

**FD147: Chemistry of the Planets**  
**14 – 16 June 2010**  
**St Jacut de la Mer, Brittany, France**

All Discussion Sessions will be held in the 'Salle Multimédia'. Participants are reminded to bring to this room their presentations (5 minutes or less) as PowerPoint .ppt or Acrobat .pdf files on a Windows laptop, USB key or CDROM during the break immediately preceding the Session in which they are due to/wish to speak. They should there make contact with Daniel Travers who is in charge of this aspect of the Discussion.

**Monday 14 June 2010**

11:00	<b>Registration</b>
12.00	<b>Lunch</b>
13:30	<b>Welcome and Introduction:</b> Ian Sims <i>Université de Rennes 1, France</i>
13:45 <b>Paper 1</b>	<b>Introductory Lecture: Title tba</b> Sushil K Atreya* <i>University of Michigan, USA</i>
	<b>Session 1: Chemical aspects of planetary exploration and observation</b> <b>Session Chair: John Plane</b>
14.45 <b>Paper 2</b>	<b>Formation of NH<sub>3</sub> and CH<sub>2</sub>NH in Titan's Upper Atmosphere</b> Roger V Yelle*, V Vuitton, S Klippenstein, P Lavvas, M Smith, S M Hörst and J Cui <i>University of Arizona, USA</i>
<b>Paper 3</b>	<b>Mapping Titan's HCN in the far infra-red: implications for photochemistry</b> N A Teanby*, P G J Irwin, R de Kok and C A Nixon <i>Oxford University, UK</i>
<b>Paper 4</b>	<b>Upper limits for undetected trace species in the stratosphere of Titan</b> Conor A Nixon,* Richard K Achterberg, Nicholas A Teanby, Patrick G J Irwin, Jean-Marie Flaud, Isabelle Kleiner, Alix Dehayem-Kamadjeu, Linda R Brown, Robert L Sams, Bruno Bézard, Athena Coustenis, Todd M Ansty, Andrei Mamoutkine, Sandrine Vinatier, Gordon L Bjoraker, Donald E Jennings, Paul N Romani and F Michael Flasar <i>University of Maryland and NASA Goddard Space Flight Center, USA</i>
16:15	<b>Afternoon refreshments</b>
	<b>Session 2: Neutral atmospheric chemistry of the planets</b> <b>Session Chair: Piergiorgio Casavecchia</b>
16:45 <b>Paper 5</b>	<b>On the abundance of non-cometary HCN on Jupiter</b> Julianne I Moses*, Channon Visscher, Thomas C Keane and Aubrey Sperier <i>Space Science Institute, USA</i>

<b>Paper 6</b>	<b>Photchemical modeling of Titan's atmosphere at the "10% uncertainty horizon"</b> Z Peng and P Pernot,* N Carrasco, E Hébrard and M Dobrijevic <i>CNRS and Université Paris-Sud 1, France</i>
<b>Paper 7</b>	<b>Experimental measurements of low temperature rate coefficients for neutral-neutral reactions of interest for atmospheric chemistry of Titan, Pluto and Triton: Reactions of the CN radical</b> Sébastien B Morales, Sébastien D Le Picard,* André Canosa and Ian R Sims <i>Université de Rennes 1 and CNRS, France</i>
18:15	<b>Close of Sessions</b>
19:00	<b>Dinner</b>
20:30	<b>Poster Session and Wine Reception</b>

**Tuesday 15 June 2010**

	<b>Session 2: Neutral atmospheric chemistry of the planets</b> <b>Session Chair: Ian Sims</b>
09:00 <b>Paper 8</b>	<b>An experimental and theoretical investigation of the competition between chemical reaction and relaxation for the reactions of <math>^1\text{CH}_2</math> with acetylene and ethene: implications for the chemistry of the giant planets</b> Kelly L Gannon, David R Glowacki, Mark A Blitz, Jeremy N Harvey, Chi-Hsiu Liang, Michael J Pilling and Paul W Seakins* <i>University of Leeds, UK</i>
<b>Paper 9</b>	<b>Formation of nitriles and imines in the atmosphere of Titan: combined crossed-beam and theoretical studies on the reaction dynamics of excited nitrogen atoms <math>\text{N}(^2\text{D})</math> with ethane</b> Nadia Balucani, Francesca Leonori, Raffaele Petrucci, Massimiliano Stazi, Dimitris Skouteris, Marzio Rosic and Piergiorgio Casavecchia* <i>Università degli Studi di Perugia, Italy</i>
<b>Paper 10</b>	<b>Structural and spectroscopic characterization of mixed planetary ices</b> Nuria Plattner, Myung Won Lee and Markus Meuwly* <i>University of Basel, Switzerland</i>
<b>Paper 11</b>	<b>Isomer specific spectroscopy of <math>\text{C}_{10}\text{H}_n</math> n=8-12: exploring pathways to naphthalene in Titan's atmosphere</b> Joshua A Sebree, Vadim V Kislov, Alexander M Mebel and Timothy S Zwier* <i>Purdue University, USA</i>
11.00	<b>Morning Refreshments</b>
	<b>Session 3: Chemistry of planetary thermospheres and ionospheres</b> <b>Session chair: Brian Mitchell</b>
11:30 <b>Paper 12</b>	<b><math>\text{H}_3^+</math> cooling in planetary atmospheres</b> Steve Miller*, Tom Stallard, Henrik Melin and Jonathan Tennyson <i>University College London, UK</i>

