



International Training  
Centre in Astronomy  
under the auspices of UNESCO

## Participant Kit

NARIT Cloudy Workshop 2018

14 – 25 May 2018

Chiang Mai, Thailand

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Dear Cloudy Participants,

Greetings from the Local Organizing Committee of Cloudy Workshop 2018!

We are thrilled to welcome you to Chiang Mai this summer for NARIT Cloudy Workshop 2018.

Below, you may find a handful of information for your reference prior to your arrivals. By circulating this Participant Kit, we expect you to carefully go through all of the details stated, for your own convenience and avoiding any problem that may occur.

### Stay in touch

First thing first, in order to keep yourself updated with all necessary information and preparations before, during and even after the workshop, all participants are highly encouraged to join the private google group at <https://groups.google.com/forum/#%21forum/cloudy-summer-school-thailand>

This will be a platform for discussion throughout Cloudy Workshop 2018.

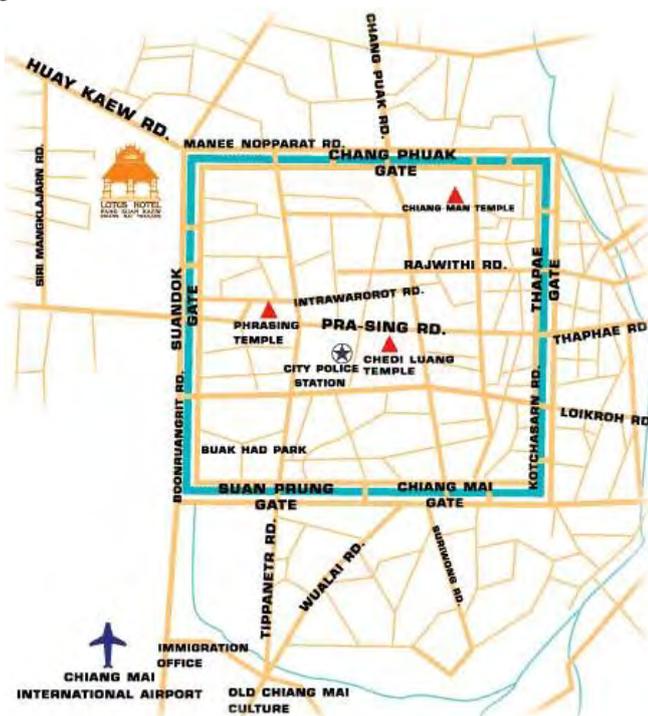
Also, SOC expects you to get down to your homework before the workshop starts! Access the link below; [http://cloud9.pa.uky.edu/~gary/cloudy/CloudySummerSchool/2018\\_Thailand/homework.html](http://cloud9.pa.uky.edu/~gary/cloudy/CloudySummerSchool/2018_Thailand/homework.html)

### School Venue

Cloudy Workshop 2018 will be held from 14 – 25 May 2018 at the ***Lotus Hotel Pang Suan Kaew***.

Located on 21 Huay Kaew Rd., Suthep Sub-district, Mueang District, Chiang Mai 50200 Thailand

Phone: + 66 (0)53 224 333



## **Accommodation**

### **Accommodation will NOT be provided.**

Participants are expected to be responsible for their own lodging throughout the program.

Should you wish to stay at the Workshop venue (Lotus Hotel Pang Suan Kaew), please inform the LOC. We are more than happy to book the rooms for you directly – at your own expenses.

### **Please find below of the list of accommodation in the walking distance;**

- Chiang Mai Orchid Hotel
- Baan Din Ki (บ้านดินที่)
- B2 Nimman Hotel
- F Plus F Hostel
- Nakara Loft
- Nest
- Pyur Otel
- B2 Green
- The Artel Nimman Hotel
- Victoria Nimman Hotel

## **Travel**

***There are no airport transfers provided, nor do we provide local transport to and from Lotus Hotel Pang Suan Kaew. Participants must travel to the venue on their own.*** There are several means of public transportation available at Chiang Mai International Airport and in the vicinity of downtown Chiang Mai at reasonable prices including airport taxi, public taxi and red vans. GRAB application is also available at reliable costs.

