



**The 15th International Conference on
Meson-Nucleon Physics and the
Structure of the Nucleon**

**Carnegie Mellon University
Pittsburgh Pennsylvania
June 2-7, 2019**

v.2



<https://events.mcs.cmu.edu/menu2019/>

Welcome to MENU-2019

We are pleased to welcome you to Carnegie Mellon University for MENU-2019. The conference is being held in the Cohon University Center in space on both the first and second floors. In addition to the conference space, the University Store, an Art Store, a small grocery store (Entropy) and several food options are located in the building. Please feel free to explore the building, and all of the Carnegie Mellon campus.

The conference has five days of presentations with 27 plenary talks plus a conference summary, and about 80 talks in 21 parallel sessions. The full schedule of events can be found on the MENU Conference Indico site: <https://registration.mcs.cmu.edu/event/1/>, or you can just use the QR-code to the right to open the schedule on your smart phone.



Each morning, a continental-style breakfast will be available in the Connan Room starting at 8:00am. Beverages will be refreshed later in the morning, and snacks and beverages will be available during the afternoon break. Food options for meals, both in the Cohon University Center and nearby, are described later in this brochure.

Network Access at Carnegie Mellon:

Eduroam: The **eduroam** service provides free wireless access at education and research institutions world-wide. Using your institutional email address and password you can connect to the wireless network at a participating institution. Those visiting Carnegie Mellon from a member institution can access our wireless **eduroam** network using their university email address and password. It uses secure encryption and authentication standards, which make it significantly safer than commercial Wi-Fi hotspots. **Note: Eduroam** login requires your complete email address, your-user-id@your-institution.edu, and password, regardless of the device or operating system.

CMU-GUEST: Carnegie Mellon runs a university-wide network for guests. To connect to this network, select the **CMU-GUEST** network. Then open a web browser and you will be redirected to a *Guest Login* page. Enter your email address and the access code *ZP556X8P*.

Getting around Pittsburgh:

The conference events are within walking distance of the hotels, but people may not want to walk. In addition to the usual taxis, both Uber and Lyft serve Pittsburgh, and you might even get a driverless Uber. In using these, the following addresses may be useful.

- *Cohon University Center:* 5032 Forbes Ave, Pittsburgh, PA 15213
- *Phipps Conservatory:* 1 Schenley Drive, Pittsburgh, PA 15213
- *Carnegie Museum of Natural History:* 4400 Forbes Ave, Pittsburgh, PA 15213

Conference Schedule v.2

Sunday June 2, 2019	16:00-19:00	Reception and Registration, Connan Room
Monday June 3, 2019	8:00-9:00	Registration, Connan Room
	9:00-9:15	Opening Session, McConomy Auditorium
	9:15-10:45	Plenary Session I, McConomy Auditorium
	10:45-11:15	Coffee, Connan Room
	11:15-12:15	Plenary Session II, McConomy Auditorium
	12:15-13:30	Lunch Break
	13:30-15:30	Parallel Session I, Rangos I, II & III
	15:30-16:00	Coffee, Connan Room
	16:00-18:00	Parallel Session II, Rangos I, II & III
Tuesday June 4, 2019	8:00-8:45	Registration, Connan Room
	8:45-10:15	Plenary Session III, McConomy Auditorium
	10:15-11:45	Coffee, Connan Room
	10:45-12:15	Plenary Session IV, McConomy Auditorium
	12:15-13:30	Lunch Break
	13:30-15:30	Parallel Session III, Rangos I, II & III
	15:30-16:00	Coffee, Connan Room
	16:00-18:00	Parallel Session IV, Rangos I, II & III
Wednesday June 5, 2019	8:00-8:45	Coffee, Connan Room
	8:45-10:15	Plenary Session V, McConomy Auditorium
	10:15-10:45	Coffee, Connan Room
	10:45-11:45	Plenary Session VI, McConomy Auditorium
	11:45-12:00	Conference Photograph
	18:00-21:00	Conference Banquet, Phipps Conservatory
Thursday June 6, 2019	8:00-8:45	Coffee, Connan Room
	8:45-10:15	Plenary Session VII, McConomy Auditorium
	10:15-10:45	Coffee, Connan Room
	10:45-12:15	Plenary Session VIII, McConomy Auditorium
	12:15-13:30	Lunch Break
	13:30-15:30	Parallel Session V, Rangos I, II & III
	15:30-16:00	Coffee, Connan Room
	16:00-18:00	Parallel Session VI, Rangos I, II & III
Friday June 7, 2019	8:00-8:45	Coffee, Connan Room
	8:45-10:45	Parallel Session VII, Rangos I, II & III
	10:45-11:15	Coffee, Connan Room
	11:15-12:15	Plenary Session IX, McConomy Auditorium
	12:15-13:30	Lunch Break
	13:30-15:00	Plenary Session X, McConomy Auditorium

