Unha achega á astronomía profesional en Galicia e na diáspora

Carlos Viscasillas, Ana Ulla e Alejandro Cardesín

I Congreso Galego de Investigación en Astronomía e Astrofísica
Vigo, 17 e 18 de xullo de 2025

Os galegos que chegaron mais lonxe

Astrónomos no ceo... e nas rúas

O colexio que sementou astrónomos

Os que fixeron escola

O pai da astronomía en Galicia

A comunidade astronómica en cifras

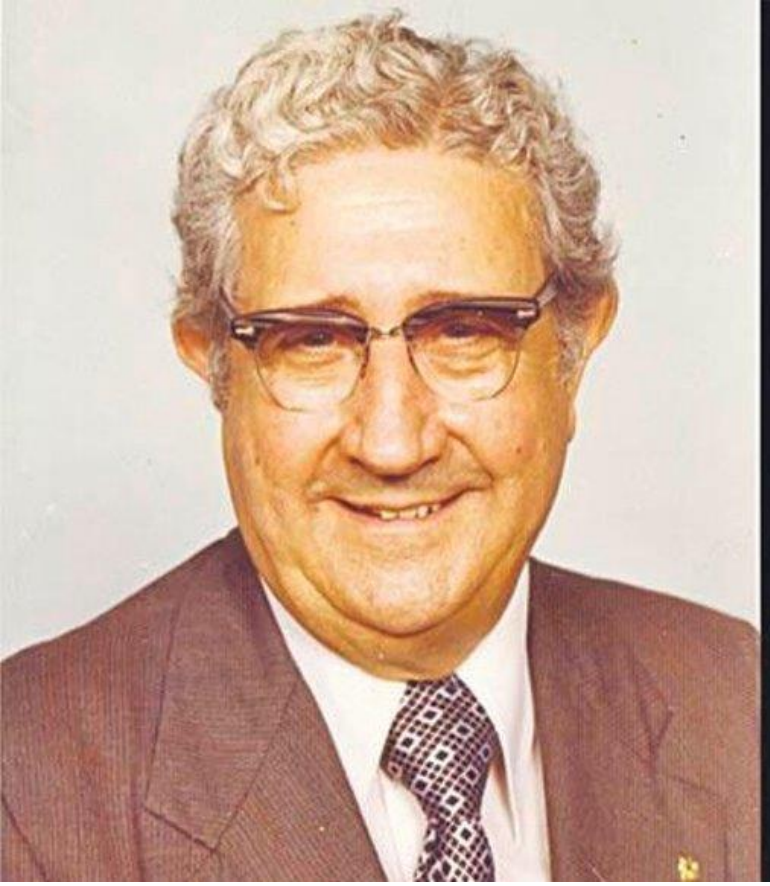
Centros de investigación galegos

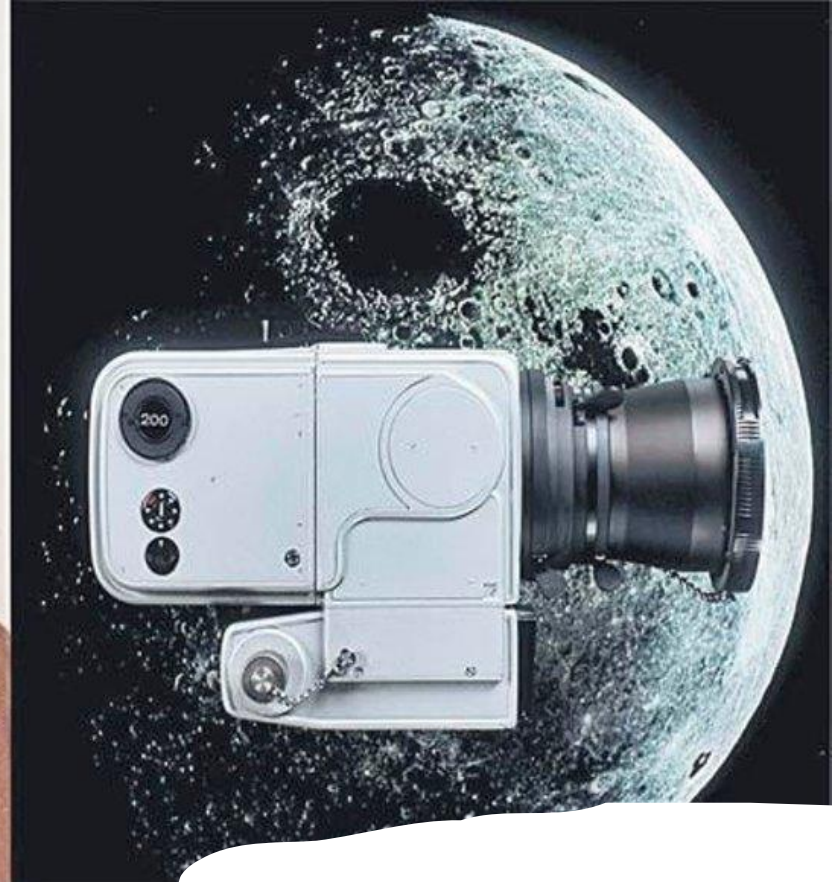
Libros con estrela galega

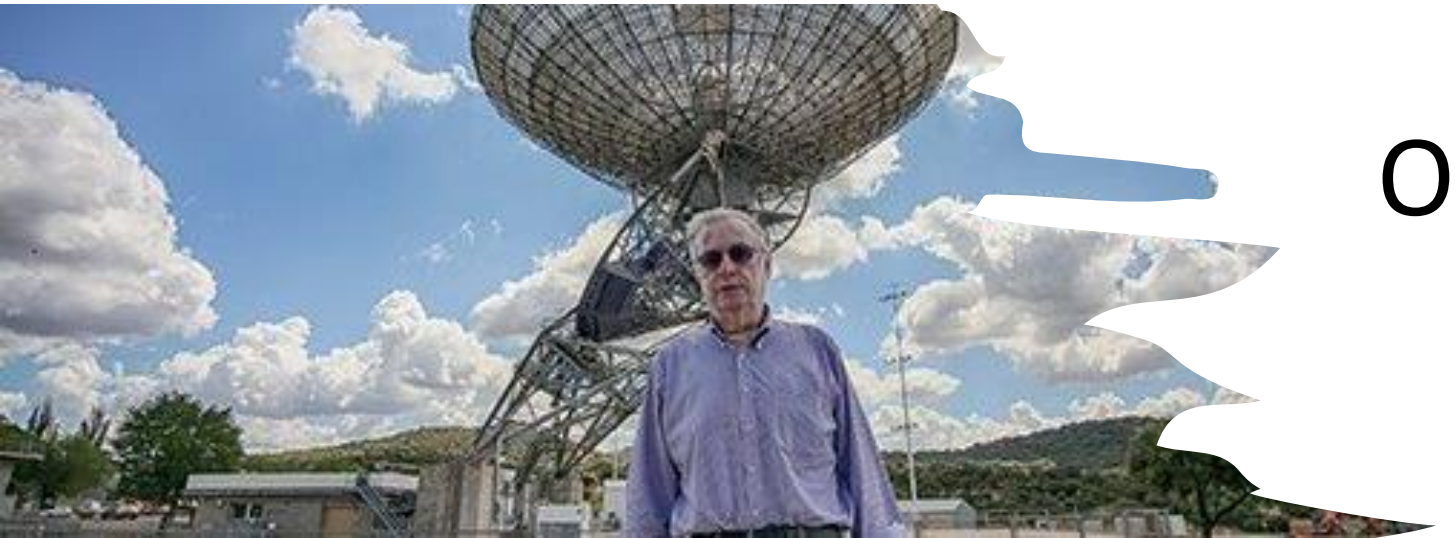
Fitos da astronomía profesional en Galicia

