



→ STAR FORMATION ACROSS SPACE AND TIME

11-14 November 2014
ESA/ESTEC, Noordwijk, The Netherlands

The objective of this meeting is to bring together astronomers interested in all aspects of star formation, from local galactic to extreme extra-galactic high-z conditions. The meeting poses the fundamental question: Are there universal processes of star formation across space and time?

Science Organising Committee

- Philippe André
- Steve Eales
- David Elbaz
- Bruce Elmegreen
- Neal Evans
- Yasuo Fukui
- Eve Ostriker
- Göran Pilbratt
- Nick Scoville
- Linda Tacconi

Invited Speakers

- Joao Alves
- Daniela Calzetti
- Avishai Dekel
- Phil Hopkins
- Shu-ichiro Inutsuka
- Frédérique Motte
- Toshikazu Onishi
- Paolo Padoan
- Florent Renaud
- Amiel Sternberg

Local Organising Committee

- Clare Bingham
- Göran Pilbratt
- Congrex - ESA Conference bureau

Star Formation across Space and Time

11 – 14 November 2014
ESA-ESTEC

Noordwijk, The Netherlands

Programme Book

Table of Contents

Committees	3
General Information	4
Science Programme	
Oral Presentations	
Tuesday 11 November 2014	5
Wednesday 12 November 2014	7
Thursday 13 November 2014	9
Friday 14 November 2014	11
Poster presentations	13

COMMITTEES

Scientific Organising Committee (SOC)

The SOC consists of:

Philippe André, CEA, Saclay, France
Steve Eales, Cardiff University, UK
David Elbaz, CEA, Saclay, France
Bruce Elmegreen, IBM, USA
Neal Evans, University of Texas, USA
Yasuo Fukui, University of Nagoya, Japan
Eve Ostriker, Princeton University, USA
Göran Pilbratt, ESA, Noordwijk, Netherlands
Nick Scoville, Caltech, Pasadena, USA
Linda Tacconi, MPE, Garching, Germany

Local Organising Committee (LOC)

The LOC consists of:

Clare Bingham
Göran Pilbratt
Congrex - ESA Conference Bureau

GENERAL INFORMATION

Taxi / Getting to the airport

In order to reserve a taxi, please consult the ESTEC Reception or send your request by email: Estec.Reception@esa.int

You can also book a taxi directly via Taxi Brouwer by calling **+31 71 361 1000** or sending an email to info@taxibrouwer.nl

If you wish to reserve the Airport Shuttle, please bear in mind to reserve a seat one day in advance. Purchase a ticket at the **ESTEC Main Reception** located in the A building (cash payment only). The costs for a one-way voucher are €13.50

Wireless Internet

All pre-registered participants have received their log-in details by email, sent by the ESA ServDesk. A copy of your login details is also available in the back of your badge.

Dinner

For those participants who have purchased a dinner ticket the venue for the dinner will be:

Authentic Indonesian Rice Table Restaurant

TAMPAT SENANG

Laan van Meerdervoort 6

2517 AJ The Hague

The Netherlands

Tel: + 31 - (0) 70 – 36 36 7 87

www.tampatsenang.nl

Admission to the dinner depends on the correct icon appearing on your badge after purchasing a ticket:



Oral Programme

Tuesday 11 November 2014

- 08:00 Registration
- 09:00 General Announcements
- 09:15 Welcome

Session 1: Where and how do stars form?

- 09:30 The Formation of Molecular Clouds and Galactic Star Formation | Inutsuka, Shu-ichiro
- 10:00 The Role of Interstellar Filaments in Regulating the Star Formation Efficiency on GMC Scales | André, Philippe
- 10:20 The Magnetic Field Structure of Interstellar Filaments and their Environment Inferred from Dust Polarization Observed by Planck | Arzoumanian, Doris
- 10:40 Understanding the Internal Substructure of Herschel Filaments | Hacar, Alvaro

11:00 Coffee break / Poster session

- 12:00 The star formation rate of molecular clouds | Padoan, Paolo
- 12:30 Is the IMF Universal ? | Chabrier, Gilles
- 12:50 A Complete Census of Dense Cores in Chamaeleon I: Results from an ALMA Cycle 1 Survey | Dunham, Michael (presented by John Tobin)