Plenary Presentations v.2

- Sean Dobbs
Martin Hoferichter
Marco Contalbrigo
- Plenary Session I**, Monday, 9:15, R. Schumacher, chair
Searching for Exotic Hadrons at GlueX
Precision Studies of Pion-Nucleon Interactions
Partonic Nucleon Structure in Electron Scattering
- Satoshi Nakamura
Ralf Seidl
- Plenary Session II**, Monday, 11:15, F. Benmokhtar, chair
Dynamical Coupled-Channels Approach to Electroweak ...
Probing the Nucleon Spin Structure at RHIC using the ...
- Emanuele Mereghetti
Mike Williams
Volker Crede
- Plenary Session III**, Tuesday, 8:45, M. McCracken, chair
Parity and Time-Reversal Violations in Nuclei
Recent Results from LHCb
A Fresh Look at the Excited Baryon Spectrum: What Have ...
- Christian Weiss
Roger Carlini
Toru Iijima
- Plenary Session IV**, Tuesday, 10:45, R. Briere, chair
Next-Generation Hadronic Physics with the EIC
Results from the Qweak Parity Violation Experiment at JLab ...
Physics Overview of the Belle-II Experiment
- Mark Pitt
Jan Bernauer
Johan Messchendorp
- Plenary Session V**, Wednesday, 8:45, C. Weiss, chair
Parity-Violating Electron Scattering Experiments: Past Decade ...
The Proton Radius Puzzle – 9 Years Later
PANDA, the Next-Generation Facility in Technology and ...
- Caterina Bloise
Achim Denig
- Plenary Session VI**, Wednesday, 10:45, R. Briere, chair
Hadron Physics with KLOE-2 Data at the Phi-factory
Low-Energy Precision Physics at MESA
- Hanjie Liu
Annalisa D'Angelo
Fuminori Sakuma
- Plenary Session VII**, Thursday, 8:45, M. McCracken
Preliminary Results from the JLab MARATHON Tritium ...
Physics from CLAS-12
K-pp Bound System at J-PARC
- John Bulava
Arun Tadapalli
William Detmold
- Plenary Session VIII**, Thursday, 10:45, C. Morningstar, chair
Meson-Nucleon Scattering using Lattice QCD
Drell-Yan Physics Program at SeaQuest
Interactions of Light Nuclei from Lattice QCD
- Liguang Tang
Jaume TarrusCastella
- Plenary Session IX**, Friday, 11:15, F. Benmokhtar, chair
JLab Experiment (E12-17-003): Determine the Unknown ΛN ...
The Spin Structure of Heavy-Quark Hybrids
- Paolo Lenisa
Jorge Segovia
Eric Swanson
- Plenary Session X**, Friday, 13:30, C. Meyer, chair
Search for EDM of Charged Particles in Storage Rings
Nucleon-to-Resonance Form Factors at Large Photon Virtualities
Conference Summary

Parallel Sessions v.2

(Titles are included on the Indico site.)



