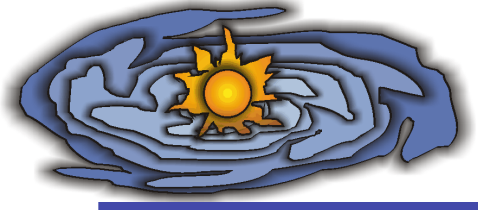
“ESTALLIDOS”

the project

José M. Vílchez
IAA-CSIC



The project

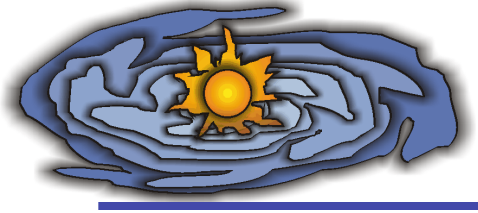
The role of starbursts in galaxy formation and evolution: Estallidos 5

"Estallidos" is a PNAYA Coordinated Project with four nodes:

Tenerife: ***-Instituto de Astrofísica de Canarias***
node IAC IP C. Muñoz

Granada: ***-Instituto de Astrofísica de Andalucía***
node IAA–CSIC Coord. IP J.M. Vílchez

Madrid: ***-Universidad Autónoma de Madrid***
node UAM IP A.I. Díaz
-CIEMAT ***+ CAB (CSIC-INTA) & ESAC***
node CIEMAT IP M. Mollá



Science programs

Research is organized in FOUR OBJECTIVES with their own specific goals; and all together will contribute to the main objective of ESTALLIDOS: understanding the interplay of massive SF with the gas, dust and stellar content in galaxies & characterizing the SF process at the extremes of galaxy mass, luminosity, metallicity and environment

=> identify the key parameters driving massive star formation in different environments.

OBJECTIVES:

1: Interplay between massive SF and the interstellar medium in galaxies
2: Local laboratories for the understanding of galaxy disk formation
3: Rôle of the environment on massive SF and evolution of galaxies
4: Extreme starbursts in the Universe

Each program is leaded by a node & researchers from the different nodes are involved in all the programs

ESTALLIDOS started formally as a coordinated team to study the formation and evolution of massive stars in starbursts in the Plan Nacional I+D back in 2001.

The seed of the group originated from the activities of the GEFE (*Grupo de Estudios de Formación Estelar*) group, first formed as a team in 1990 for the scientific exploitation of the 5% CCI International Time awarded in all the telescopes of the Canarian Observatories.

The ESTALLIDOS team is in an ideal position to identify and make progress on the most challenging topics in the field, thanks to the expertise we have gained along more than 10 years of working in collaboration.

The ESTALLIDOS Team along these years has contributed significantly to many national and international projects and consortia, among others:

- CONSOLIDER INGENIO 2010 "1st Science with GTC"
- EMIR –> EAST
- MEGARA -> Science Team & Construction Consortium
- CALIFA
- IRSES -> SELGIFS
- SHARDS
- WEAVE

We benefit from the advantage of being a large but well coordinated team, sharing deep expertise on the different techniques of multi-wavelength studies, observational methods and theoretical modeling.

Members of our research team have contributed significantly to this research field, both from the observational side and also with theoretical modeling.

