

ANNEX II

I. SIMPOSIA

-> SIMP_1. An Astrochemical Perspective of Star Formation: Observations, Experiments, and Theory

SOC

Laura Colzi, Centro de Astrobiología (CAB), CSIC-INTA (co-chair)

Miguel Sanz-Novo, Centro de Astrobiología (CAB), CSIC-INTA (co-chair)

Clauda Toci, Universidad de Sevilla (US)

Pilar Redondo, Universidad de Valladolid (UVa)

Mario Tafalla, Observatorio Astronómico Nacional (OAN-IGN)

Marcelino Agúndez, Instituto de Física Fundamental (IFF-CSIC)

WEBSITE: <https://sites.google.com/view/astroperspective-sea/>

RATIONALE. Astrochemistry has become a fundamental pillar for understanding the physical and chemical processes governing the earliest stages of star formation and the emergence of planetary systems. This symposium will explore the chemical evolution of dust and gas from the initial assembly of molecular clouds, through prestellar cores and protostellar collapse, to the development of protoplanetary disks, the birthplaces of planets.

The session will focus on how molecular inventories trace the physical conditions and evolutionary history of star-forming regions. Special attention will be given to chemical complexity, isotopic ratios, levels of deuteration, and the compositions of ices and volatiles. These molecular signatures provide crucial insight into the physical processes driving star formation, including the evolution of dense cores, the dynamics of collapse, and the accretion pathways that assemble stars and planetary systems.

The symposium will integrate the **three fundamental pillars of modern astrochemistry as applied to star formation:**

(i) **Observations**, with emphasis on millimetre/submillimetre spectroscopy, interferometry, and large surveys using ground facilities (e.g., ALMA, NOEMA, IRAM-30m, Yebes-40m), space telescopes as JWST, and future facilities such as SKA and ngVLA, which provide the key molecular diagnostics of star-forming regions.

(ii) **Laboratory and theoretical astrochemistry**, encompassing laboratory studies of gas-phase spectroscopy of astrochemically relevant molecules, interstellar ice analogs, together with chemical modelling, gas-grain simulations, and quantum-chemical computations. Together they provide the essential framework for interpreting observational data and linking molecular signatures to the physics of star formation.

Beyond its scientific scope, the workshop aims to **strengthen collaboration networks among Spanish star formation and astrochemistry groups**, fostering dialogue between observational, experimental, and theoretical communities across Spain while maintaining strong international projection. By promoting interdisciplinary exchange and highlighting cutting-edge research, this symposium will offer a comprehensive view of how chemical evolution shapes the environments in which stars and planets (including our Solar System) form.

KEYWORDS: Astrochemistry - Interstellar Medium - Chemical Complexity - Radioastronomical observations - Laboratory Astrophysics - Computational Astrochemistry

STRUCTURE

Session 1. Observations - Chemistry in molecular clouds. Invited speaker: Víctor M. Rivilla (CAB, CSIC-INTA). Review talk: "The limits of complexity in the interstellar medium"

Session 2. Observations - Protostars and protoplanetary disks. Invited speaker: Álvaro Sánchez-Monje (ICE-CSIC). Review talk: "Observational perspectives on the chemical evolution of protostellar systems"

Session 3. Laboratory astrophysics & theory. Invited speakers: Belén Maté (IEM-CSIC) Review talk: "Quantum-chemical modelling of reaction mechanisms and kinetics in astrochemical environments"; and Antonio Fernández-Ramos (USC) Review talk: "Quantum-chemical modelling of reaction mechanisms and kinetics in astrochemical environments".

-> SIMP_2. Mocks catalogs for Stage-IV surveys

SOC

Sergio Contreras, (US) Chair
Jonás Chaves-Montero (IFAE) Chair
Violeta González-Pérez (UAM)
Sara Ortega-Martínez (DIPC)

WEBSITE: <https://sites.google.com/view/sea2026galaxyhaloconnection/home>

RATIONALE. Stage-IV galaxy surveys have become a reality, with DESI already releasing half of its final dataset, Euclid preparing its first data release, and LSST actively collecting observations. These surveys probe vast cosmological volumes with unprecedented precision and therefore hold the potential to deliver cosmological and galaxy formation constraints far beyond anything achieved to date.

However, many of the methodologies traditionally used to validate or extract cosmological information on intermediate and small scales were developed

for previous-generation surveys and are no longer sufficient. The wide redshift range covered by these new surveys, their complex selection functions, and the growing impact of baryonic physics, intrinsic alignments, and nonlinear galaxy bias make the modeling of astrophysical effects one of the primary challenges to fully realizing the scientific potential of these surveys.

