

30 Years of PhotoDissociation Regions

A symposium to honor David Hollenbach's lifetime in science

June 28 - July 3 2015 Asilomar - USA

Sunday, June 28

- 4:30 PM Registration
6:00 PM Dinner

Monday, June 29

- 8:30 AM Welcome
8:40 AM PDRs: Their Prehistory and Possible Future Directions

Meixner & Tielens
David Hollenbach

Session 1: The Physics and Chemistry of PDRs

Chair: Michael Burton

- 9:20 AM Stars, Cars, and PDRs: The physics of PDRs
10:00 AM Dust temperature fluctuations and surface processes:
Impact on H₂ emission lines in PDRs
10:20 AM Coffee break
10:50 AM H₂ enhanced radiative grain alignment in IC63/IC59
11:10 AM The chemistry of PDRs
11:40 AM Photodissociation, chemistry, and isotope selection
12:10 PM Lunch

Mark Wolfire
Emeric Bron

B-G Andersson
Javier Goicoechea
Alan Heays

Session 2: Models of PDRs

Chair: Frank Bertoldi

- 2:00 PM Models of PDRs: State of the art
2:40 PM PDR model benchmark
3:10 PM Testing the KOSMA- τ 3D PDR code: The Orion Bar PDR
3:30 PM Coffee break
4:00 PM Molecular pillars in the sky and in the lab
4:20 PM PDRs vs XDRs vs CRDRs vs TDRs
4:50 PM A benchmark of CO emission as molecular cloud mass
indicator
5:10 PM Gas-ice chemical interplay in interstellar clouds
5:30 PM End of session
6:00 PM Dinner
8-10 PM Poster session and cash bar

Franck le Petit
Markus Roellig
Silke Andree-Labsch

Jave Kane
Rowin Meijerink
László Szűcs

Seyit Hocuk

Tuesday, June 30

Session 2: Models of PDRs, continued

Chair: Inga Kamp

- 8:30 AM The role of PAHs in PDRs

Olivier Berne

9:00 AM PAH emission in NGC2023: How subtle variations reveal sub-populations with different molecular structure and charge **Els Peeters**

9:20 AM Observational evidence of the evaporation of aromatic/aliphatic very small grains in the NGC 7023 PDR **Paolo Pilleri**

Session 3: Observations of PDRs in the Galactic Environment

9:40 AM Spitzer and Herschel observations of galactic PDRs **Asuncion Fuente**

10:10 AM Coffee break

10:40 AM Spectral mapping of galactic PDRs: Cooling and molecular diagnostics **Emilie Habart**

11:00 AM PDR Observations: From Herschel to SOFIA **Juergen Stutzki**

11:30 AM Near-infrared spectroscopy of galactic PDRs with AKARI **Takashi Onaka**

11:50 AM Herschel PACS and SPIRE spectroscopy of the photodissociation regions associated with S 106 and IRAS 23133+6050 **David Stock**

12:10 PM Lunch

1:30 PM Panel Discussion: Charting the future: Critical observations, laboratory studies, & model calculations
Moderator: Margaret Meixner. Panel: Frank Israel, Gary Melnick, Gordon Stacey, Amiel Sternberg, and Hans Zinnecker

Session 3: Observations of PDRs in the Galactic Environment, cont. Chair: Isabel Aleman

2:30 PM Linking laboratory and theoretical studies on molecular excitation with PDR observations **Laurent Wiesenfeld**

3:00 PM Coffee break

3:30 PM H₂ excitation and mapping in the Orion Bar with IGRINS **Kyle Kaplan**

3:50 PM HI-to-H₂ Transitions in the Perseus Molecular Cloud **Shmuel Bialy**

4:10 PM The carbon inventory in a cold, quiescent, filamentary molecular cloud **Michael Burton**

4:30 PM Complex organics in the Horsehead PDR **Viviana Guzmán**

4:50 PM Water in photodissociation region **Gary Melnick**

5:10 PM End of session

5:30 PM Ranger led nature walk

6:15 PM Dinner

Wednesday, July 1

Session 3: Observations of PDRs in the Galactic Environment, cont. Chair: Yvonne Pendleton

8:30 AM PDRs in circumstellar media **Jeronimo Bernard-Salas**

9:00 AM The photochemistry of stellar outflows **Leen Decin**

9:30 AM	The Herschel Planetary Nebula Survey (HerPlaNS): Molecules in the far-infrared spectra of planetary nebulae	Isabel Aleman
9:50 AM	The [CII] emission puzzle: Shocks or PDRs?	Nicola Schneider & Juergen Stutzki
10:10 AM	Coffee break	
10:40 AM	PDR Diagnostic diagrams: Guides to the underlying physics of FUV illuminated gas in galaxies	Michael Kaufman
11:10 AM	A photodissociation region in HII region N55 of the LMC	Nasim Neelamkodan
11:30 AM	Physical conditions of the warm molecular gas in the starforming region N159	Min-Young Lee
11:50 PM	The magnetic field in photodissociation regions	Marta Alves
12:10 PM	Lunch	