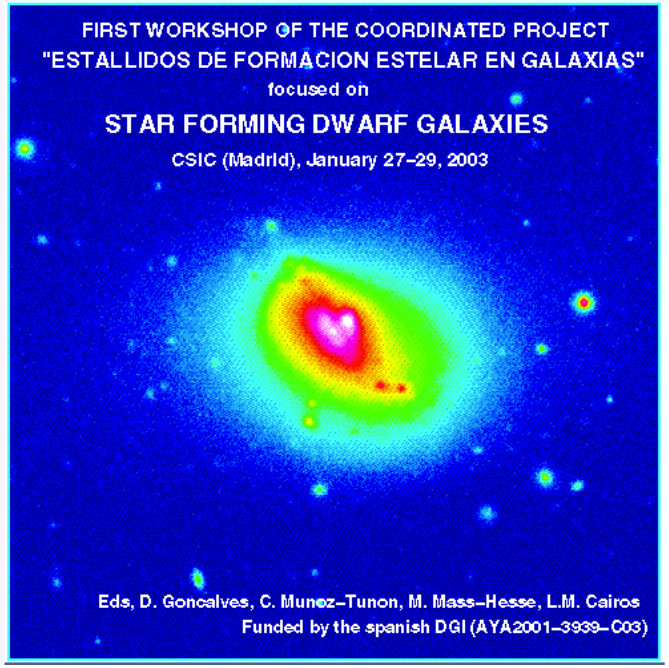
Currently *ESTALLIDOS* is in the 5th edition of the project.
Seven new PhDs were defended and more than 300 ref. journal papers published in the 4th edition that finished in 2014.

Our network organize: ESTALLIDOS WORKSHOPS & SPECIFIC SEMINARS

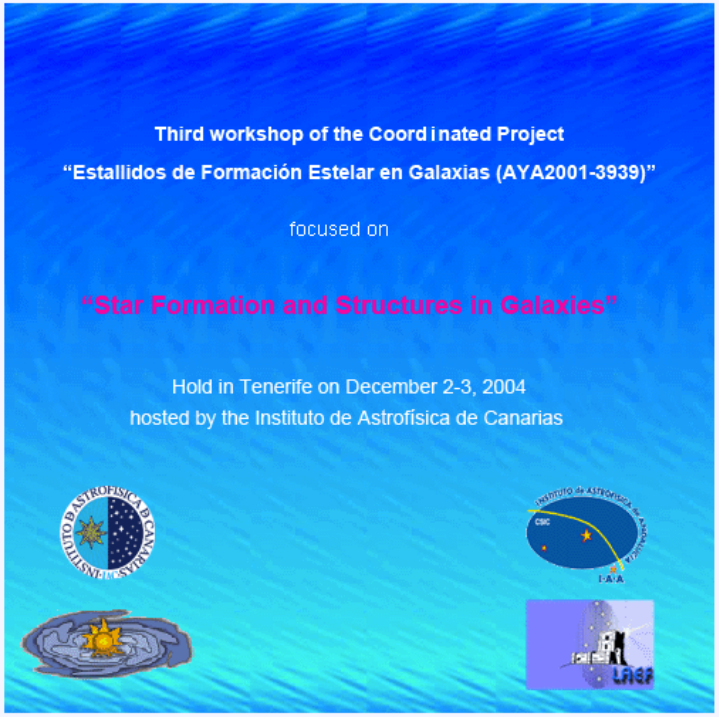
Why are we here this week?

X ESTALLIDOS WORKSHOP

CENSUS AND FUNDAMENTAL PROPERTIES OF STAR-FORMING GALAXIES


FIRST WORKSHOP OF THE COORDINATED PROJECT
"ESTALLIDOS DE FORMACION ESTELAR EN GALAXIAS"
focused on
STAR FORMING DWARF GALAXIES
CSIC (Madrid), January 27-29, 2003
Eds, D. Goncalves, C. Munoz-Tunon, M. Mass-Hesse, L.M. Cairos
Funded by the spanish DGI (AYA2001-3939-C03)


SECOND WORKSHOP OF THE COORDINATED PROJECT
"ESTALLIDOS DE FORMACIÓN ESTELAR EN GALAXIAS"
focused on
MASSIVE STAR FORMATION IN DIFFERENT ENVIRONMENTS
Granada, January 26-28, 2004
hosted by the IAA (CSIC)
Scope & Organization
Proceedings
Participants
Location
Photo Gallery


Third workshop of the Coordinated Project
"Estallidos de Formación Estelar en Galaxias (AYA2001-3939)"
focused on
"Star Formation and Structures in Galaxies"
Hold in Tenerife on December 2-3, 2004
hosted by the Instituto de Astrofísica de Canarias