v2	RANGOS 1			RANGOS 2			RANGOS 3		
Monday	Abs.#	Meson-Nucleon	Abs.#	Hadron Spectroscopy	Abs.#	Few Body Systems			
Chair		Justin Stevens		Vincent Mathieu		Jung Keun Ahn			
13:30	33	Avraham Gal	28	Daniel Carman	20	Sebouh Paul			
14:00	30	Philipp Gubler	5	Igor Strakovsky	61	Matthew Musgrave			
14:30	23	Ju-Jun Xie	38	Alexander Austregesilo	45	Baling Ma			
15:00			35	Maxim Mai	29	Carlos Perez			
		Hadron Spectroscopy		Fund. Symmetries		Electroweak Probes			
Chair		Daniel Carman		Ralf Seidl		Andre Walker-Loud			
16:00	6	Satoshi Nakamura	72	Mauro Raggi	27	Edouardo Mornacchi			
16:30	42	Oleksandra Deineka	68	Eugene Pasyuk	41	Bishnu Karki			
17:00	119	Stuart Fegan	53	Paolo Massarotti	11	Jose Manuek Alarcon			
17:30	85	Maria Gomez-Rocha	55	Maxim Mai	90	Fatiha Benmokhtar			
Tuesday		Hadron Spectroscopy		Few Body Systems		Future Facilities			
Chair		Igor Strakovsky		Ales Cieply		Mizuki Sumihama			
13:30	79	Vincent Mathieu	32	Avraham Gal	102	Justin Stevens			
14:00	76	Jiajun Wu	37	Nina Shevchenko	65	Sun Young Ryu			
14:30	77	Daniel Darvish	12	Lia Margolin	51	Yuekun Heng			
15:00	80	Pin Chun Chou	3	Harleen Dahiya	74	Matthew Musgrave			
		Hadron Spectroscopy		Few Body Systems		Electroweak Probes			
Chair		Colin Morningstar		Nina Shevchenko		Roger Carlini			
16:00	13	Jacopo Ferretti	44	Ales Cieply	82	Ralf Seidl			
16:30	99	Achim Denig	1	Aparajita Bhattachaya	114	Stefano Sconfiatti			
17:00	8	Nils Hüskens	60	Jung Keun Ahn	115	Maninder Singh			
17:30	96	Alessande Grachino	89	Rebecca Rapp	64	Marco Maggiora			
Thursday		Hadron Spectroscopy		Future Facilities		Nucleon Structure			
Chair		Stuart Fegan		Liguang Tang		Eugene Pasyuk			
13:30	36	Mizuki Sumihama	113	Martin Besner	121	Karl Siffer			
14:00	46	Johannes Bloms	86	Ho San Ko	49	Patrick Berry			
14:30	94	Julian Ping	91	Johannes Bernhard	15	Hsiang-nan Li			
15:00	120	William McGinley	89	Larisa Thome	17	A. Baradaran Shokouhi			
		Meson-Nucleon		Hadron Spectroscopy		Fund. Symmetries			
Chair		Philipp Gubler		Alex Austregesilo		John Bulava			
16:00	101	Ben Hoerz	47	Huanhuan Liu	54	Maurik Holtrop			
16:30	88	Johann Zmeskal	4	Lisheng Geng	56	Franziska Hagelstein			
17:00	58	Takatsugu Ishikawa	43	Ruairi Brett	92	Steven Clayton			
17:30	2	Tyler Morris	16	N. Wickramaarachchi	98	Umesh Silwal			
Friday		Meson-Nucleon		Hadron Spectroscopy		Electroweak Probes			
Chair		Johann Zmeskal		Annalisa D'Angelo		Franziska Hagelstein			
8:45									
9:15	109	Hao Li	81	Mizuki Sumihama	118	Harleen Dahiya			
9:45	83	Akinobu Dote	84	Ashley Ernst	107	Henry Monge Camacho			
10:15	78	G. Guerrero-Navarro	50	Dalibor Skoupil	105	Andre Walker-Loud			

Conference Proceedings

Proceedings for the MENU-2019 conference will be published as a peer-reviewed article online as an AIP Conference Proceedings. Both the author templates MS Word and LaTeX can be downloaded from the AIP Scitation page: <http://aip.scitation.org/apc/authors/preppapers> . You will also find detailed instructions there. Please be sure to note that you must submit the following, or we will be unable to publish your proceeding.

- **A final PDF file of your paper with fonts embedded.**
- **A signed License to Publish Agreement.**
- **Copies of permissions to re-use copyrighted material.**

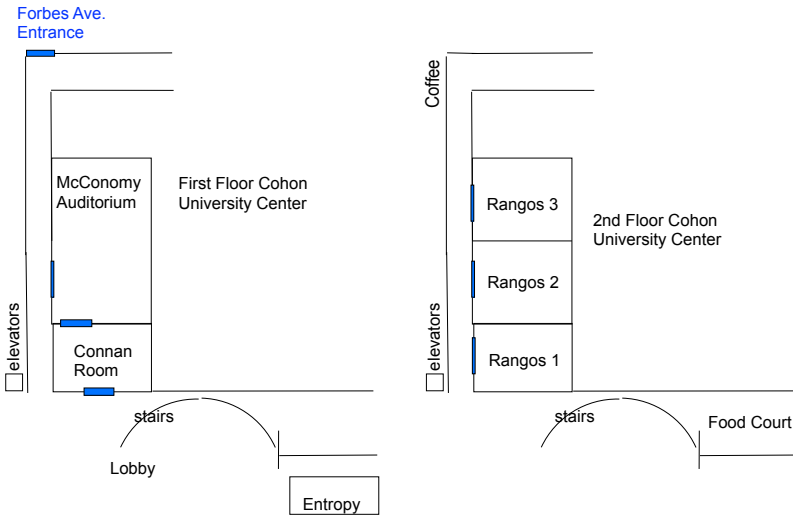
In order to be able to publish the proceedings in a timely fashion, please submit your proceedings with the additional material by **Friday, August 16, 2019**. Material will be uploaded to DropBox through the file request link:

<https://www.dropbox.com/request/Dl8mMMZNhHA1g4yAvRoB>

When uploading files, you must use the following naming scheme, where “LastName” and “FirstName” are your family and common name, respectively.