Peche e reflexión final

Os galegos na NASA



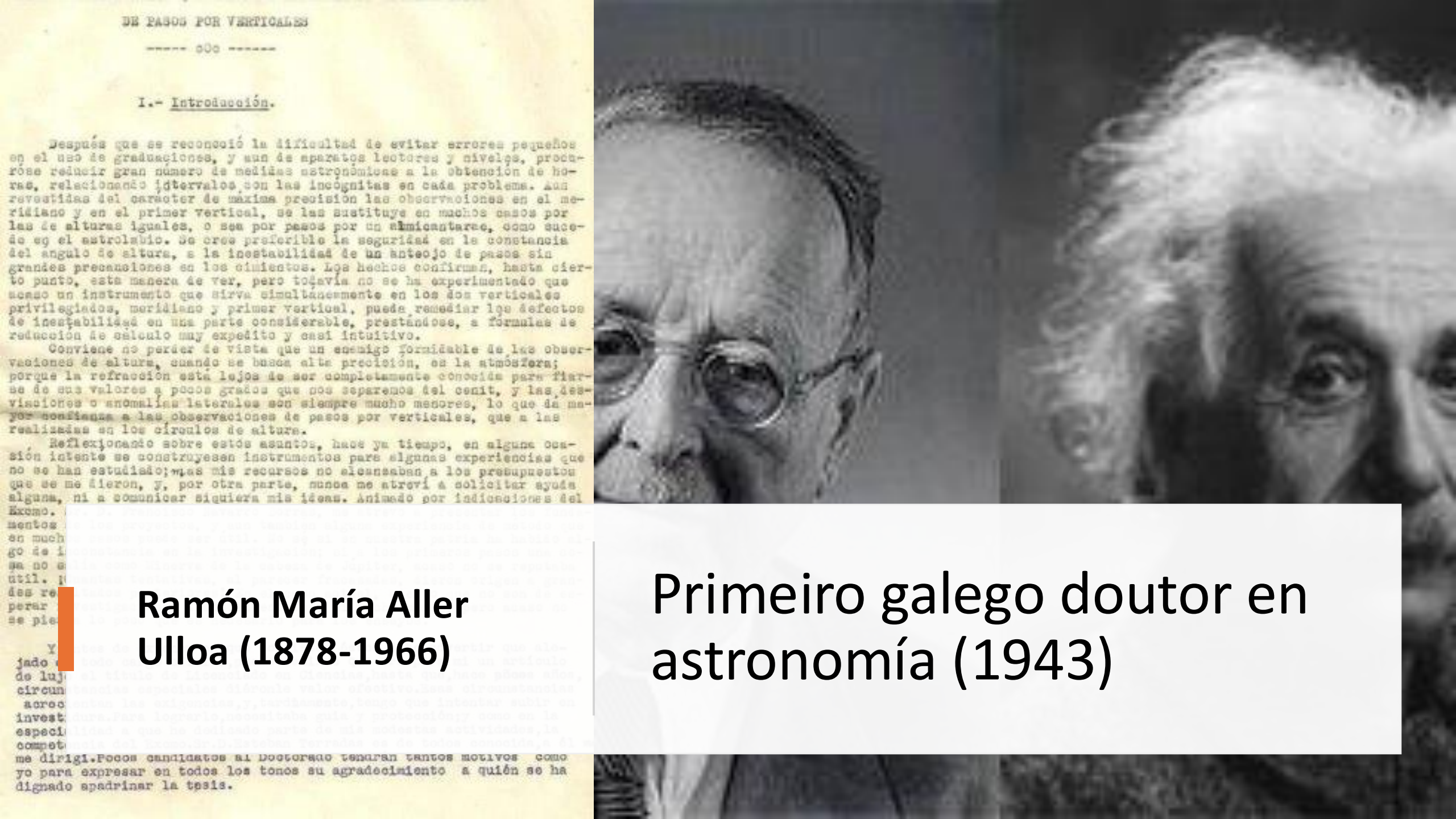




Os galegos na NASA (II)

Colexio
APÓSTOL SANTIAGO
XESUÍTAS - VIGO

...berce de astrónomos


DE PASOS POR VERTICALES

----- ooo -----

I.- Introducción.

