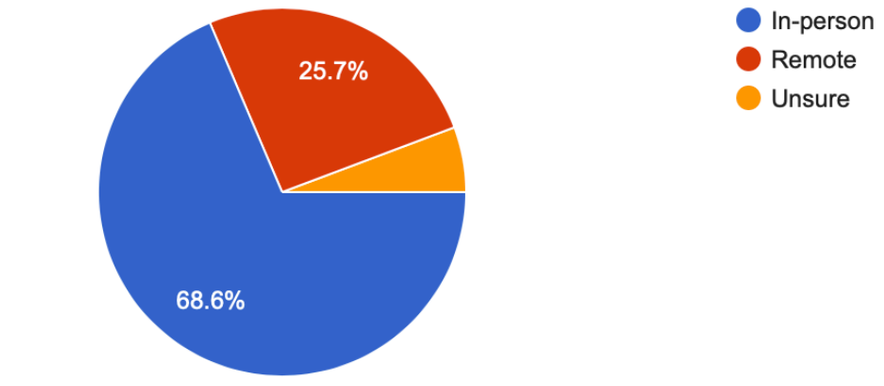
June 9, 2022

Charge and Current Outcomes

- Solicited abstracts from NF early career community to fill out NF parallel session slots at CSS meeting
  - 4 sessions, 2 4-hour long and 2 2-hour long within CSS program
  - Combination of in-person and remote talks
- Combine abstracts into scientifically-similar sessions
- Create schedule for these sessions taking into account any constraints and attempting to minimize disruption with other CSS parallel sessions
- I reached out to several previous SEC-NF liaisons and other early career members who were involved in NF activities
  - Some expressed interest in helping with this effort
  - Organized draft schedule organically over Snowmass Slack
  - Thank you to Erin Conley, Zoya Vallari, Vishvas Pandey, Jay Hyun Jo, and Tanaz Mohayai for their help and suggestions on what I will present!

Abstract Submissions

- 31 accepted submissions
  - Mostly from postdocs with a few graduate students or <10 year post-PhD faculty (within our definition of “early career”)
- Good relative balance (21 male, 10 female speakers)
- Some remote talks requested from outside the US
  - Made sure those were slotted earlier if possible
  - Need to understand CSS support for remote talks
- We subdivided into 6 session topics based on scientific themes
  - Some abstracts came in recently after this exercise, tried to fit them into these session themes



Current sessions (1-3)