## **Insurance**

There will not be any insurance provided from LOC. It is recommended that you purchase your own insurance prior of the travel.

## **VISA**

It is recommended that you confirm with your local Royal Thai Embassy or Royal Thai Consulate regarding the VISA requirement and application. Conditions and length of each stay may vary among countries. VISAs among 10 Southeast Asian Countries have now been exempted in a consequence of the ASEAN Integration. If you are citizens in one of these countries, VISA is not required to travel into the Kingdom of Thailand.

## **Dietary Requirements**

Throughout the meeting, certain meals and refreshments will be provided by LOC. Thailand is a country where a variety of food are made available to the market. *If you have any special dietary requirements, please inform the LOC beforehand. (specify Halal, allergy, no pork, vegetarian, etc.)*

## **Religious Needs**

The committee is well aware of religious diversity among the region. Participants may be excused for private practices in proper manner, without interrupting the daily schedule.

**Programme Agenda**  
**NARIT Cloudy Workshop 2018**  
**14 – 25 May 2018**

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**Day 0, May 13, Sunday**

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- Opening Reception – No host (*Venue TBC*)

**Day 1, May 14, Monday, AGN3 Chap 2; Photoionization Equilibrium**

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- 08:30 - 09:00 set up
- 09:00 - 09:20 Welcome by Local Organizers
- 09:20 - 09:30 Introduction to Workshop (PDF)
- 09:30 - 11:00 Introductory presentations
- 11:00 - 11:30 Break
- 11:30 - 13:30 Introductory presentations conclude, Cloudy (PDF)
  
- 13:30 - 15:30 Lunch, group discussions
  
- 15:30 - 16:30 An H II region simulation (PDF)
- 16:30 - 17:00 Break, group discussion
- 17:00 - 17:30 Group activities
- 17:30 - 18:00 Group summaries
- 19:00 Welcome Dinner hosted by NARIT (*Venue TBC*)

Review AGN3 Chapter 3 for tomorrow

**Day 2, May 15, Tuesday, AGN3 Chap 3; Thermal Equilibrium**

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Heating and cooling (PDF)
- 10:00 - 11:00 projects
- 11:00 - 11:30 Break, projects
- 11:30 - 13:30 AGN3 Chap 3 continues
  
- 13:30 - 15:30 lunch, group discussions
  
- 15:30 - 16:30 computing cooling functions
- 16:30 - 17:00 break, group discussions
- 17:00 - 17:30 group activities
- 17:30 - 18:00 group summaries

Review AGN3 Chapter 4 for tomorrow

**Day 3, May 16, Wednesday, AGN3 Chap 4; Calculation of Emitted Spectrum**

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Emitted spectrum (PDF)
- 10:00 - 11:00 projects
- 11:00 - 11:30 Break, projects continue
- 11:30 - 13:30 Emitted spectrum
  
- 13:30 - 15:00 lunch, group discussions

- 15:00 - 16:00 spectra
- 16:00 - 17:00 group activities
- 17:00 - 18:00 group summaries

### May 17, Thursday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *General introduction to python. Installation, python 2 and python 3, basic syntax*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Peter van Hoof
  
- 12:30 - 14:00 lunch
  
- 14:00 - 15:00 Christophe Morisset: *Python for scientists 1: Using Notebooks, numpy*
- 15:00 - 16:00 Peter van Hoof
- 16:00 - 17:30 projects
- 17:30 - 18:00 project summaries

### May 18, Friday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *Python for scientists 2: Matplotlib, astropy, scipy*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Peter van Hoof
  