<b>Paper 13</b>	<b>Negative ions at Titan and Enceladus: recent results</b> Andrew J Coates*, Anne Wellbrook, Gethyn R Lewis, Geraint H Jones, David T Young, Frank J Crary, J Hunter Waite Jr, Robert E Johnson, Thomas W Hill and Edward C Sittler <i>University College London, UK</i>
<b>Paper 14</b>	<b>Chemical origins of the Mars ultraviolet dayglow</b> David L Huestis*, Tom G Slanger, Brian D Sharpe and Jane L Fox <i>SRI International, USA</i>
13:00	<b>Lunch</b>
	<b>Session 3: Chemistry of planetary thermospheres and ionospheres</b> <b>Session chair: Nigel Mason</b>
14:30 <b>Paper 15</b>	<b>Laboratory chemistry relevant to understanding and modeling the ionosphere of Titan</b> Nigel G Adams*, L Dalila Fondren and David S Osborne <i>University of Georgia, USA</i>
<b>Paper 16</b>	<b>Fast ion-molecule reactions in planetary atmospheres: a semiempirical capture approach.</b> Alexandre Faure*, Veronique Vuitton, Roland Thissen, Laurent Wiesenfeld and Odile Dutuit <i>CNRS, Université J Fourier, France</i>
<b>Paper 17</b>	<b>Meteoric ion layers in the Martian atmosphere</b> John Plane and Charlotte L Whalley* <i>University of Leeds, UK</i>
16:00	<b>Afternoon Refreshments</b>
	<b>Session 4: Exoplanet Chemistry</b> <b>Session Chair: Bruno Bézard</b>
16:30 <b>Paper 18</b>	<b>Exploring extrasolar worlds: from gas giants to terrestrial habitable planets</b> Giovanna Tinetti*, Caitlin A. Griffith, Mark R. Swain, Pieter Deroo, Jean Philippe Beaulieu, Gautam Vasisht, David Kipping, Ingo Waldmann, Jonathan Tennyson, Robert J. Barber, Jeroen Bouwman, Nicole Allard, and Linda R. Brown <i>University College London, UK</i>
<b>Paper 19</b>	<b>Titan and habitable planets around M-dwarfs</b> Jonathan I Lunine* <i>University of Rome, Italy</i>
17.30	<b>Close of Sessions</b>
19:00	<b>Pre Dinner Drinks</b>
19.45	<b>Conference Dinner</b>

	<b>Session 5: Planetary aerosols, surfaces, interior and formation</b> <b>Session Chair: Arthur Suits</b>
08:30 <b>Paper 20</b>	<b>The fate of aerosols on the surface of Titan</b> S I Ramírez, P Coll, A Buch, C Brassé, O Poch, F Raulin*, <i>Universités Paris Est-Créteil et Denis-Diderot, France</i>
<b>Paper 21</b>	<b>Untangling the chemical evolution of Titan's atmosphere and surface from homogeneous to heterogeneous chemistry</b> Ralf I Kaiser,* Pavlo Maksyutenko, Courtney Ennis, Fangtong Zhang, Xibin Gu, Sergey P Krishtal, Alexander M Mebel, Oleg Kostkoc and Musahid Ahmed <i>University of Hawaii at Manoa, USA</i>
<b>Paper 22</b>	<b>Mechanisms of formation of nitrogen-containing polycyclic aromatic compounds in low temperature environments of planetary atmospheres: A theoretical study</b> Alexander Landera and Alexander M Mebel* <i>Florida International University, USA</i>
10:00	<b>Morning Refreshments</b>
10:20 <b>Paper 23</b>	<b>Very high resolution mass spectrometry of HCN polymers and tholins</b> Véronique Vuitton,* Jean-Yves Bonnet, Maeliss Frisari, Roland Thissen, Eric Quirico, Odile Dutuit, Bernard Schmitt, Léna Le Roy, Nicolas Fray, Hervé Cottin, Ella Sciamma-O'Brien, Nathalie Carrasco and Cyril Szopa. <i>CNRS, Université J. Fourier, Grenoble, France</i>
<b>Paper 24</b>	<b>Volatile inventories in clathrate hydrates formed in the primordial nebula</b> Olivier Mousis*, Jonathan I Lunine , Sylvain Picaud and Daniel Cordier <i>Université de Franche-Comté, France</i>
11:20 <b>Paper 25</b>	<b>Concluding remarks: Title tba</b> Darrell F Strobel* <i>Johns Hopkins University, USA</i>
11.50	<b>Acknowledgements: tba</b>
12:00	<b>Close of session and Lunch</b>