Después que se reconoció la dificultad de evitar errores pequeños en el uso de graduaciones, y aun de aparatos lectores y niveles, procuróse reducir gran número de medidas astronómicas a la obtención de horas, relacionando intervalos con las incógnitas en cada problema. Aun revestidas del carácter de máxima precisión las observaciones en el meridiano y en el primer vertical, se las sustituye en muchos casos por las de alturas iguales, o sea por pasos por un almicantarat, como sucede en el astrolabio. Se cree preferible la seguridad en la constancia del angulo de altura, a la inestabilidad de un anteojo de pasos sin grandes precauciones en los cimientos. Los hechos confirman, hasta cierto punto, esta manera de ver, pero todavía no se ha experimentado que acaso un instrumento que sirva simultáneamente en los dos verticales privilegiados, meridiano y primer vertical, pueda remediar los defectos de inestabilidad en una parte considerable, prestándose, a fórmulas de reducción de cálculo muy expedito y casi intuitivo.

Conviene no perder de vista que un enemigo formidable de las observaciones de altura, cuando se buscan alta precisión, es la atmósfera; porque la refracción está lejos de ser completamente conocida para fiarse de sus valores a pocos grados que nos separemos del cenit, y las desviaciones o anomalías laterales son siempre mucho menores, lo que da mayor confianza a las observaciones de pasos por verticales, que a las realizadas en los círculos de altura.

Reflexionando sobre estos asuntos, hace ya tiempo, en alguna ocasión intenté se construyesen instrumentos para algunas experiencias que no se han estudiado; mas mis recursos no alcanzaban a los presupuestos que se me dieron, y, por otra parte, nunca me atreví a solicitar ayuda alguna, ni a comunicar siquiera mis ideas. Animado por indicaciones del Excmo.