13:10 Lunch break

- 14:10 Schmidt's Conjecture and Star Formation in Galactic Molecular Clouds and External Galaxies | Alves, Joao
- 14:40 Cluster Formation Induced by Cloud-Cloud Collisions: The Case of Serpens South | Nakamura, Fumitaka
- 15:00 The Role of Ridges in High Mass Star Formation | Hill, Tracey (presented by Sylvain Bontemp)
- 15:20 Tracing Protostellar Environments from Low to High Mass with Herschel | Mottram, Joseph

15:40 Coffee break / Poster session

- 16:40 Dynamics of Ultracompact H II Regions: Confronting Theory with Observations | Peters, Thomas
- 17:00 Formation of Massive Filamentary Cloud Cores behind Shock Wave | Inoue, Tsuyoshi
- 17:20 Magnetized Prestellar Core Formation in Turbulent Cloud | Chen, Che-Yu
- 17:40 The Fine Structure of the Web of Interstellar Filaments in the Gould Belt Regions | Men'shchikov, Alexander
- 18:00 The Line-mass Power Spectrum of Interstellar Filaments - A Possible Link to the IMF ? | Roy, Arabindo

18:20 Reception / Poster session

- 19:20 First bus to Noordwijk hotels
- 19:45 Last bus to Noordwijk hotels

Wednesday 12 November 2014+B14

- 08:30 Registration
- 08:55 General Announcements

Session 2: Properties of star formation in the Milky Way, its satellites, and nearby galaxies

- 09:00 HOBYS and W43, Two More Steps Towards a Galaxy-wide Understanding of High-mass Star Formation | Motte, Frédérique
- 09:30 Formation of Extreme High-mass Star Clusters: Lessons on Galactic Mini-starbursts | Fukui, Yasuo
- 09:50 Triggered Massive Star Formation in W49 - A Model for Extragalactic Starburst Activity | Brandl, Bernhard
- 10:10 Star Formation in the Large Magellanic Cloud: Tracing an Evolution of Giant Molecular Clouds | Onishi, Toshikazu
- 10:40 ALMA Imaging of Arp 220 and NGC 6240 -- HCN and Dust | Scoville, Nick

11:00 Conference Photograph / Coffee break / Poster session

- 12:00 Star Formation in GMCs: Lessons from Herschel Observations of the Aquila Complex | Könyves, Vera
- 12:20 An Uncertainty Principle for Star Formation – the Failure of Galactic Star Formation Relations and a Solution for the Molecular Cloud Lifetime Problem | Kruijssen, Diederik
- 12:40 Star Formation in Nearby Galaxies: Evolution in your Neighborhood | Calzetti, Daniela

13:10 Lunch Break

- 14:10 How Herschel is Revolutionizing what we know of the Dust and Gas Properties of low Metallicity Dwarf Galaxies | Madden, Suzanne
- 14:30 The ISM Structure of Low-metallicity Star-forming Galaxies. | Cormier, Diane
- 14:50 Dust, Star-Formation and the ISM in the Outskirts of Galaxies | Smith, Matthew

- 15:10 Different IMFs in Local Group Stellar Clusters | Zaritsky, Dennis
- 15:30 HELGA: Star Formation and Dust Properties in Andromeda | Gear, Walter
- 15:50 Atomic Gas Cycles and Global Star Formation in Local Galaxies | Jaskot, Anne

16:10 Coffee break / Poster session

16:30 **Debate 1: Universality vs diversity of SF products and processes in the Local Group (IMF, SF efficiency, filaments, etc)**

Session 3: The galaxy 'main sequence' and 'feedback'

- 17:30 Galaxies on FIRE: Stellar Feedback Explains Inefficient Star Formation | Hopkins, Philip
- 18:00 The Evolution of Star Formation and Galaxy Morphology Revealed by the Deepest and Shallowest Herschel Surveys | Eales, Stephen

18:20 Poster session

- 19:00 Buses to Conference dinner
- 19:30 Buses to Noordwijk hotels

Thursday 13 November 2014

08:30 Registration

08:55 General Announcements

09:00 Compaction and Quenching in High-z Galaxies | Dekel, Avishai

09:30 The Main Sequence from Stars to Galaxies | Elbaz, David

09:50 The Role of Starbursts Across Cosmic Time | Hayward, Christopher

10:10 Bulge Growth and Quenching since $z = 2.5$ in CANDELS/3D-HST | Lang, Philipp