Session 4: PDRs, and Star and Planet Formation

Chair: Takashi Onaka

2:00 PM	PDRs and Star formation	Simon Glover
2:30 PM	PDRs and the structure of protoplanetary disks	Uma Gorti
3:00 PM	Extreme PDRs and XDRs: A multi-wavelength view into protoplanetary disks	Inga Kamp
3:35 PM	Coffee break	
4:05 PM	The evaporation of circumstellar disks, PDR models, and radiation fields in young star forming cluster	Fred Adams
4:25 PM	Shocks and PDRs from young stellar objects with Herschel	Agatha Karska
4:45 PM	Star formation near Sgr A*	Farhad Yusef-Zadeh
5:05 PM	End of session	
5:30 PM	Drinks	
6:00 PM	Banquet	

Thursday, July 2

Session 5: PDRs and the ISM of Galaxies

Chair:

8:30 AM	Extragalactic PDRs: The influence of LyC production rates and their escape fractions on the ISM and IGM	Mike Shull
9:10 AM	The origin of the CII line in the Milky Way	Jorge Pineda
9:40 AM	Structure of dark molecular gas in the galaxy: I - A pilot survey for 18-cm OH near $l \approx 105^\circ$, $b \approx +1^\circ$	Ron Allen
10:00 AM	Coffee break	
10:30 AM	[N II] Fine Structure Line Emission from the Milky Way	Paul Goldsmith & Jorge Pineda
10:50 AM	"Dark" gas in isolated interstellar clouds	Bill Reach
11:10 AM	Diffuse clouds as low density PDRs	Maryvonne Gerin
11:40 AM	Chemical probes of turbulence in the diffuse medium: The TDR model	Benjamin Godard & Edith Falgarone
12:00 PM	Lunch	

Session 5: PDRs and the ISM of Galaxies, continued**Chair: Bill Reach**

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| 2:00 PM | How we can constrain the transition from atomic to molecular hydrogen: A Planck-based approach to the "optically thick" HI 21 cm spectrum | Yasuo Fukui |
| 2:30 PM | Spatially resolved physical conditions of molecular gas: A zoom-in from circumnuclear region of M83 to Carina Nebula | Ronin Wu |
| 2:50 PM | PDRs in low metallicity environments | Amiel Sternberg |
| 3:20 PM | Coffee break | |
| 3:50 PM | Tracing and characterizing PDRs in nearby galaxies | Vianney Lebouteiller |
| 4:20 PM | Young photodissociation complexes in NGC 6822: Stars and semi-resolved PDRs | Lynn Carlson |
| 4:40 PM | The Herschel Dwarf Galaxy Survey: Gas properties at low metallicity | Diane Cormier |
| 5:00 PM | PDRs and molecular gas at low-Metallicity in the Small Magellanic Cloud | Katie Jameson |
| 5:20 PM | End of the afternoon session | |
| 6:00 PM | Dinner | |
| 8-10 PM | Posters session and cash bar | |

Friday, July 3**Session 6: PDRs in Starburst, (U)LIRG, and High-z Environments****Chair: Erick Young**

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| 8:30 AM | Witnessing the effects of massive star formation in 30 Doradus of the LMC | Mélanie Chevance |
| 8:50 AM | Molecular gas in Luminous galaxies | Frank Israel |
| 9:10 AM | PDRs in starburst and (U)LIRG environments | Eckhard Sturm |
| 9:50 AM | Probing the star forming ISM in high-z quasars | Frank Bertoldi |
| 10:10 AM | Coffee break | |
| 10:40 AM | Tracers of PDRs at high redshift | Gordon Stacey |
| 11:20 AM | HELLO-PDR: FIR lines from local and z=1-3 galaxies | Huan Yang |
| 11:40 AM | CH ⁺ (J=1-0) line detection in a high-z ultra-luminous galaxy SDP17b: The first probe of a massive turbulent halo | Edith Falgarone |
| 12:00 PM | Poster Prize Ceremony and Summary by SOC members | |
| 12:20 PM | Closure | |
| 12:30 PM | Lunch | |

Notes:

Breakfast is served between 7:30AM and 9:00 AM

Lunch is served between 12:00PM and 1:00 PM

Dinner is served between 6:00PM and 7:00 PM

The Registration Desk will be open on Sunday Between 4:30 PM and 6:00PM and Monday Morning, During the Coffee Break. For registration outside this time, please look for a LOC member.