The **primary goal of this symposium** is to promote and discuss new techniques for building mock catalogues that go beyond the traditional approaches. The main topics to be covered include:

- Beyond standard halo occupation models
- Baryonic effects
- Intrinsic alignments
- Beyond–two-point statistics
- Machine-learning and field level methods for mock construction

INVITED TALKS

Raúl Angulo (DIPC), Ginevra Favole (IAC), Jorge Carretero (CIEMAT), Elizabeth González (PIC)

-> SIMP_3. Getting Ready for the ELT: Scientific Opportunities and Spanish Technological Contributions

SOC

Pedro Amado González (IAA)
Jesús Gallego Maestro (UCM) co-Chair
Miriam García García (CAB) co-Chair
Begoña García Lorenzo (IAC) co-Chair
Jonay González Hernández (IAC)
Jorge Iglesias Páramo (IAA)
Francisco Najarro de la Parra (CAB)
Javier Piqueras López (CAB)
María Rosa Zapatero Osorio (CAB)

WEBSITE: <https://elt.cab.inta-csic.es/sea2026>

RATIONALE

With 39m diameter, the European Extremely Large Telescope (ELT) will be the largest optical-IR telescope in the world, unlikely to be paralleled by any other facility of the 30m class. Spain participates in three of the five ELT instruments, all approved and at different stages of development: HARMONI, MOSAIC and ANDES. These contributions will ensure the know-how and Guaranteed-Time access that will set the Spanish scientific community in a vantage position for the exploitation of the ELT. The horizon of beginning of operations is the early 2030s, but synergies with facilities that may not be available in the future (e.g. JWST) or large efforts for preparatory science, require that we begin working now.

Goals of this symposium:

- Informing our community about Spanish technical/technological contributions to ELT instrumentation.
 - Engaging the scientific community in preparation for ELT.
 - Inspiring the youngest generations to reflect on the science they will want to do in the next decades
 - Stimulating preparatory and synergistic observations with current observatories, including 10m-class telescopes and JWST, CTAO, SKAO, ALMA...
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-> SIMP_4. The reluctant universality of the star formation processes: from clumpy burstiness to steady state genesis**SOC:**

Sandra Zamora (SNS Pisa) Chair
Iker Millán Irigoyen (MPA) co-Chair
Asier Castrillo, (OAN) co-Chair
Ricardo Amorín (IAA)
Santiago Arribas (CAB)
Artemi Camps Fariña (UCM)
Santiago García Burillo (OAN)
Patricia Sánchez Blázquez (UCM)
Casiana Muñoz Tuñón (IAC)
Pablo Pérez-González (CAB)
Almudena Prieto (IAC)
Cristina Ramos Almeida (IAC)

WEBSITE: <https://formacionestelar.weebly.com>

RATIONALE. The foundational processes of star formation are already well established, however recent studies driven by new facilities (ALMA, JWST ...) have raised new questions with no easy answer.

- High redshift observations have highlighted a new mode of star formation, characterized by compact, clumpy, and frequently merging systems. **How do we connect the transition from merger-driven growth to the disk-dominated systems of the Local Universe?** Are Extreme Emission Line Galaxies (EELG) that missing link and which are the differences and similarities of these analogs with respect to the high redshift galaxies? How do these systems evolve and what we can learn from one another?
- Galaxy interaction and environmental mechanisms play a key role in different star formation scenarios. Overdensities or voids nature guide the system evolution, while local effects can drastically alter their path. **Could we point to significant differences that discriminate between these star formation modes outcomes?**

- The interplay between active galactic nuclei (AGN) feedback and star formation plays a crucial role in the galaxy evolution regulation. Nonetheless, high spatial resolution studies have shown nuclear HII regions as gas contestants against the black hole activity, defying the quenching mechanism. **Until what scale does the AGN produce a positive or negative feedback?**

Across every of these aforementioned scenarios, observations yield the same galactic scaling relations. Besides, we usually assume the same microphysics, and the Initial Mass Function (IMF) does not require any significant alteration. **How is it possible that remarkably diverse modes of star formation lead to such consistent results?**

This symposium aims to delve into the physical mechanisms that define each of these modes of star formation. Our goal is to provide a comprehensive overview of this topic and start an enriching discussion that can define new methodologies to address the recent challenges in galaxy evolution.