10:30 GOODS- & CANDELS-Herschel: On the Existence of the Main Sequence of Star Formation | Schreiber, Corentin

10:50 Coffee break / Poster session

11:50 Studying Stellar Feedback With Galactic Outflow Scaling Relations | Chisholm, John

12:10 Towards a Complete Census of Star Formation in Massive Galaxies at $z \sim 4$ | Wang, Tao

12:30 Evolution of the Galaxy Main Sequence in Semi-Analytic Galaxy Formation Models | Mitchell, Peter

12:50 Unveiling Obscured Star Formation and Dust Attenuation up to $z=4$ | Buat, Veronique (presented by Matthieu Bethermin)

13:10 Lunch Break

14:10 What Drives Star Formation in High Redshift Luminous and Ultraluminous Infrared Galaxies? | Kartaltepe, Jeyhan

14:30 Co-evolution of Starburst and Obscured AGN Activity in the Mass-SFR Plane at $z=2$ | Rodighiero, Giulia

14:50 Andromeda in All Colours: Dust Scaling Relations at Sub-kpc Resolution | Viaene, Sébastien

15:10 Coffee break / Poster session

15:30 **Debate 2: Universality vs diversity across scales and Hubble time, what scales matter?(internal vs external physics, small vs large scales, main sequence vs environment, etc)**

Session 4: Evolution of properties of star formation at cloud and galaxy scales with cosmic time

16:30 Stars' turbulent birth across space and time | Renaud, Florent

17:00 Beyond the Confusion: Enhancing our View of Star Formation at High Redshift via Cluster Lensing | Rawle, Tim

17:20 The Reversal of the "Star Formation - Density Relation" in a High redshift Cluster ? | Altieri, Bruno

17:40 ~~Cosmic Dichotomy in the Hosts of Star-Forming Galaxies at Low and High Redshifts | Magliocchetti, Manuela~~

18:00 Wine & cheese / Poster session

19:00 First bus to Noordwijk hotels

19:30 Last bus to Noordwijk hotels

Friday 14 November 2014

- 08:30 Registration
- 08:55 General Announcements
- 09:00 The HI-to-H2 Transition in Galaxy Star-Forming Regions | Sternberg, Amiel
- 09:30 The Evolution of the Dust and Gas Content in Galaxies | Santini, Paola
- 09:50 Molecular gas, stellar, and Dust Content in Typical L* Galaxies at $z=1-3$ | Dessauges-Zavadsky, Miroslava
- 10:10 Dust Obscured Star Formation Seen in the Far-Infrared | Inami, Hanae
- 10:30 Dust Formation History with Galaxy Evolution | Takeuchi, Tsutomu
- 10:50 Coffee break / Poster session
- 11:50 Compact Starbursts: Extreme Star Formation and Feedback at High Density | Diamond-Stanic, Aleks
- 12:10 CO/H2, C/CO, and OH/CO in the Early Universe: From High Ionization to Low Metallicity | Bialy, Shmuel
- 12:30 Warm Molecular Gas in Luminous IR Galaxies: Views from Herschel | Lu, Nanyao
- 12:50 The Birth of a Star Forming Clump in a Disk Galaxy at Redshift $z = 2$ | Zanella, Anita
- 13:10 Lunch Break
- 14:10 ~~Suppressed Star Formation in Massive Early Type Galaxies; the Impact of Galaxy Dynamics~~ | Davis, Timothy
- 14:30 The Evolving Interstellar Medium of Star Forming Galaxies Over the Last 10 Billion Years | Magdis, Georgios
- 14:50 The Cold Gas Reservoir in UV-bright Star-Forming Galaxies | Goncalves, Thiago
- 15:10 Direct Constraints on Dust Emission, UV Attenuation, and Dust-obscured Star Formation of $z=6.5-7.5$ Galaxies | Schaerer, Daniel
- 15:30 Coffee break

Session 5: Symposium Wrap-up

- 16:00 Wrap-up Session 1: Where and how do stars form? | Zinneker, Hans
- 16:10 Wrap-up Session 2: Properties of star formation in the Milky Way, its satellites, and nearby galaxies | Kruijssen, Diederik
- 16:20 Wrap-up Session 3: The galaxy 'main sequence' and 'feedback' | Hayward, Christopher
- ~~16:30 Wrap-up Session 4: Evolution of properties of star formation at cloud and galaxy scales with cosmic time | to be announced~~

- 16:40 Farewell

Nr. Posters Session 1: Where and how do stars form?