- 12:30 - 14:00 lunch
  
- 14:00 - 15:00 Christophe Morisset: *PyNeb: a tool to deal with nebular emission lines. Atomic data*
- 15:00 - 16:00 Ravi Sankrit: *Observational data archives*
- 16:00 - 17:30 projects
- 17:30 - 18:00 project summaries

### May 19 – 20, Sunday

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Weekend

### May 21, Monday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *pyCloudy: interface to Cloudy from python. Simple models*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Ravi Sankrit: *Ultraviolet spectroscopy: past, current, and future instruments*
  
- 12:30 - 14:00 lunch
  
- 14:00 - 15:00 Christophe Morisset: *pyCloudy: pseudo-3D models. How, for what*
- 15:00 - 16:00 Peter van Hoof: *Atomic and molecular databases (part 1)*
- 16:00 - 17:30 projects
- 17:30 - 18:00 project summaries

## May 22, Tuesday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *3MdB: a database of Cloudy models (and shock models)*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Ravi Sankrit: *Ultraviolet tracers and diagnostics of diffuse photoionized gas (i) emission lines*
- 12:30 - 12:40 Group Photo
  
- 12:40 - 14:00 lunch
  
- 14:00 - 15:00 Christophe Morisset: *The emission of the DIG and the role of HOLMES.*
- 15:00 - 16:00 Peter van Hoof: *Atomic and molecular databases (part 2)*
- 16:00 - 17:30 projects
- 17:30 - 18:00 project summaries

## May 23, Wednesday

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Excursion to Thai National Observatory, Doi Inthanon National Park.

## May 24, Thursday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *What NOT to do with IFSs and models*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Ravi Sankrit: *Ultraviolet tracers of diffuse photoionized gas (ii) absorption lines*
  
- 12:30 - 14:00 lunch
  
- 14:00 - 15:00 Gary Ferland star forming regions
- 15:00 - 16:00 Peter science talk
- 16:00 - 17:30 projects
- 17:30 - 18:00 project summaries
- 19:00 Farewell Dinner hosted by NARIT (*Venue TBC*)

## May 25, Friday

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- 08:30 - 09:00 set up
- 09:00 - 10:00 Christophe Morisset: *Conclusions and discussions*
- 10:00 - 11:00 projects
- 11:00 - 11:30 break&projects
- 11:30 - 12:30 Gary Ferland star forming regions
  
- 12:30 - 14:00 lunch
  
- 14:00 - 15:00 science talk
- 15:00 - 16:00 projects
- 16:00 - 17:00 project summaries
- 17:00 Workshop concludes

## **Excursion**

On Wednesday May 23<sup>rd</sup> 2018, the LOC will arrange the trip to Doi Inthanon National Park, the highest mountain in Thailand where the Thai National Observatory is located, which houses the 2.4-m Optical Telescope. It is approximately 2 hour-drive from downtown Chiang Mai.

## **Weather**

Chiang Mai Province is located in Northern Thailand, with tropical summer season during March – May. The average temperature in Downtown Chiang Mai ranges from 25 - 40 °C. On the summit of Doi Inthanon Mountain, the temperature range is considerably lower, especially at nighttime. Participants are advised to bring along light jackets.

## **Money Matters**

*The Thai currency is Baht (THB), 1 USD is equivalent to approximately 35 Baht.*

It is the only acceptable currency used in Thailand.

*There are plenty of money-changing facilities at Chiang Mai International Airport and around Lotus Hotel Pang Suan Kaew where you may convert foreign currency to Thai Baht.*

## **Emergency contacts**

Below is the list of emergency contacts from the LOC;

- Ms. Supaluck Chanthawan +66 81 5594125, email: [supaluck@narit.or.th](mailto:supaluck@narit.or.th)
  - Ms. Sulisa Chariyalertsak +66 93 1411228, email: [sulisa@narit.or.th](mailto:sulisa@narit.or.th)
  - Mr. Setthawut Thongmee +66 85 6666862, email: [setthawut@narit.or.th](mailto:setthawut@narit.or.th)
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