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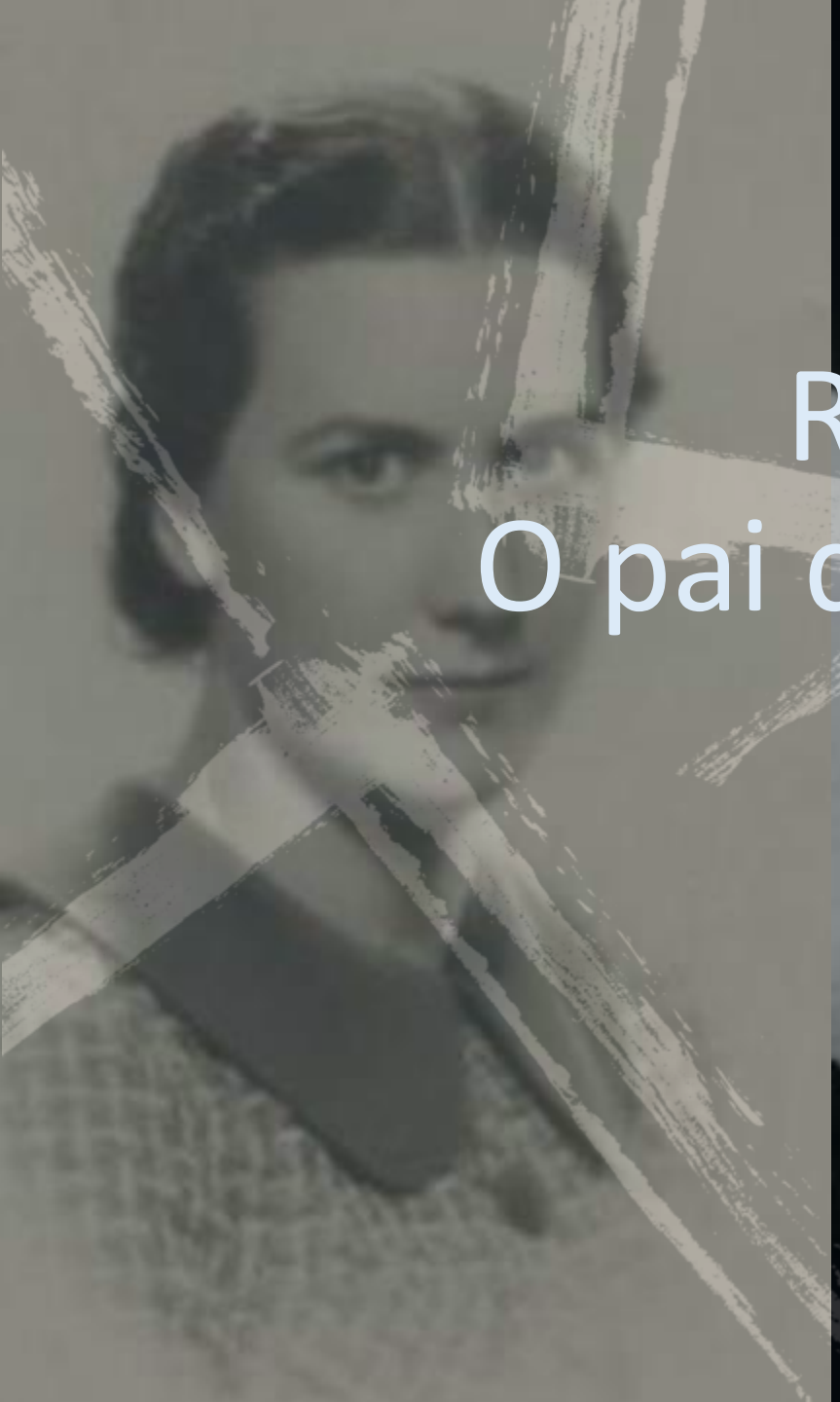
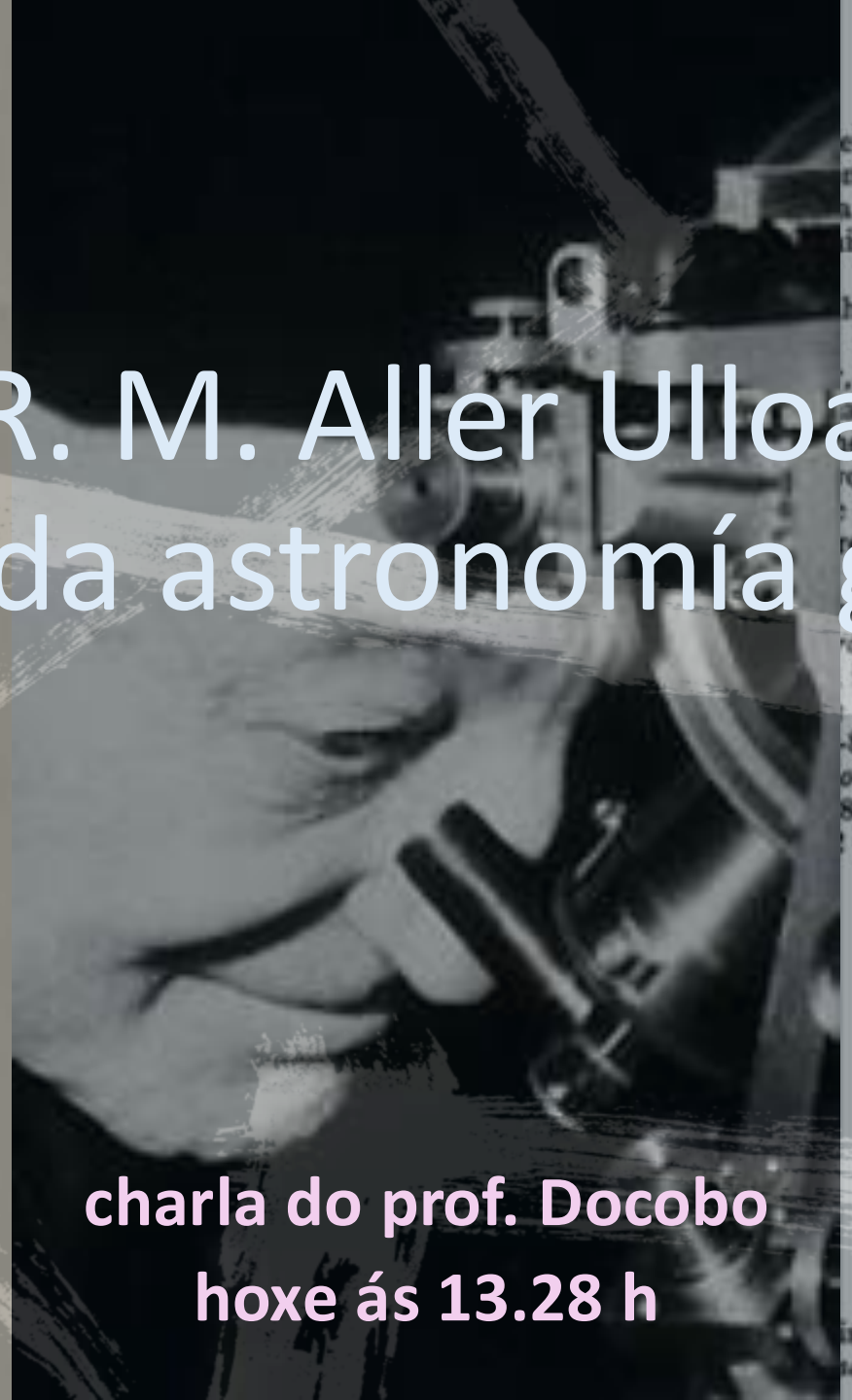
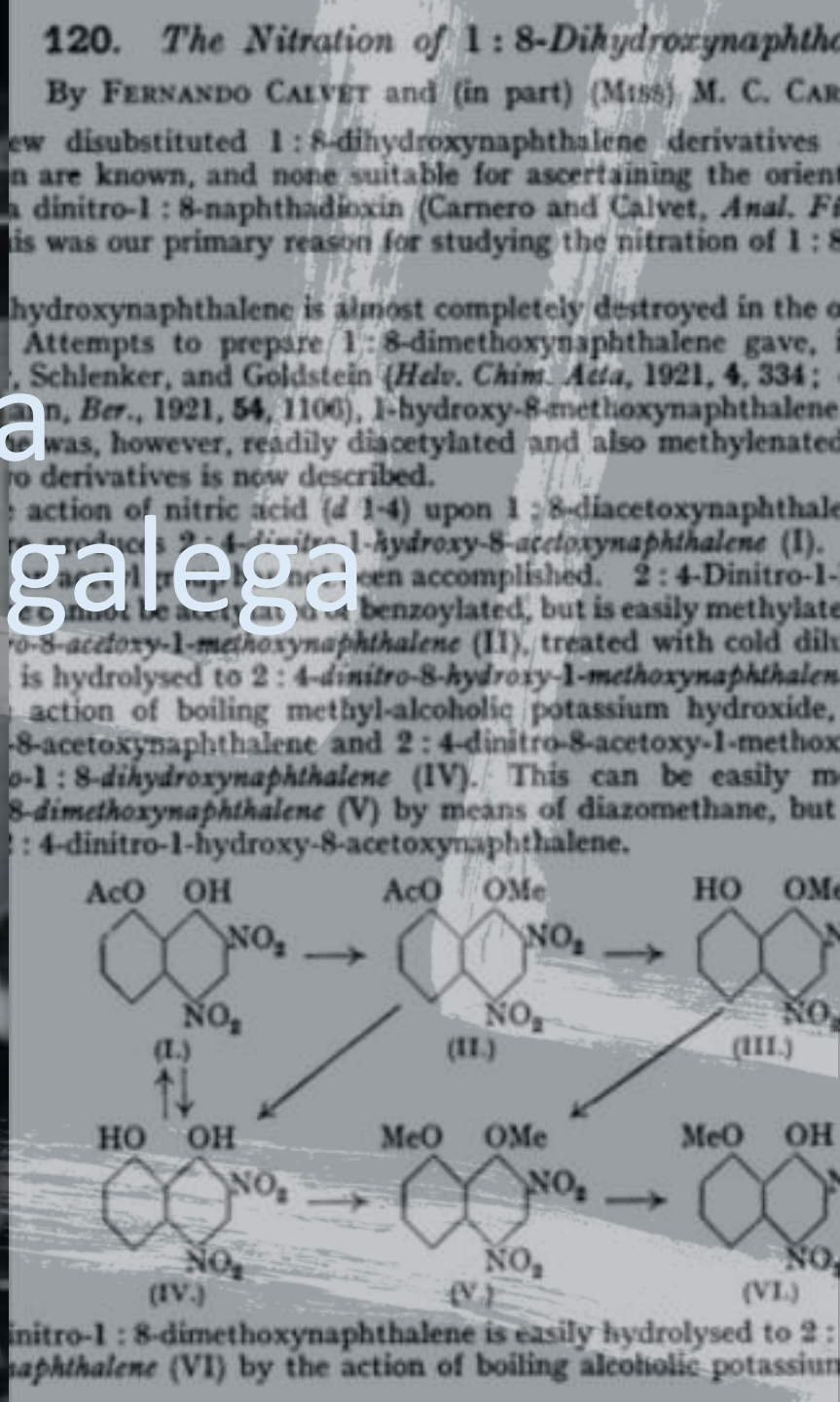
me dirigi.Pocos candidatos al Doctorado tendran tantos motivos como yo para expresar en todos los tonos su agradecimiento a quién se ha dignado apadrinar la tesis.