IV WORKSHOP DEL PROYECTO AYA2004-08260
ESTALLIDOS
DE FORMACIÓN ESTELAR EN GALAXIAS
"UNA APROXIMACIÓN MULTIFRECUENCIA DE LA FORMACIÓN ESTELAR EN GALAXIAS"
"A MULTIWAVELENGTH APPROACH TO STAR FORMATION IN GALAXIES"
Tendrá lugar en Madrid los días 26 y 27 de enero del 2006 con el C.I.E.M.A.T. como anfitrión.
To be held in Madrid in January 26-27, 2006 hosted by the C.I.E.M.A.T.

V Workshop "Estallidos de Formación Estelar en Galaxias"

Star Formation and Metallicity

28 February - 2 March 2007

Nuestro querido colega de "Estallidos", Eduardo Delgado Donate, falleció trágicamente junto con otros cinco compañeros de excursión, en la localidad de Los Silos (Tenerife) el 10 de Febrero de 2007. Aunque su presencia física entre nosotros ya no es posible, queremos dedicar esta reunión científica a su memoria.

IAA-CSIC IAC CIEMAT UAM CAB-INTA-LAEFF-ESAC

Estallidos

VI Workshop

The Star Formation Impact y Estallidos - GTC

IAC

IAA-CSIC

CAB-INTA-LAEFF-ESAC

Grupo de Astrofisica

UAM

8th Workshop ESTALLIDOS DE FORMACIÓN ESTELAR EN GALAXIAS: CHALLENGES FOR THE NEW DECADE

Salobreña (Granada), March, 8th - 10th 2010

NEW: THE PICTURES OF THE WORKSHOP

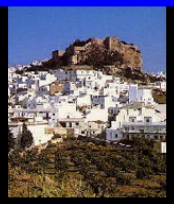
Main page

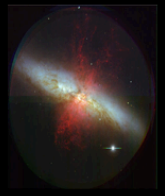
Lodging

Scientific program

Participants

Arrival





IAA-CSIC IAC UAM CIEMAT CAB-INTA-LAEFF-ESAC

VII workshop

Estallidos de formacion estelar

Formacion de investigadores e impacto academico

Madrid, enero 2009

IAA-CSIC IAC Grupo de Astrofisica CIEMAT CAB-INTA-LAEFF-ESAC

Mini Workshop Estallidos with Integral Field Units - IFUS
Granada - IAA. June, 17th - 19th, 2009

HOME | ORG. COMMITTEE | KEY. SPEAKERS | REGISTRATION | PARTICIPANTS | PROGRAM | LODGING | TRAVEL

NEW !!! : The pictures of the workshop

Advances in Astronomy

Metals in 3D: A Cosmic View from Integral Field Spectroscopy

Guest Editor: Jorge Iglesias-Páramo, José Manuel Vílchez Medina, Polychronis Papaderos, and Martin M. Roth