- KEYWORDS:

High redshifts. Local HII regions. Interactive system. Extreme Emission-Line Galaxies. Star formation. Stellar-driven feedback. AGN-driven feedback. AGN-galaxy evolution. Galaxy winds.

-> SIMP_5. From the ISM to exoplanets and high-redshift galaxies: new insights from JWST

SOC

Ismael García Bernete (CAB) chair
Laura Hermosa Muñoz (CAB) co-chair
Miguel Pereira Santaella (IFF) co-chair
Alba Aller Egea (OAN)
Anibal García Hernández (IAC)
Miriam García Santa-María (IFF)
Rafael Luque (IAA)
Silvia Mateos Ibáñez (IFCA)
Isabel Rebollido Agencia Espacial Europea (ESA)
Álvaro Sánchez Monge (ICE)

WEBSITE: <https://sites.google.com/view/sea2026-newinsightswithjwst/>

RATIONALE. The James Webb Space Telescope (JWST) has opened an unprecedented window into the Universe, enabling observations from our own Solar System to the most distant galaxies. Its unique combination of sensitivity, and spatial and spectral resolutions in the 0.6–28 μm range allows detailed studies of diverse astrophysical environments, from the interstellar medium and galaxies to exoplanetary atmospheres. The Spanish astronomical community has played a key role in JWST's scientific development, and this symposium aims to highlight its contributions across multiple fields to enable scientific as well as technical discussions that might open new

collaboration avenues.

The session is organized into three thematic blocks: i) Galaxies; ii) ISM and Stars; and iii) Solar System and Exoplanets. The first block will focus on galaxy formation and evolution, active galactic nuclei, star formation activity, and the properties of distant galaxies, including their stellar populations, dust, and gas content. The second block will explore the lifecycle of the interstellar medium, from star formation to stellar end-of-life ejecta that enrich the ISM with dust grains and complex molecules. Finally, the third block will cover atmospheric characterization of exoplanets, the study of planetary systems, and observations of comets, asteroids, and other small bodies.

This symposium will **bring together the Spanish astronomical community working with JWST** to discuss questions as follows:

- How do galaxies form and evolve? How does AGN feedback shape galaxy evolution across cosmic time?
- What insights can JWST provide on the formation and early/late evolution of stars and planetary systems?
- How do observations of exoplanets and the Solar System's small bodies inform models of their composition?

By combining observational results, theoretical modeling, and comparative studies across diverse environments, the session aims to provide a comprehensive overview of the Spanish contribution to JWST science and its impact on understanding the Universe from our own Solar System to the most distant galaxies.

KEYWORDS: JWST, galaxy formation and evolution, AGN, star formation, ISM, stellar populations, stellar evolution, exoplanet atmospheres, planetary systems, Solar System, small bodies, dust and gas, complex molecules.

- 1) Galaxy formation and evolution
- 2) Interstellar medium, star formation, and feedback
- 3) Solar System and exoplanet characterization

-> **SIMP_6. Computational Galaxy Formation & Large-Scale Structures**

SOC

Arianna Di Cintio (ULL/IAC) Chair

José Oñorbe Bernis (US) co-Chair

Susana Planelles (UV)

Raúl Angulo (DIPC/Ikerbasque)

Daniel Ceverino Rodríguez (UAM)

WEBSITE: <https://sites.google.com/view/sea2026-symp-comp-galform-lss/home?authuser=0>

RATIONALE. Over recent years, the Spanish community working on computational studies of galaxy formation and large-scale structure has reached a level of maturity

and critical mass that motivates the creation of a dedicated forum within the SEA meeting. This symposium aims to bring together researchers involved in state-of-the-art numerical simulations across a wide range of scales, from high-resolution models of galaxy internal physics to next-generation cosmological volumes reproducing the cosmic web.

The symposium will provide a platform to:

- Present recent scientific results in galaxy formation and numerical cosmology
- Foster scientific and technical synergies between groups
- Encourage new national and international collaborations
- Highlight methodological advances, including machine learning, advanced data analysis, and alternative cosmological models

Topics will include (but are not limited to): dwarf galaxies, spiral galaxies, the Local Group, galaxy clusters, large-scale structure, comparisons with major observational surveys (e.g. Euclid, DESI, Gaia), and simulations in non-standard cosmological frameworks.

The symposium is planned to consist of **three 1.5/2 hours blocks**, including two introductory reviews, invited focused talks and contributed presentations.

Both **oral contributions and e-posters** will be accepted.