Ramón María Aller Ulloa (1878-1966)

Primeiro galego doutor en astronomía (1943)







120. *The Nitration of* 1 : 8-*Dihydroxynaphtha*

By Fernando Calvet and (in part) (Miss) M. C. Car

ew disubstituted 1 : 8-dihydroxynaphthalene derivatives
n are known, and none suitable for ascertaining the orient
a dinitro-1 : 8-naphthadioxin (Carnero and Calvet, *Anal. Fi*
is was our primary reason for studying the nitration of 1 : 8

hydroxynaphthalene is almost completely destroyed in the c
Attempts to prepare 1 : 8-dimethoxynaphthalene gave,
, Schlenker, and Goldstein (*Helv. Chim. Acta*, 1921, **4**, 334;
n, *Ber.*, 1921, **54**, 1106), 1-hydroxy-8-methoxynaphthalene
was, however, readily diacetylated and also methylenated
o derivatives is now described.
action of nitric acid (*d* 1·4) upon 1 : 8-diacetoxynaphthale
products 2 : 4-*dinitro*-1-*hydroxy*-8-*acetoxynaphthalene* (I).
en accomplished. 2 : 4-Dinitro-1-
benzoylated, but is easily methylate
o-8-*acetoxy*-1-*methoxynaphthalene* (II), treated with cold dil
is hydrolysed to 2 : 4-*dinitro*-8-*hydroxy*-1-*methoxynaphthalen*
action of boiling methyl-alcoholic potassium hydroxide,
-8-acetoxynaphthalene and 2 : 4-dinitro-8-acetoxy-1-methox
o-1 : 8-*dihydroxynaphthalene* (IV). This can be easily m
8-*dimethoxynaphthalene* (V) by means of diazomethane, but
: 4-dinitro-1-hydroxy-8-acetoxynaphthalene.

AcO OH → AcO OMe → HO OMe
NO_2 NO_2 NO_2
NO_2 NO_2 NO_2
(I.) (II.) (III.)