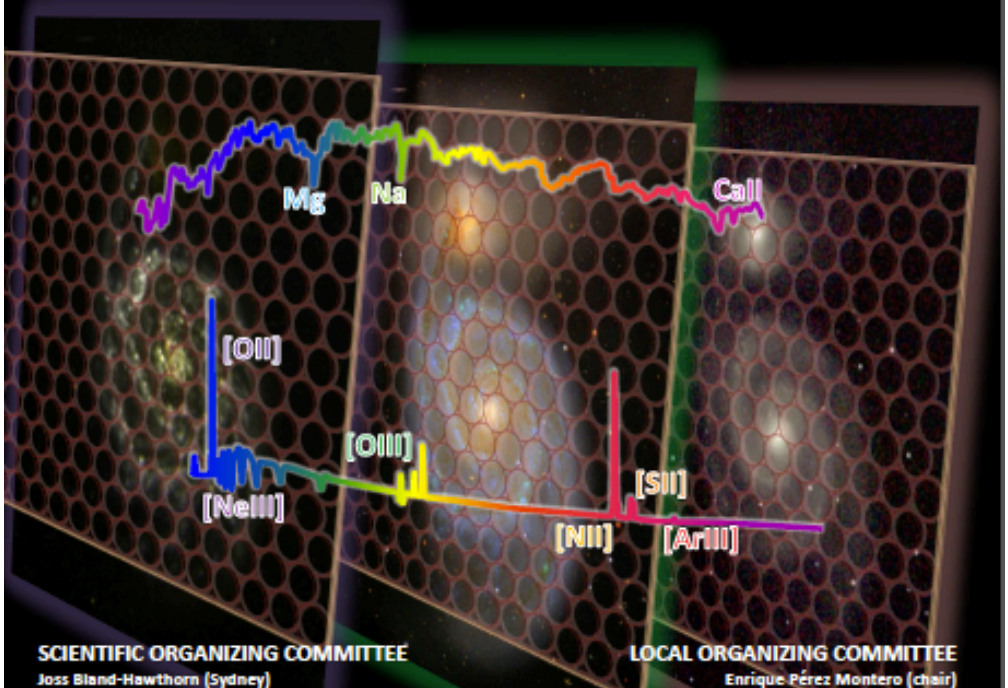
Metals in 3D

New insights from Integral Field Spectroscopy

April 18th – 20th 2012

Palacio de los Condes de Gabia, Granada (Spain)

Organized by **Instituto de Astrofísica de Andalucía - CSIC** and **AIP - innoFSPEC** for the **RIA**



SCIENTIFIC ORGANIZING COMMITTEE

Joss Bland-Hawthorn (Sydney)
Beatriz Barbuy (Sao Paulo)
Angeles Díaz (Madrid)
Eric Emsellem (ESO, Garching)
Gerhard Hensler (Vienna)
Martin M. Roth (Postdam, co-chair)
Casiana Muñoz-Tuñón (La Laguna)
Linda Smith (Baltimore)
Roberto Terlevich (Puebla & Cambridge)
José M. Vílchez (Granada, co-chair)

LOCAL ORGANIZING COMMITTEE

Enrique Pérez Montero (chair)
Ricardo Amorín
Esther Calle
Alba Fernández Martín
Rubén García Benito
Jonathan Hernández Fernández
Jorge Iglesias Páramo
Carolina Kehrig
Ana Monreal Ibero
Vasiliki Petropoulou

workshop estallidos 2015:
census and fundamental properties of star-forming galaxies
granada may 11th-13th 2015

rationale & topics **comittee** **participants** **programme**

The 10th workshop of the Spanish coordinated project *Estallidos de formación estelar en galaxias* will be held in Granada in the *Carmen de la Victoria* at Albayzin hill (click here for a situation map) from 11th to 13th May 2015 organized by the Instituto de Astrofísica de Andalucía - CSIC.

