

Cloud Academy II Program						
	Sunday 8th March	Monday 9th March	Tuesday 10th March	Wednesday 11th March	Thursday 12th March	Friday 13th March
7:45-8:45	School buildings closed	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
09:00-10:15		Welcome + lightning talks	Helling lecture	Stam lecture	Vuitton (25+10) Moran (15+5)	Steinreuck (10+5) Gressler (10+5) Gobrecht (15+5)
10:15-10:45		Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45-12:00		Posters	Helling activity (incl. 10mins of CAI HAT-P7b activity report)	Stam activity	Signeroll (25+10) Bonnefoy (25+10)	Kavashima (15+5) Herbort (10+5) Poser (10+5)
12:15-16:00		Lunch	Lunch	Lunch & Poster session	Lunch	Lunch
16:00-17:15		Arrival (School opens 3pm)	Marley lecture	Apai lecture	Min (25+10) Karalidi (25+10)	Svensmark (25 +10) Showman (25 +10)
17:15-17:45	Coffee Break		Coffee Break	Coffee Break	Coffee Break	
17:45-19:00	Marley activity		Apai activity	Ugelow (10+5) Samra (10+5) Alam (10+5) Blecic (10+5)	Luna (10+5) Golzaes (10+5) Matsumoto (10+5) Tan (10+5)	
19:00-20:30	Dinner	Dinner and Welcome Drinks	Dinner	Dinner	Dinner	
21:00-22:00		Informal Discussion	Informal Discussion	Informal Discussion	Informal Discussion	
Lecturers (1h15m + 1h15m) Lecture + activity	<p><i>Mark Marley</i> : Why we care: How clouds interact with the atmospheres of planets and brown dwarfs and what we need from models. <i>Christiane Helling</i>: Modelling cloud formation: the devil sits in the micro-physics <i>Daniel Apai</i> : Time-domain observations of cloudy extrasolar atmospheres + activity with Yifan Zhou: HST/WFC3 Data Reduction Demonstration <i>Daphne Stam</i> : Polarimetry as a tool to characterise (exo)planets and their clouds</p>					
Invited Speakers 25+10 minutes	<p><i>Adam Showman</i> : dynamic atmospheres <i>Véronique Vuitton</i>: The contribution of laboratory astrophysics to our knowledge of haze on Super-Earths and mini-Neptunes <i>Mickaël Bonnefoy</i>: Modelling of imaged exoplanets emission spectra <i>Henrik Svensmark</i> : Cosmic rays, clouds and climate <i>Ruth Signorell</i> : Characterization of single aerosol particles in optical traps <i>Theodora Karalidi</i> : From light curves to maps: making two-dimensional maps of exoatmospheres from observed light curves <i>Michiel Min</i> : Artful Retrieval</p>					

10+5 mins

(a few have 15+5min

--> check CAII programme!)

cloud opacities calculations

Ugelow : Experimental Investigations of the Optical Properties of Complex Ice Clouds

Samra: Mineral Snowflakes on Extra-solar Planets and Brown Dwarfs: Effects of Micro-Porosity, Size Distributions and Hollow Spheres

retrieval

Alam: A Complete Optical to Infrared Transmission Spectrum of HAT-P-32Ab: Interpreting Atmospheric Properties in the Presence of Clouds

Blecic : Cloudy retrieval in the JWST era

non-equ gas chem

Steinrueck: For hot Jupiters, more small photochemical hazes on the leading limb compared to trailing limb

Kawashima: Theoretical Reflectance Spectra of Earth-like Planets through Their Evolutions: Impact of Clouds on the Detectability of Oxygen, Water, and Methane with Future Direct Imaging Missions

Gobrecht: *From Molecules to dust: Alumina cluster seeds*

lab chem

Moran: Chemistry of Exoplanet Hazes from the Lab

CR effects

Matsumoto: Cosmic rays, clouds and aerosol

3D atmosphere

Tan: Intrinsic variability in cloudy atmospheres of brown dwarfs and isolated giant planets.

objects: brown dwarfs, mini-Neptunes

Luna: Investigating the Mineralogy of Clouds in Substellar Atmospheres

Gonzales: Retrieval of the d/sdL7+T7.5p binary SDSS J1416+1348AB

Gressler: Characterising the atmosphere of the Neptune-like planet HD 106315 c with Hubble WCF3 transmission spectra

linking atmosphere and crust

Herbort: Atmospheres of rocky exoplanets - Outgassing of Common Rock and the Stability of Liquid Water