Timestamp	Name	Email	Institution	Talk title	Abstract	Year of PhD, expected or	Remote or In-person
Session - I : Exploring BSM & Dark Sector with neutrinos							
5/31/2022 22:42:36	Dan Pershey	daniel.pershey@duke.edu	Duke	Searching for dark matter	There is overwhelming ev	2018	Unsure
5/23/2022 16:41:35	Jacob Zettlemoyer	jzettle@fnal.gov	Fermilab	PIP2-BD: Searches for ne	The PIP-II Linac at Fermil	2020	In-person
6/1/2022 16:52:47	Wooyoung Jang	wooyoung.jang@uta.edu	University of Texas at Arli	Prospects for Dark Sector	Dark matter is known to m	2	In-person
5/28/2022 14:03:43	Salvador Urrea González	Salvador.Urrea@ific.uv.es	IFIC(UV)	New bounds on axion-like	Neutrino experiments lie a	2	Remote
6/4/2022 13:05:44	Stefan Sandner	stefan.sandner@ific.uv.es	IFIC	Bounds on Right Handed	The talk will focus on the t	2023	Remote
6/7/2022 1:18:33	Jay Hyun Jo	jayhyun.jo@yale.edu	Yale University	First Results from MicroB	The MicroBooNE collabor	2015	In-person
Session II : The detectors & science of DUNE							
5/27/2022 13:18:38	Tanaz Angelina Mohayai	mtanaz@fnal.gov	Fermilab	A Gaseous Argon-Based	The main goals of the Dee	I am currently a Postdoc.	In-person
6/9/2022 9:56:53	Zoya Vallari	zoya@caltech.edu	Caltech	The Modular LArTPC – D	The Deep Underground N	2018	In-person
6/1/2022 11:11:59	zahra ghorbanimoghadda	z.gh.moghaddam@gmail.	University of Perugia and	Sensitivity to Heavy Neut	Heavy Neutral Leptons (H A study has been perform The meson flux has been The simulated final-state p The HNL sensitivity is esti	June 2022	Remote
6/1/2022 16:03:35	Soamasina Herilala Razaf	razafisa@mail.uc.edu	University of Cincinnati	Studies of tau neutrino ap	The DUNE experiment wil	2026	In-person
6/1/2022 11:21:29	David Vanegas Forero	dvanegas@udemedellin.e	Universidad de Medellín	Probing active-sterile neu	The Deep Underground N	7 years from PhD	Remote
6/7/2022 11:04:50	Zahra Tabrizi	ztabrizi@northwestern.ed	Northwestern University	BSM Targets at a Target-l	In this talk I will demonstra	2015	In-person
Session III : Parts Unknown : Systematics and nu-xsecs							
5/31/2022 10:14:33	Michael Wallbank	wallbank@fnal.gov	University of Cincinnati	The NOvA Test Beam Pro	NOvA is a long-baseline n The NOvA Test Beam exp	2017	In-person
5/31/2022 11:49:52	Meghna Bhattacharya	meghna@fnal.gov	Fermi National Accelerato	MicroBooNE's Neutrino C	MicroBooNE is a liquid arg	2021	In-person
5/31/2022 17:53:18	Barbara Yaeggy	byaeggy@gmail.com	University of Cincinnati	Prospects for DUNE Meas	DUNE's Argon TPC detec Cross-section measureme In this talk, I will show the	2021	In-person
5/31/2022 19:10:05	Bryan Ramson	bjrams87@fnal.gov	Fermilab	Bubble Chamber Detector	Neutrino cross sections ar	2018	In-person

Current sessions (4-6)

Session IV : nu opportunities							
5/31/2022 14:00:00	Leon Pickard	ljpickard@ucdavis.edu	University of California, D	High energy physics prog	The advent of novel scin	2016	In-person
5/31/2022 14:01:04	Zara Bagdasarian	zara.bagdasarian@berkel	University of California, B	Low-energy neutrino phys	Theia is a proposed larg	2016	In-person
6/1/2022 19:41:50	Thiago Bezerra	t.sogo-bezerra@sussex.a	University of Sussex	Low Energy Physics Prog	The Deep Underground	2013	Remote
6/2/2022 16:12:08	Will Foreman	wforeman@iit.edu	Illinois Institute of Technol	Physics at the MeV-Scale	Liquid argon time projec	2019	Unsure
6/2/2022 1:41:08	Fernanda Psihas	psihas@fnal.gov	Fermilab	Doped Liquid Argon TPCs	Expanding the reach of r	2018	In-person
6/6/2022 18:55:17	Kevin Wood	kwood@lbl.gov	LBNL	Accelerator Neutrino Osci	The past several decade	2021	In-person
Session V : reactor neutrinos							
6/1/2022 14:00:48	Diego Venegas Vargas	dvenega1@vols.utk.edu	University of Tennessee K	Forthcoming Science from	PROSPECT is a reactor This work is supported b	3rd-year PhD student	In-person
6/1/2022 11:47:40	Felicia Sutanto	sutanto2@llnl.gov	Lawrence Livermore Natic	The design and expanded	The Precision Reactor C a short-baseline reactor trinos from the High Flux short-baseline oscillation signal-to-background rat has set new limits on the the world's most precise its first run, the collabora PROSPECT-II, with the tivity. PROSPECT-II will at high mass splittings a reactor antineutrino spec describe the design of th enables. This work is su Heising-Simons Foundat vestments at all institutio of the U.S. Department under Contract DE-AC5	2021	In-person
6/1/2022 16:46:32	Xianyi Zhang	zhang39@llnl.gov	LLNL	CONFLUX – A standard f	The predicted reactor ar	2019	Remote
6/2/2022 9:56:25	Roberto Mandujano	rcmanduj@uci.edu	UC Irvine	JUNO: Physics Prospects	The Jiangmen Undergro	2024	In-person