Invited Speakers:

Isabel Santos-Santos (Durham Uni) - Review - Simulations of dwarfs and Milky Way-like galaxies

Weiguang Cui (UAM) - Review- Cluster of galaxies in simulations

Jorge Sarrato Alos – Focus Talk- Machine Learning methods applied to simulations of galaxies

Yetli Rosas Guevara- Focus Talk - Dark matter and Large scale structures in simulations.

Moritz Fisher - Focus Talk - *SIDM simulations in DM-only and hydro framework.*

Marta Reina-Campos - Focus Talk - *Simulations of star clusters as links between galaxy evolution and star formation.*

-> SIMP_7. Igniting stars, crafting planets: The multiscale journey of star and planet formation

SOC

Álvaro Sánchez-Monge (ICE-CSIC) Chair

Gemma Busquet (UB) Chair

Gisela Esplugues (OAN)

Manuel Fernández-López (ICE-CSIC)

Valentin Le Gouellec (ICE-CSIC)

Josep Maria Masqué (UB)

Núria Miret-Roig (UB)

David Navarro-Almaida (CAB)

Mayra Osorio (IAA-CSIC)
Adriana Rodríguez-Kamenetzky (IATE)
Asako Sato (ICE-CSIC)

WEBSITE: <https://workshops.ice.csic.es/e/sea2026-starplanetformation>

RATIONALE. Understanding the processes governing the **formation of stars and planets** represents one of the frontiers of contemporary astrophysics. Newly formed stars significantly influence the morphological, dynamical and chemical structure of their host galaxies; while the formation and evolution of protoplanetary disks around them set the properties of planetary systems. Despite its relevance, the **multifaceted and multiscale nature** of star and planet formation renders it a complex scientific venture. In essence, stars and planets form via the gravitational collapse of slowly rotating, magnetized dense gas condensations embedded within larger molecular clouds. This requires an intricate relation between macrophysical (gravity, turbulence, magnetic fields) and microphysical (ionization, cosmic rays, dust particles, chemistry) processes over a wide range of spatial scales. As a result, a comprehensive understanding necessitates a holistic examination of all these processes and their interactions at multiple spatial scales.

This symposium seeks to provide a comprehensive overview of *current research and advances in the field of star and planet formation*, covering topics ranging from the interstellar medium and molecular clouds down to protoplanetary disks and planet formation. The scope includes the study of molecular clouds as the birthplaces of stars; star formation across the mass spectrum; and dust properties as a major player in cooling processes, chemistry and planet formation.

By fostering interdisciplinary discussions, the symposium will bring together a wide spectrum of researchers, from specialists in molecular cloud physics to those investigating star, disk and planet formation, aiming to **advance our understanding of star and planet formation as a multiscale astrophysical phenomenon**. This symposium builds on the success of the previous symposium "On the Origin of stars and their planets: A holistic view" held in 2024 during the SEA scientific meeting, and aims at establishing and strengthening collaboration networks among Spanish research groups, helping to establish continuity in this field of research.

STRUCTURE

Session 1: Molecular clouds: formation and evolution of stellar cradles

Review Talk (tentative title): *Deciphering the structure of molecular clouds: the sites of star formation*

Josefa Großschedl (University of Prague, Czech Republic) – TBC

Session 2: Star formation: from darkness to light

Review talk (tentative title): *Collapse of dense cores: accretion disks, jets and chemical evolution*

Aina Palau (Instituto de Radioastronomía y Astrofísica, Mexico) - TBC

Session 3: Protoplanetary disks: setting the seeds of planets

Review talk (tentative title): *Dust evolution in protoplanetary disks: from grains to pebbles and planets*

Álvaro Ribas (University of Cambridge, UK) - TBC

KEYWORDS

star formation - planet formation - interstellar medium - molecular clouds - stellar clusters – astrochemistry

II. SESIONES ESPECIALES

SESP_1. Gaia DR4: contents, tools and science prospects

SOC

Xavier Luri (ICCUB-IEEC) Chair

Giuseppina Battaglia (IAC) co-Chair

Teresa Antoja (ICCUB-IEEC)

Maria Camisassa (UPC),

Andrés del Pino (IAA)

Ignacio Negueruela

Héctor Cánovas (ESAC),

Jordi Portell (UB)

Mercè Romero-Gómez (ICCUB-IEEC)

Chloé Padois (ICCUB-IEEC)

Michelangelo Pantaleoni (U. Viena)

Xabier Pérez-Couto (UDC)

RATIONALE. SEA-2026 will take place less than six months before the launch of Gaia DR4, making it the perfect opportunity to provide a first glimpse and discuss some of the exciting new features that Gaia DR4 will offer previously unpublished data products and processing pipelines. This special session will also offer an excellent opportunity to exchange know-how between engineers and scientists, giving early-career researchers—and the Spanish Gaia community as a whole—an assessment of the new window opened by 66 months of mission data processed at unprecedented quality

STRUCTURE. The session will be organized into two parts: the first focused on general aspects of the DR4 contents, and the second featuring short talks highlighting the scientific advances that DR4 can bring to participants' research.