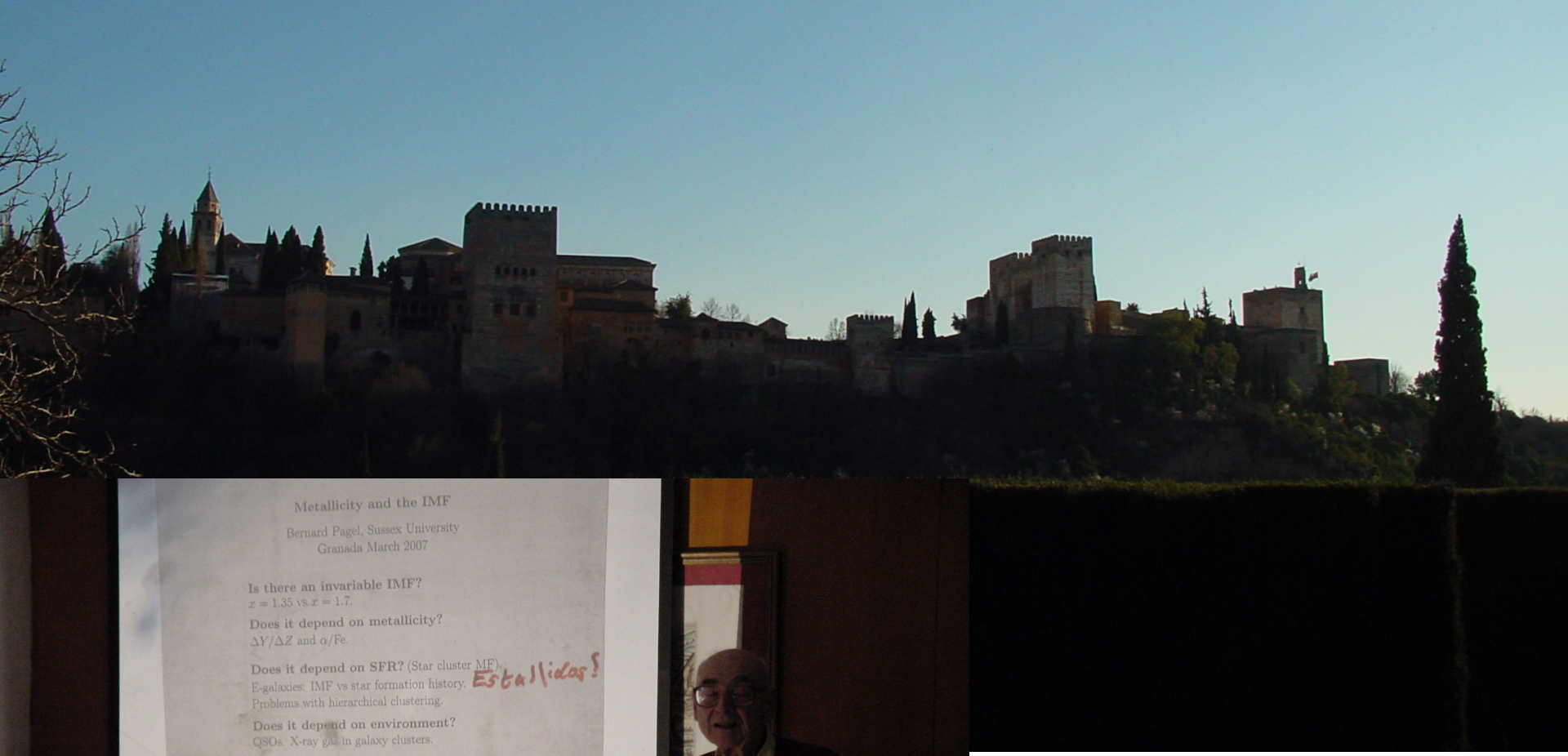
The workshop is structured around the following main topics:
-Extreme starbursts in the Universe. Census, triggering and evolution.
-Massive star-formation and chemical evolution in different environments.
-The local laboratories to understand galaxy disk formation.
-Interplay between massive star formation and the interstellar medium.

