



**NNN19**  
Nov 7-9 2019  
University of Medellin, Colombia

**20TH** INTERNATIONAL WORKSHOP  
On Next generation Nucleon  
Decay and Neutrino Detectors

INVITED SPEAKER:  
**Takaaki Kajita**  
The Nobel Prize in Physics 2015

Public lecture: November 8, 10hrs, UdeM Theater.

Vigilada MinEduación.


**Universidad de Medellín**  
Ciencia y Libertad
 






## Final Remarks

This is the final bulletin concerning the 20th International Workshop on Next generation Nucleon Decay and Neutrino Detectors (NNN19) that will be held for the first time in Latin America. This series of workshops brings together experts from across the particle physics community to discuss future large scale detectors for research on nucleon decay and neutrino physics. This year NNN will complete 20 years since its first version on 1999 at Stony Brook University, New York, USA. The workshop will consist of invited plenary talks, contributed talks in parallel sessions, and a poster session addressing the following topics: **Proton decay, CP violation in the leptonic sector, High intensity neutrino beams, Supernova neutrinos, Solar neutrinos, Atmospheric neutrinos, Reactor neutrinos, Large detectors R&D.**

The NNN19 will take place in the campus of the University of Medellin, Colombia. For more detailed information please visit the NNN19 website: <http://www.nnn19medellin.com>

### 1. Scientific Program

The full workshop's scientific program can be found in the following INDICO page: <https://indico.cern.ch/event/835190/timetable/#20191107>

#### **Public Lecture:**

Professor Takaaki Kajita

Location: UdeM Theater, building 17 (see UdeM Campus map at the end of the bulletin)

Date: November 8, 10 am

### 2. Registration

The registration fee for the workshop is \$180 USD Students and Postdocs, and \$220 USD for faculty and senior scientists. The fees will cover coffee breaks, workshop material, the dinner and welcome reception. To register please use on-line registration system on the workshop website.

Payment of registration fees should be made by on-line method using credit card:

<https://indico.cern.ch/event/835190/page/17874-registration-fee-payment>

The registration fee can also be paid by credit card (the easiest way) or using cash during the registration on Thursday morning.

### 3. Local Information

The University of Medellin is located at Carrera 87 # 30-65, near the “UdeM Metroplus bus station” and “Los Molinos shopping center”, in the city of Medellin. Medellin is the capital of the department of Antioquia, the second largest city in Colombia, known as “the city of eternal spring”, because its pleasant climate around 24°C. The city has a modern transport system, such as Metro, Metrocable, Metroplus and Train.

The NNN19 will be performed at auditorium 2 and 3 at the 11th building (see UdeM Campus map below for all the details). The Campus gate 2 is the closest one to the 11th building. Please use this gate to have an easy entry to the campus and to attend the NNN19.

There are many options of restaurants inside Campus: at the first floor of the 4th building, and also at the 15th building, you can find Colombian food. Vegetarian menu can only be found at the 15th building. International food can be found at the UdeM Theater restaurant (Cafetto), at the 17th building.



#### 4. Talk and poster recommendations

Plenary talks are scheduled at the 2<sup>nd</sup> auditorium of the 11<sup>th</sup> building. Parallel talks should be delivered at the 2<sup>nd</sup> and 3<sup>rd</sup> auditorium. **We encourage speakers delivering talks to upload the files with the slides to indico as late as the day before the presentation.** For special cases with unexpected problems with indico webpage, files with the presentations (.pdf or .ppt are the expected formats) can be sent as attachment, or as a cloud shared link, the earliest possible to the email address [nnn19medellin@udem.edu.co](mailto:nnn19medellin@udem.edu.co) (with cc to [alex.tapia.casanova@gmail.com](mailto:alex.tapia.casanova@gmail.com) and [damartin83@gmail.com](mailto:damartin83@gmail.com)), so we can upload the files to the computers designated for the event since the speakers will not be allowed to use their personal computers. It is critical to have everything working in advance to the day of the talks to avoid delays.