First part:

DR4: Comprehensive overview of its development by an engineer(15m+5m)

DR4: Key Updates and New Data Features by a DPAC scientist (15m+5m)

DR4: Tools Under Development for a Successful Science (15m+5m)

Second part:

Short talks – 5-10 minutes each– covering the areas in which the Spanish REG community is currently working. Special emphasis on the work being carried out by early-career scientists. **Posters are welcome.**

SESP_2. Sustainable Science: Reducing the Ecological Footprint of Astronomy

RATIONALE. This session is dedicated to equipping members of the Spanish Astronomical Society (SEA) with the knowledge and actionable tools necessary to embed sustainability into their professional lives.

We will begin by providing visibility to the crucial environmental actions already underway across the SEA and abroad, highlighting successful initiatives from various committees, observatories, and organizational bodies.

The core of the session will deliver a practical guide focused on easy integration: how to build sustainability considerations into your research projects, calculate your footprint of your travels and your code, frame discussions in your talks, teaching materials, publications. Crucially, we will place specific emphasis on strategic infrastructure planning. We advocate for the formal implementation of the Environmental Life Cycle Assessment (ISO 14040) as a best practice standard for all future development and upgrades of astronomical facilities and instrumentation. This ensures a rigorous, "cradle-to-grave" approach to minimizing environmental impact.

The session will conclude with an open roundtable, inviting all attendees to discuss these actionable points, share insights, and collaboratively define the next steps for a more sustainable Spanish Astronomy community.

SOC

Lola Balaguer Núñez (IEEC-ICCUB) Chair

Romano Corradi (GTC) co-Chair

Jorge Hernández Bernal (U Sorbonne/UPV), co-Chair

Ignacio Martínez-País (IAC)

Pablo Arnalte (UV),

Carlos Abia (UGR)

Review talk. "Introduction to the Environmental Life Cycle Assessment (LCA) methodology"

Romano Corradi (Grantecan)

Posters are accepted.

SESP_3. The role of the internal and external processes that shape Milky Way analogues

SOC

Teresa Antoja (ICC-UB) co-Chair

Salvador Cardona-Barrero (IAC, ULL) co-Chair

Adriana de Lorenzo-Cáceres Rodríguez (IAC, ULL) Chair

Jairo Méndez-Abreu (IAC, ULL) co-Chair
Mercè Romero (ICC-UB) co-Chair
Yetli Rosas-Guevara (UCO) Chair
Contact: yetrog@gmail.com

RATIONALE. The formation of spiral galaxies, including our Milky Way (MW), is a highly complicated and non-linear process, with a number of different external and internal mechanisms involved in the regulation of star formation and the morphological shaping of the MW-like spirals that we observe today. To what extent may the MW be considered a typical galaxy? Does this galaxy conform to the typical characteristics of a spiral galaxy, or does it possess any unique or exceptional features?

The new and upcoming surveys (e.g., Apogee, MOONS, WEAVE, LSST, 4MOST) and facilities (e.g., ALMA; Rubin; JWST; Nancy Grace Roman Space Telescope) are allowing us to explore galaxy properties farther and farther in the Universe, significantly enhancing our view on how these MW-like spiral galaxies could be formed since early times and how their structures, such as spirals, bulges, and bars, are linked to each other and change due to external/internal processes. On the other hand, recent zoom-in cosmological simulations (Eris, NIHAO, AURIGA, etc.) have been able to reproduce a MW-like galaxy with high resolution. We are thus able to follow the history of their structures, including external processes. Large cosmological simulations of entire galaxy populations (Illustris, Eagle, HorizonAGN, etc) are also starting to resolve in detail the MW galaxy structures, providing statistically significant samples to study. All this progress will significantly enhance our understanding of how these galaxies form and evolve.