- **Proceedings: LastName-FirstName-Proceeding.pdf**
- **License Agreement: LastName-FirstName-License.pdf**
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Food Options in the Cohon University Center



There are several food options in the Cohon University Center. On the ground/first floor, there is Entropy, a small grocery store that sells pre-made sandwiches and salads. Next to Entropy, there is also a take out Mexican restaurant. Both of these are located across lobby from the Connan Room (where coffee is served).

On the second floor, there is a food court. Just go upstairs from the lobby and go to the right. There is also a shop, Au Bon Pain, that sells sandwiches, drinks, and other snacks. It is located above the Forbes Avenue entrance.

There are food options located in many of the buildings on the CMU campus.

Nearby Food Options

Leaving the Cohon University Center, you will be on the south side of Forbes Avenue. Go to the left on Forbes Avenue for about two blocks to Craig Street. There are many dining options.

- **Forbes Avenue, north side**

- In the CMU Tepper Quad is a large cafeteria
- Chipotle
- Orient Express

- **Forbes Avenue, south side**

- Cafe Carnegie in the Carnegie Museum

- **Craig Street, east side**

- Starbucks
- Sushi Fuku
- Union Grill (American) sit-down
- Luca (Italian) sit-down
- Eatunique (Sandwiches and Salads)
- Little Asia
- Crepes Parisiennes

- **Craig Street, west side**

- Bagel Factory
- Subway
- Rose Tea Cafe
- Yuva India Kitchen sit-down
- Ali Baba (Middle Eastern) sit-down
- Lulu's Noodles (Oriental)
- Quiznos Subway Sandwiches
- Razy Fresh Yogurt

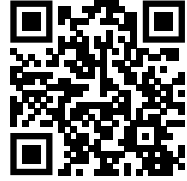
Exploring Food in Pittsburgh If you are willing to travel a bit farther for dinner, take an Uber or Lyft to Lawrenceville, which is one of the centers of the Pittsburgh food scene. Start at 4201 Butler Street, Pittsburgh, to check out the options. The following site gives a number of interesting choices, but there are many restaurants beyond these: <https://theculturetrip.com/north-america/usa/pennsylvania/pittsburgh/>. You can also use the QR-code to the right.



Conference Banquet Venue

Phipps Conservatory 1 Schenley Drive, Pittsburgh, PA 15213

A green oasis in the middle of Pittsburgh’s vibrant Oakland neighborhood, Phipps Conservatory and Botanical Gardens has provided a world-class garden experience to its visitors since 1893. Explore the beauty and wonders of nature at Phipps, encompassing 15 acres including a 14-room glasshouse and 23 distinct gardens. Experience industry-leading sustainable architecture and green practices, stunning seasonal flower shows, exclusive commissioned exhibits, renowned orchid and bonsai collections and more. This historic landmark is a 15 minute walk (0.6 mi) from the CMU University Center conference site. Visit <https://www.phipps.conservatory.org/> for more information, or use the QR-code above.



Your banquet ticket also entitles you to tour Phipps. Tour hours end at 6:00 pm (when the banquet starts), so get to Phipps an hour or so before the banquet and enjoy the gardens and exhibits. The banquet is located near the *Tropical Forest Cuba* exhibit.

Places of Interest near Carnegie Mellon

Carnegie Museum of Art 4400 Forbes Ave, Pittsburgh, PA 15213

Located next to the Carnegie Mellon Campus, the Carnegie Museum of Art is arguably the first museum of contemporary art in the United States, collecting the “Old Masters of tomorrow” since the inception of the Carnegie International in 1896. Today, the museum is one of the most dynamic major art institutions in America. Its collection of more than 30,000 objects features a broad spectrum of visual arts, including painting and sculpture; prints and drawings; photographs; architectural casts, renderings, and models; decorative arts and design; and film, video, and digital imagery.

Carnegie Museum of Natural History 4400 Forbes Ave, Pittsburgh, PA 15213

Carnegie Museum of Natural History, one of the four Carnegie Museums of Pittsburgh, is among the top natural history museums in the country. It maintains, preserves, and interprets an extraordinary collection of artifacts, objects, and scientific specimens used to broaden understanding of evolution, conservation, and biodiversity. Carnegie Museum of Natural History generates new scientific knowledge, advances science literacy, and inspires visitors of all ages to become passionate about science, nature, and world cultures. Of particular interest is the dinosaur collection. It is a 10 minute walk from the CMU University Center conference site.