- 1.01 HII Regions and Star Formation Observed at their Edges in the Galaxy: Towards a Global Study | Andersen, Morten
- 1.02 Far-infrared and Submillimetre Studies of the Corona Australis Molecular Cloud | Bresnahan, David
- 1.03 Water Observations with Herschel/HIFI toward Massive Star-forming Regions | Choi, Yunhee
- 1.04 Some like it Cold: Starless Cores in the Pipe Nebula | Forbrich, Jan
- 1.05 A Dynamically Collapsing Core and a Precursor of a Core in a Filament Supported by Turbulent and Magnetic Pressures | Furuya, Ray

- 1.06 The Atomic Gas Segregation at Different Galactocentric Distances | Gazol, Adriana
- 1.07 Herschel PACS and SPIRE Spectral Mapping of the OMC 2 Region: Tracing the Morphology and Spatial Distribution of Shocked Gas in Outflows | González-García, Beatriz
- 1.08 Filamentary Cloud Formation by Gravitational Instability of Shocked Magnetized Gas Layers | Iwasaki, Kazunari
- 1.09 The Cold Environments of FU Orionis-type Eruptive Stars | Kóspál, Ágnes

- 1.10 Temperatures of Dust and Gas in the S140 High-mass Star-forming Region | Koumpia, E.
- 1.11 Multi-Wavelength Study of Lynds 1340, an Intermediate Mass Star Forming Region | Kun, Maria
- 1.12 Constraints on Star Formation in the Taurus L1495 Cloud from SPIRE/PACS Observations of Dense Cores As Part of the Herschel Gould Belt Survey | Marsh, Ken
- 1.13 The Chemical Variation in the Orion A Cloud Cores | Ohashi, Satoshi
- 1.14 Star Formation in the Cluster and Giant HII Region NGC 3603 | Paresce, Francesco
- 1.15 On the Class II Methanol Maser Periodic Variability due to the Rotating Spiral Shocks in the Gaps of Disks Around Young Binary Stars | Parfenov, Sergey
- 1.16 Prestellar Cores in the Ophiuchus Molecular Cloud: A JCMT and Herschel Joint Analysis | Pattle, Kate

- 1.17 The Role of Environment in Filament Formation and Evolution: Implications for Low and High-Mass Star Formation | Rivera-Ingraham, Alana
- 1.18 Probing the growth of IC5146 by filamentary accretion | Shimajiri, Yoshito
- 1.19 Molecular Line Modelling of IRDC Star-forming Cores | Shipman, Russell
- 1.20 Construction and Origin of the Giant Star Forming Complex G173 | Sobolev, Andrey
- 1.21 Disk Dissipation Timescale of Pre-main Sequence Stars | Takagi, Yuhei
- 1.22 Characterizing a Herschel-detected Sample of Very Red Protostars in Orion | Tobin, John
- 1.23 BoloSource() for the Analysis of Diffuse Emission and Crowded-field Photometry | Vavrek, Roland
- 1.24 The Massive Star-forming Region NGC 6334 from Scales of Filaments down to Clusters & cores: Molecular Gas Kinematics Derived from Submm Observations and Explored Using 3D Radiative Transfer Models | Zernicke, Alexander
- 1.25 Studies of Star Formation with SOFIA | Zinnecker, Hans

Posters Session 2: Properties of star formation in the Milky Way, its satellites, and nearby galaxies

- 2.01 Herbig Ae/Be disks: Linking Disk Geometry to Time-variability | Abraham, Peter
- 2.02 An Atomic and Molecular View of the Diffuse/dense Interface in the local ISM | Bernard-Salas, Jeronimo
- 2.03 The Roadmap for Star-forming Regions | Comito, Claudia
- 2.04 Dust Structure and Star-formation in Nearby Edge-on Galaxies | Holwerda, Benne
- 2.05 The star Formation Law in Tidal Dwarf Galaxies | Lisenfeld, Ute
- 2.06 What Drives Star Formation in Bars? | Lisenfeld, Ute
- 2.07 The Nature of the Herschel Clump Sources in the M16 Region and Ongoing Star Formation | Marston, Anthony