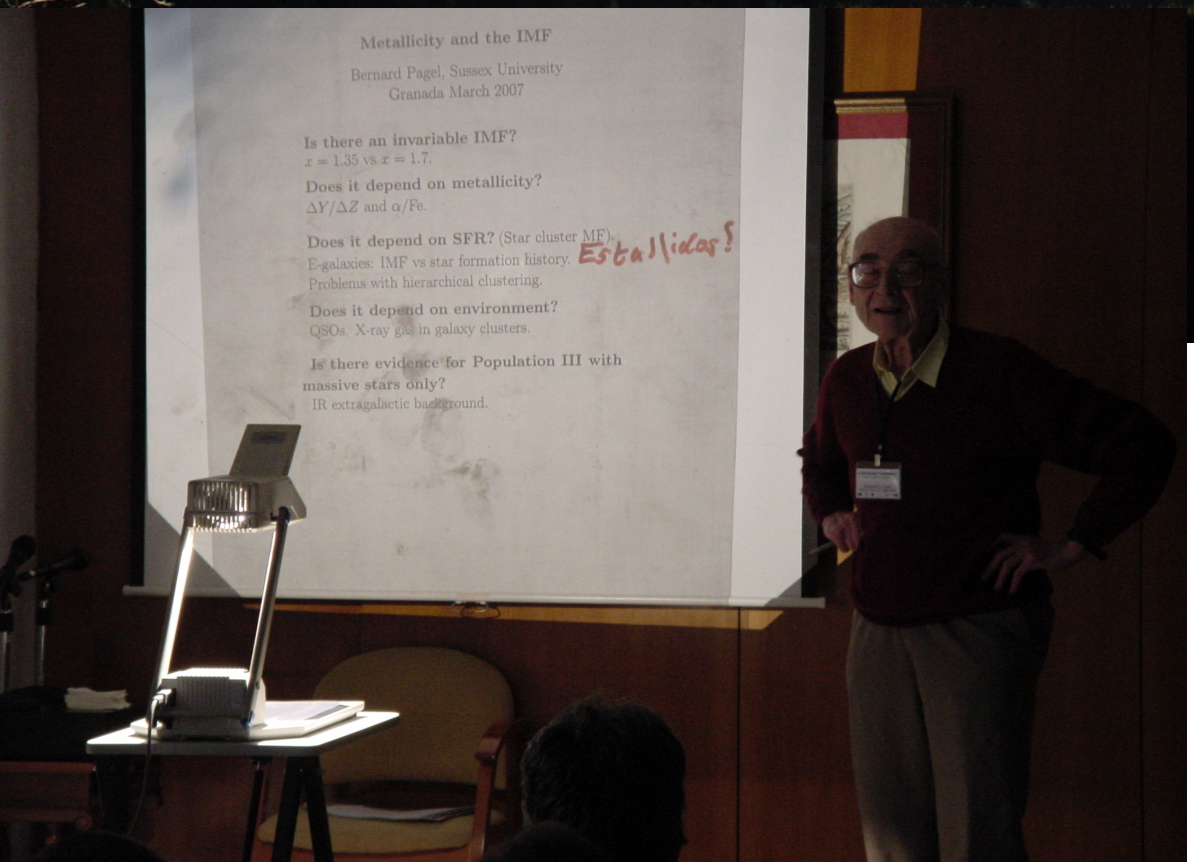
1. Interplay between massive star formation & the interstellar medium in galaxies.
1.1. H2 photodissociation from SF: feedback for galaxy formation.
1.2. Gas, dust and metals in 3D over galactic scales.
1.3. The high energy emission component in starbursts.
1.4. Host galaxies of SNe, GRBs and their Wolf Rayet population.

2. Local laboratories for the understanding of galaxy disk formation.
2.1. Local analogs of primitive disk formation.
2.2. Evolution of metallicity gradients in disks: tuning massive gas infall.

3. Rôle of the environment on the star formation and evolution of galaxies.
3.1. Star formation in clusters of galaxies.
3.2. The HI environment of XMPs.
3.3. Clustering of galaxies with SF.

4. Extreme starbursts in the Universe.
4.1. Star-formation feedback in massive and compact starbursts.
4.2. How, how much, and where star formation is present in AGNs.
4.3. Identification and characterization of Lyman_alpha souces.





Granada, March 2007
V ***Estallidos*** Workshop

Metallicity and the IMF

Bernard Pagel, Sussex University
Granada March 2007

Is there an invariable IMF?
$x = 1.35$ vs $x = 1.7$.

Does it depend on metallicity?
$\Delta Y/\Delta Z$ and α/Fe.