Session VI : The future is coming soon							
6/1/2022 15:50:45	Olga Kyzylova	olgakyzylova@vt.edu	Virginia Tech	Mobile Antineutrino Demo	Mobile Antineutrino Dem	2021	In-person
6/1/2022 17:03:07	Cristian Roca	rocacatala1@llnl.gov	LLNL	Design of novel plastic sci	Plastic scintillators are c Efforts are underway to The creation of novel 6L This work was performe	2019	In-person
5/31/2022 13:06:49	Tanner Kaptanoglu	tannerbk@berkeley.edu	UC Berkeley	EOS: A tonne-scale testbe	Future ktonne-scale, sci	2020	In-person
6/1/2022 11:11:19	Tomi Akindele	Akindele1@llnl.gov	Lawrence Livermore Natic	Enhanced Particle Identifi	Water-based Liquid Scin discrimination within the This work was supporte Security Administration a Contract No. DE-AC52-0	2018	In-person
5/31/2022 23:04:49	Erin V Hansen	evhansen@berkeley.edu	UC Berkeley	CUPID, CUPID-1T, and th	CUORE Upgrade with P	2019	Remote

Current CSS sessions breakdown

- Go into more details in next slides, at highest level:

8am-12 pm	8am-12pm	10am-12pm	10am-12pm
4 hrs - 240 mins	4 hrs - 240 mins	2 hrs - 120 mins	2 hrs - 120 mins
Day1 - Session 1	Day1- Session 2	Day2 - Session 1	Day2 - Session 2
BSM + Dark Sec (I)	DUNE (II)	New opportunities (IV)	Future experiments (VI)
Break	Break	6 talks	5 talks
Reactor nus (V)	X-Secs (III)	all talks 17' + 3'	all talks 20' + 4'
10 talks total (6 + 4)	10 talks total (6 + 4)		
talks 18'+4', break 20'	talks 18'+4', break 20'		

First Session

7-23 8am
7-23 8:30am
7-23 9am
7-23 9:30am
7-23 10am
7-23 10:30am
7-23 11am
7-23 11:30am
7-23 12pm

NF Early Career Presentations (Topic 1) (20l) (30 ppl)

Day1 - Session 1 (Topic 1)	Chair 1 (pre-break):	Chair 2 (post-break):	
Time (PDT)	Speaker	Title	Status
8:00	Jay Hyun Jo	First Results from MicroBooNE's Low Energy Excess Search and Constraints on eV-Scale Sterile Neutrino Oscillations	In-person
8:22	Salvador Urrea González	New bounds on axion-like particles from MicroBooNE	Remote (EU)
8:44	Wooyoung Jang	Prospects for Dark Sector Searches at the Deep Underground Neutrino Experiment	In-person
9:06	Dan Pershey	Searching for dark matter with COHERENT at the Spallation Neutron Source	Unsure (EDT)
9:28	Jacob Zettlemoyer	PIP2-BD: Searches for new physics with a stopped-pion source at the Fermilab accelerator complex	In-person
9:50	Stefan Sandner	Bounds on Right Handed Neutrino Parameters from Observable Leptogenesis	Remote (EU)
10:12	Break		
10:32	Diego Venegas Vargas	Forthcoming Science from the PROSPECT-I Data Set	In-person
10:54	Felicia Sutanto	The design and expanded physics reach of the PROSPECT-II detector upgrade	In-person
11:16	Xianyi Zhang	CONFLUX – A standard framework for reactor neutrino flux calculation	Remote (PDT)
11:38	Roberto Mandujano	JUNO: Physics Prospects and Status	In-person