- 2.08 An All-sky Selection of YSO Candidates | Marton, Gábor
- 2.09 Origin and Excitation Mechanisms of the Warm CO, OH and CH⁺ in PDRs | Parikka, Anna
- 2.10 Characterising the Protostellar Population of the Magellanic Clouds with VLT/SINFONI | Ward, Jacob

Posters Session 3: The galaxy 'main sequence' and 'feedback'

- 3.01 The Molecular Gas Mass Function of Galaxies since $z \sim 3$, and Indirect M(gas) Estimates | Berta, Stefano
- 3.02 An Excess of Dusty Starbursts at $z=2.2$ | Dannerbauer, Helmut
- 3.03 The Sub Lyman-alpha Explorer: Mapping the Most Massive Stars and their Environmental Feedback in the Low-redshift Universe | France, Kevin
- 3.04 Gas-fuelling and Star-formation in Spiral Galaxies in the Group Environment | Grootes, Meiert
- 3.05 The role of AGN in the SFR-M* Plane: an Herschel Perspective | Gruppioni, Carlotta
- 3.06 Traces of Co-evolution in X-ray Absorbed QSOs with high SFR at $z \sim 2$ | Khan Alí Franco, Anuar
- 3.07 Combining Chemical Evolution and Spectral Synthesis Models to Constrain the Star Formation Properties of High-z Galaxy Populations | Lo Faro, Barbara
- 3.08 Investigating the Star Formation - AGN Interplay Through the Lens of the Star Formation Reference Survey (SFRS) | Maragkoudakis, Alexandros
- 3.09 ¹³C Fractionation in Photon-dominated Regions | Ossenkopf, Volker
- 3.10 The Star-formation Rate Cookbook: Recipes at $1 < z < 3$ | Talia, Margherita

Posters Session 4: Evolution of properties of star formation at cloud and galaxy scales with cosmic time

- 4.01 What are the Dust Properties of $z=3$ Lyman Break Galaxies | ÁlvarezMárquez, Javier
- 4.02 The Star-formation Rate of Young, Sub-solar Metallicity $z \sim 3$ LBGs in the CANDELS GOODS-South Field | Castellano, Marco
- 4.03 Star-formation Indications from HST and Spitzer Observations of High-redshift Galaxies | Holwerda, Benne

- 4.04 Can Weak Lensing Directly Probe the Stellar Mass of Galaxies? | Kobayashi, Masato
- 4.05 The Herschel/PACS Point Source Catalogue | Marton, Gábor
- 4.06 The Influence of Cluster Mergers on Galaxy Formation | Rawle, Tim
- 4.07 The Herschel-SPIRE Point Source Catalog (SPSC) | Schulz, Bernhard
- 4.08 Identification of $z>2$ Herschel 500um Sources in the GOODS-North Using Color-deconfusion | Shu, Xinwen
- 4.09 Constraining Star Formation Histories of IR-luminous High- z Galaxies with Herschel | Sklias, Panos

Tuesday 11 November 2014	
09:00	General Announcements
09:15	Welcome
09:30	Session 1: Where and how do stars form?
11:00	Coffee break / Poster session
12:00	Session continues
13:10	Lunch break
14:10	Session continues
15:40	Coffee break / Poster session
16:40	Session continues
18:20	Reception / Poster session
19:20	Bus transfers

Wednesday 12 November 2014+B14	
09:00	Session 2: Properties of star formation in the Milky Way, its satellites, and nearby galaxies
11:00	Conference photograph / Coffee break / Poster session
12:00	Session continues
13:10	Lunch Break
14:10	Session continues
16:10	Coffee break / Poster session
16:30	Debate 1
	Session 3: The galaxy 'main sequence' and 'feedback'
17:30	Session continues
18:20	Poster session
19:00	Buses to Conference dinner (Bus to Noordwijk at 19:30)

Thursday 13 November 2014	
09:00	Session continues
10:50	Coffee break / Poster session
11:50	Session continues
13:10	Lunch Break
14:10	Session continues
15:10	Coffee break / Poster session
15:30	Debate 2
	Session 4: Evolution of properties of star formation at cloud and galaxy scales with cosmic time
16:30	Session continues
18:00	Wine & cheese / Poster session
19:00	Bus transfers

Friday 14 November 2014	
09:00	Session continues
10:50	Coffee break / Poster session
11:50	Session continues
13:10	Lunch Break
14:10	Session continues
15:30	Coffee break
16:00	Session 5: Symposium Wrap-up
16:40	Farewell