Does it depend on SFR? (Star cluster MF).
E-galaxies: IMF vs star formation history.
Problems with hierarchical clustering.

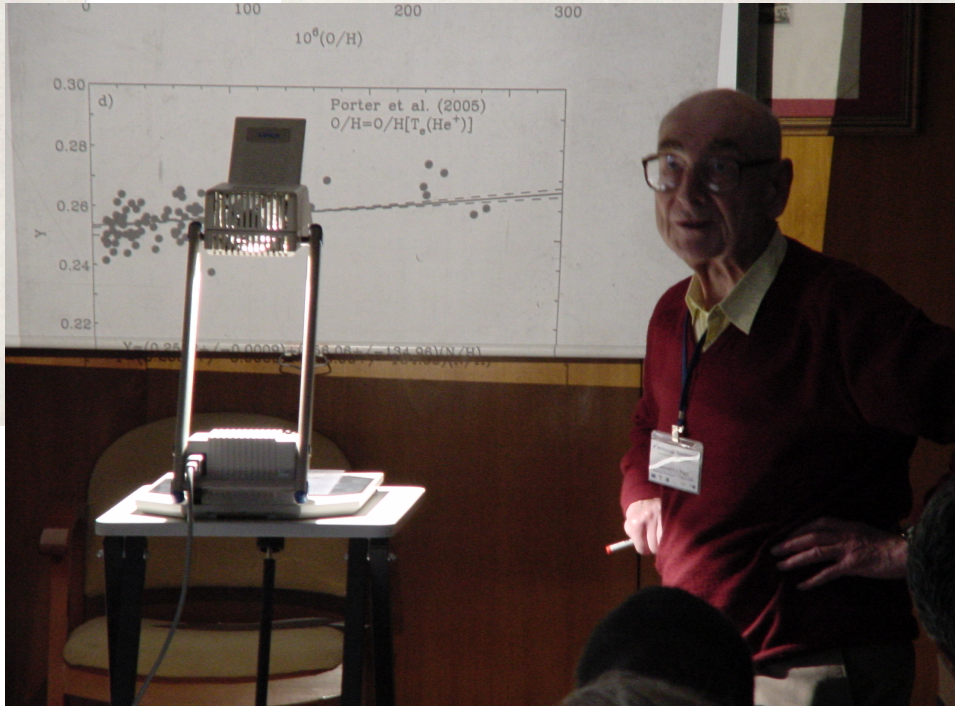
Does it depend on environment?
QSOs. X-ray gas in galaxy clusters.

Is there evidence for Population III with massive stars only?
IR extragalactic background.

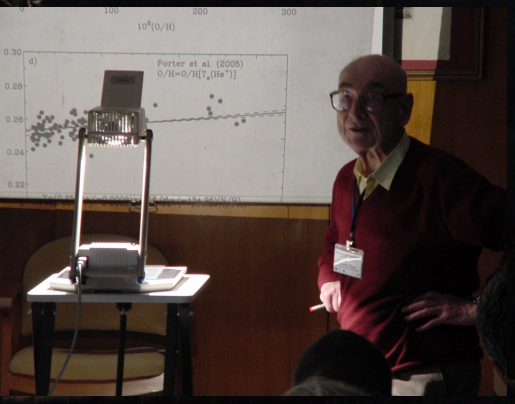
Estallidos!

Conclusions

- No evidence for dependence on metallicity. (Except Pop III?)
- But some dependence on cluster mass function and hence on SFR (quiescent vs bursty). May give range between Scalo and Salpeter slopes.
- Flatter slope probably needed in galaxy clusters. But doesn't by itself save hierarchical clustering.
- Some evidence for Pop III with low M/L.



THANK YOU!


100
200
300
10^5(O/H)
d)
Porter et al. (2005)
O/H=O/H[$^+_0$(HeI$^+$)]
0.30
0.28
0.26
0.24
0.22


BEJP
Best Inspirations in Carmen' Gardens