Second Session

7-23 8am
7-23 8:30am
7-23 9am
7-23 9:30am
7-23 10am
7-23 10:30am
7-23 11am
7-23 11:30am
7-23 12pm

NF Early Career Presentations (Topic 2) (20K) (JHN 102 - 60 ppl)

Day1 - Session 2 (Topic 2)	Chair 1 (pre-break):	Chair 2 (post-break):	
Time (PDT)	Speaker	Title	Status
8:00	Tanaz Angelina Mohayai	A Gaseous Argon-Based Near Detector to Enhance the Physics Capabilities of DUNE	In-person
8:22	Zoya Vallari	The Modular LArTPC – Design and Prototype for the DUNE ND	In-person
8:44	zahra ghorbanimoghaddam	Sensitivity to Heavy Neutral Leptons with the SAND detector at the DUNE ND complex	Remote (EU)
9:06	Soamasina Herilala Razafinime	Studies of tau neutrino appearance at the DUNE Near Detector complex	In-person
9:28	David Vanegas Forero	Probing active-sterile neutrino mixing in LED and 3+1 scenarios with DUNE	Remote (CDT)
9:50	Zahra Tabrizi	BSM Targets at a Target-less DUNE	In-person
10:12	Break		
10:32	Michael Wallbank	The NOvA Test Beam Program	In-person
10:54	Meghna Bhattacharya	MicroBooNE's Neutrino Cross-Section Program	In-person
11:16	Barbara Yaeggy	Prospects for DUNE Measurements of Deep Inelastic Charged-Current Tau Neutrino Interactions	In-person
11:38	Bryan Ramson	Bubble Chamber Detectors with Light Nuclear Targets for Neutrino Scattering	In-person

Third Session

7-24 10am
7-24 10:30am
7-24 11am
7-24 11:30am
7-24 12pm

NF Early Career Presentations (Topic 3) (20H) (30 ppl)

Day2 - Session 1 (Topic 3)	Chair:		
Time (PDT)	Speaker	Title	Status
10:00	Zara Bagdasarian	Low-energy neutrino physics at Theia	In-person
10:20	Leon Pickard	High energy physics program at Theia	In-person
10:40	Kevin Wood	Accelerator Neutrino Oscillation Experiments: This Generation and Next	In-person
11:00	Will Foreman	Physics at the MeV-Scale in LArTPCs	Unsure (CDT)
11:20	Thiago Bezerra	Low Energy Physics Program of DUNE	Remote (UK)
11:40	Fernanda Psihas	Doped Liquid Argon TPCs as a Neutrinoless Double Beta Decay Platform	In-person

Fourth Session

7-24 10am
7-24 10:30am
7-24 11am
7-24 11:30am
7-24 12pm

NF Early Career Presentations (Topic 4) (20J) (JHN 175 - 60

Day2 - Session 2 (Topic 4)	Chair:		
Time (PDT)	Speaker	Title	Status
10:00	Olga Kyzylova	Mobile Antineutrino Demonstrator project	In-person
10:24	Cristian Roca	Design of novel plastic scintillator technologies for neutrino detection at LLNL	In-person
10:48	Tanner Kaptanoglu	EOS: A tonne-scale testbed for hybrid neutrino detectors	In-person
11:12	Tomi Akindele	Enhanced Particle Identification in Water-based Liquid Scintillator	In-person
11:36	Erin V Hansen	CUPID, CUPID-1T, and the DEMETER demonstrator	Remote (PDT)

Steps forward

- Have draft schedule, comments welcome
  - Probably want near-final soon (i.e. people will not be swapped days if possible)
- Send out acceptance emails to submitters
  - If schedule largely accepted and set, consider including it
- Find chairs for sessions
- Anything I am missing?