The poster session will happen at the auditorium of Casa Club del Egresado (building number 22). If you are presenting a poster please check the size and position in the poster session program in the INDICO page. The posters must fit in on the poster stands, which have a space of 1 m x 0.7 m. **We highly recommend presenters to bring their posters printed.** Even though posters can be printed here, near the university, each author is responsible for the printing of its own poster.

#### 5. Social activities

On Thursday, all participants are very welcome to attend the poster session and the reception at the end of the afternoon. On Friday, November 8, there will be the conference dinner at **Casa Club del Egresado** (building number 22) beginning at 6 pm.

For people interested, there will be a social outing immediately after the end of the conference dinner. If you are interested to participate, please fill the following google form before 6 pm on November 7:

<https://forms.gle/NjLAz97sAjKW6kgB6>

All the costs associated with the social outing (including transportation, beverages and other expense) will be covered by each participant of social activity.

Finally, on Sunday, we will offer a bus tour around the city with twenty seats. Previous registration is required in the following google form:

<https://forms.gle/FpQWSu71hykQ8fez5>

The twenty seats will be assigned on a first come first served basis.

#### 6. Accommodations

There are three hotels available close the university: Casa Club UdeM, Poblado Plaza, and Poblado Alejandria. A limited number of rooms are set aside for the Workshop participants. Each participant is responsible for making her/his own reservation and is encouraged to make the reservation as early as possible since we expect large demands for rooms during the period of the Workshop. Please mention the reservation code *udemfisica2019* when reserving rooms.

For more information visit the website:

<http://www.nnn19medellin.com/index.php/accommodations>

Transportation from the hotels Poblado Plaza and Poblado Alejandria to University of Medellin during the days to the conference has been arranged. The shuttle schedule is the following:

### **November 7**

From Hotels to Universidad de Medellin

Hotel Poblado Alejandria: 7:00 (Departing at 7:10 am)

Hotel Poblado Plaza: 7:15 am (Departing at 7:25 am)

From Universidad de Medellin (Casa del Egresado Club) to Hotels: Departing after the reception and poster session ~ 8 pm

### **November 8**

From Hotels to Universidad de Medellin

Hotel Poblado Alejandria: 7:00 (Departing at 7:10 am)

Hotel Poblado Plaza: 7:15 am (Departing at 7:25 am)

From Universidad de Medellin (Casa del Egresado Club) to Hotels: Departing after the conference dinner ~ 8 pm

### **November 9**

From Hotels to Universidad de Medellin

Hotel Poblado Alejandria: 7:30 (Departing at 7:40 am)

Hotel Poblado Plaza: 7:45 am (Departing at 7:55 am)

From Universidad de Medellin (11th building) to Hotels: Departing after the end of conference ~6 pm

## **7. How to reach the University of Medellín**

*From the José María Córdoba international airport:* The international airport is outside Medellín, so the easiest way (also the fastest, trip takes around 30 minutes) to reach the city is by cab. There are different services, cab for a single person (cost 80,000.00 Colombian Pesos -COP-, remember 1USD is approx. 3,300 COP) or a shared cab for 4 people each one paying 20,000.00-COP, it is a “first-come, first-serve basis” service. In addition, there is a bus service to the city that takes long (around 45 minutes) for 10,000.00-COP. Both, the taxi and the bus services stop at “San Diego”, which is a Medellín neighborhood and the name of a shopping center. Once in San Diego, you can take another cab to your final destination, prices might go from 10,000.00 to 15,000.000 COP. See also the information below for other services.

*From other points in the city:* Besides cab services, Medellín has metro with different stops and also has “Metroplus”. You might combine metro (or urban buses) with the Metroplus lines to reach the university. Metroplus is basically a bus with a preference line that has a station with the name of the University (UdeM stop station) at the end of the lines L1 and L2. A ticket for metro or Metroplus cost a bit less than a US dollar and can be purchased at any station. App services, like UBER, are “not officially legal” in Colombia but can also be used under your own decision and discretion.

Looking forward to see you in Medellín,

The Local Organizing Committee ([nnn19medellin@udem.edu.co](mailto:nnn19medellin@udem.edu.co))

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