Poser: Clouds (in irradiated atmospheres) and their implications for interior models

2min

	lightning talks	title
Monday & Tuesday	Barth	<i>Modelling the influence of stellar XUV-flux on the atmospheric composition of HD 189733 b</i>
	Bubb	<i>Exploring the Variability of Giant Extrasolar Planet and Brown Dwarf Atmospheres</i>
	Carone	<i>Deep wind jets and their possible influence on atmosphere structure</i>
	Christie	<i>Coupling EddySed to the Unified Model with Improved Vertical Mixing</i>
	Chubb	<i>Aluminium oxide in the atmosphere of Hot Jupiter WASP-43b</i>
	Faucherz	<i>Impact of Clouds and Hazes on the Simulated JWST Transmission Spectra of Habitable Zone Planets in the TRAPPIST-1 System</i>
	Fu	<i>Statistical Analysis of Hubble/WFC3 Transit Spectroscopy of Extrasolar Planets</i>
	Gandhi	<i>Studying Cloudy Atmospheres with High Resolution Spectroscopy</i>
	Habib	<i>Simulated moist convective adjustment for planetary atmospheres (no abstract yet)</i>
	Innes	<i>Modelling the atmospheric dynamics of moist super-Earths</i>
	Jordan	<i>ACCESS: Exploring Exoplanet Atmospheres with Ground-based Transmission Spectroscopy</i>
	Kohler	<i>Laboratory Measurements of Enstatite and Forsterite</i>
	Komacek	<i>The effect of clouds on the climate and observable properties of terrestrial exoplanets</i>
	Khaimova	<i>Studying Exoplanet Atmospheres Using CARMENES Data</i>
	Lacy	<i>Combined Effects of Aerosols and Day-Night Temperature Gradients on Transit Spectra</i>
	Laurent	<i>High contrast observations of young sub-stellar companions with JWST</i>
	Lee	<i>DMC - A Kinetic Bin Based Cloud Formation Model</i>
Lefevre	<i>Three-dimensional turbulence-resolving modeling of Proxima-B exoplanetary atmosphere.</i>	
Lew	<i>Rotational modulations of a rare planetary-mass object at the end of L/T transition</i>	
McKinney	<i>Investigating the Dynamical Similarity of Earth and Titan with a Simplified GCM</i>	
Wednesday-Friday	Mollière	<i>Retrieving the atmospheric parameters of young, cloudy gas giant exoplanets</i>
	Piette	<i>Considerations for Atmospheric Retrievals of High-Precision Brown Dwarf Spectra</i>
	Rooney	<i>Asymptotic Homogenisation for Model Order Reduction</i>
	Sindel	<i>Faster geometries and energies for condensation core clusters</i>
	Spaulding-Astudillo	<i>The Effect of Moisture on Cloud Formation in Terrestrial Planetary Atmospheres</i>
	Sutcliffe	<i>The Variability of Exoplanet Atmospheres through Direct Imaging</i>
	Wagner	<i>Imaging the Atmospheres of Giant Planets in Formation</i>
	Wardenier	<i>Modelling High-Resolution Emission Spectra of Hot Jupiters through 3D Cloudy Monte Carlo Radiative Transfer</i>

Webb	<i>Observing above the cloud deck: High resolution spectroscopy of cloudy exoplanet atmospheres</i>
Welbanks	<i>On degeneracies in retrievals of exoplanetary transmission spectra</i>
Whiteford	<i>Directly-imaged atmospheric characterisation with TauREx retrievals</i>
Windsor	<i>Structure and Spectra from a One-Dimensional, Partially Cloudy Rocky Exoplanet Climate Model</i>
Yu	<i>Characterization of Cloud-Haze Interactions in Cool Exoplanets Atmospheres</i>
Zalesky	<i>Atmospheric Retrieval of T Dwarf Spectra</i>
Zhang	<i>Forward-Modeling Analysis of Late-T Dwarf Atmospheres</i>
Zhou	<i>Heterogeneous Clouds in Directly-Imaged Planetary-Mass Companions</i>

72 mins