In this Special Session, we aim to bring together the community studying MW analogues as well as the Milky Way itself, particularly early-stage researchers who will have a leading role in the revolution to come. We aim to address key issues concerning which observables are relevant to distinguish the external and internal processes that affect these galaxies and can be measured in current and new cosmological simulations.

In summary, we will discuss the expectations for the immediate future from new-generation telescopes, instruments and simulations.

KEYWORDS. Milky Way and Analogues, galaxy formation, disc galaxies, bars, bulges, cosmological simulations, surveys, stellar populations.

SESP_4. Colaboración Proam en España: ¿qué hacemos bien y qué mal?

(1. Galaxias; 3. Vía Láctea y sus componentes; 5. Física Planetaria; 6. Instrumentación y Supercomputación; 7. Enseñanza, Divulgación y Patrimonio

SOC

Iñaki Ordóñez-Etxeberria (Planetario de Pamplona), Chair
Ana Guijarro Román (CAHA) co-Chair
Salvador Ribas (PAM/UB) co-Chair

Patricia Cruz (CAB/SVO)
Ángel López-Sánchez (U. Macquarie)
Itziar Garate Lopez (UPV)
Joaquín Álvaro (Presidente FAAE)
Enrique Díez Alonso (UO, ICTEA)

WEBSITE: <https://proam.sea-astronomia.es/>

RATIONALE. El objetivo principal de esta sesión es constatar el estado actual de las **colaboraciones entre profesionales y amateurs en España**. Confirmar si los retos y esfuerzos que se están llevando a cabo para promover y facilitar estas colaboraciones son realmente eficientes. Queremos plantear y discutir qué acciones podemos realizar para subsanar las deficiencias existentes y estrechar aún más los lazos entre ambas comunidades. Queremos mostrar a toda la comunidad de la SEA los beneficios que estos trabajos mixtos ofrecen a la investigación científica.

En la sesión nos gustaría tener una mesa redonda como punto fuerte, donde poder recoger todas las impresiones desde los dos ámbitos (amateurs y profesionales). Invitaremos a colaboradores que nos puedan contar los éxitos y los problemas para intentar abordarlos desde la Comisión, así como poder comprobar el resultado de las actividades que estamos realizando todos estos años.

SESP_5. Scientific highlights of ultra-wide band radio astronomy with the Yebes 40m RT

SOC

José Cernicharo
Izaskun Jiménez-Serra
Belén Tercero
Cristina García-Miró
Gisela Esplugues
Javier Alcolea.

RATIONALE. This special session showcases the most relevant results from the 40-meter radio telescope (40mRT) of the Yebes Observatory. The Yebes Observatory is classified as an “Infraestructura Científica y Técnica Singular” (ICTS) thanks to the 40mRT facility, which represents a cutting-edge instrument in astrochemistry.

Following the installation of the Nanocosmos ultra-wideband receivers at the 40mRT in 2019, this instrument has detected the largest number of new interstellar molecules to date (100 out of the total 340 molecules detected since 1960). Furthermore, the 40mRT actively participates in international VLBI networks: the European VLBI Network and the Global Millimeter VLBI Array, having contributed to the first simultaneous image of the M87 black hole and jet at 86 GHz.

This Special Session is devoted to the science that led to the detection of 100 new molecular species in space, highlighting the ultrasensitive line survey projects at the Q band (32-50 GHz) that have ushered in a new era for astrochemistry. These include: the QUIJOTE project, which explores the chemistry of TMC-1, a **prestellar** core rich in large carbon chains that has challenged the community due to its large abundances of polycyclic aromatic hydrocarbons; the line survey of G+0.693-0.027, a cold cloud near the **Galactic Center** acting as a factory of prebiotic molecules; and the line survey towards the **carbon-rich** AGB star IRC+10216, a source of metallic molecules. In addition, maser monitoring projects of dying stars and new and promising line surveys towards **star-forming** regions will complete the most significant single-dish results of this unique facility.

KEYWORDS: astrochemistry; line surveys; molecules: detection; radiotelescopes

STRUCTURE

Review talk: "New science with ultra-wide band radio astronomical receivers. The QUIJOTE line survey". José Cernicharo.

(15'): "The G+0.693-0.027 survey"

(15'): "Prebiotic molecules in the Galactic Center".

(15'): "SANCHO: mapping the largest molecules of the Universe"

(15'): "New molecular species in a Red Giant, IRC+10216"

(15'): "Q-band surveys of molecular clouds: Orion KL and L183"

(15'): "First extensive scientific use of the 40m: SiO maser monitoring"