HO OH → MeO OMe → MeO OH
NO_2 NO_2 NO_2
NO_2 NO_2 NO_2
(IV.) (V.) (VI.)

nitro-1 : 8-dimethoxynaphthalene is easily hydrolysed to 2 :
naphthalene (VI) by the action of boiling alcoholic potassium

R. M. Aller Ulloa
O pai da astronomía galega

charla do prof. Docobo

hoxe ás 13.28 h

Dous galegos, directores do Real Observatorio de Madrid

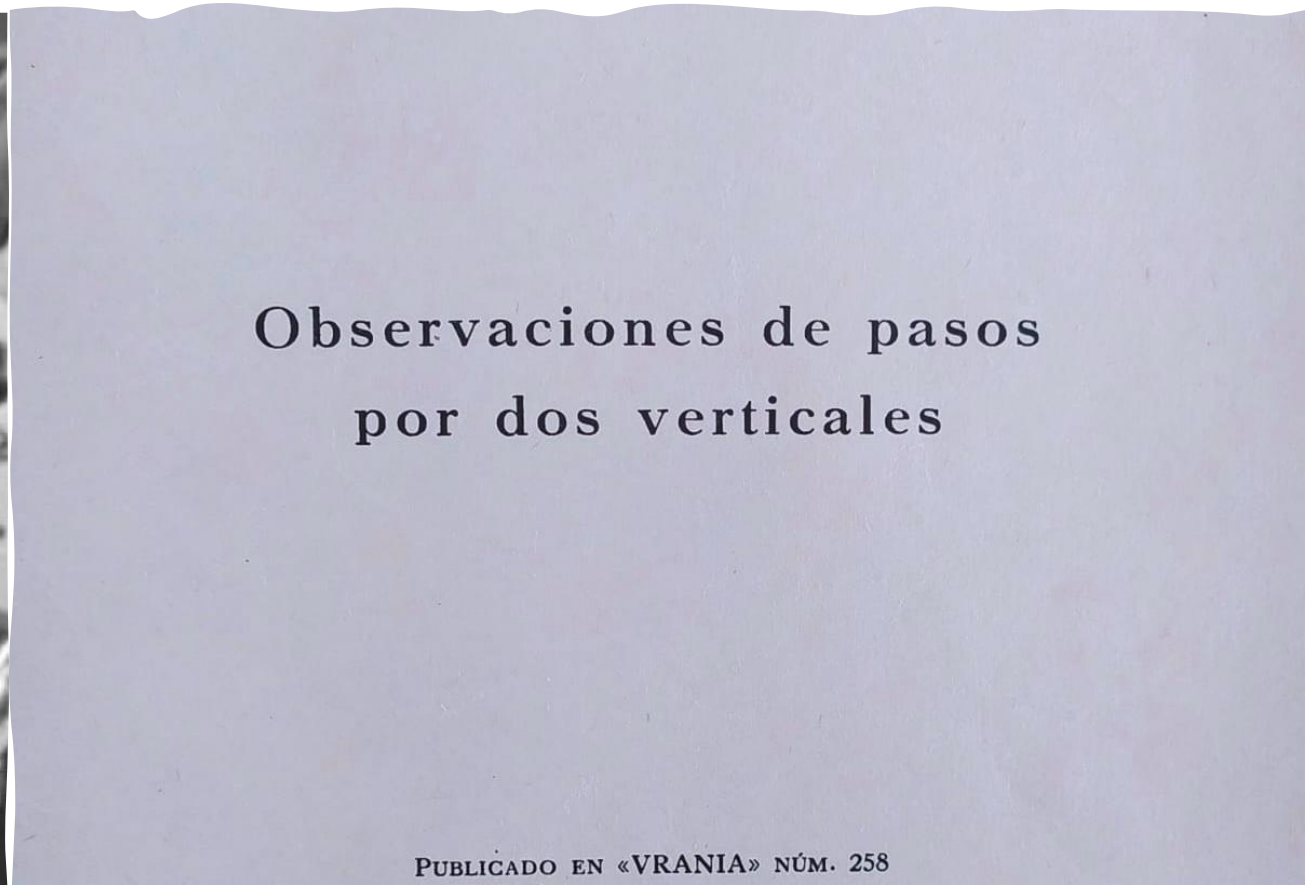
charla do prof. Docobo

hoxe ás **13.28 h**

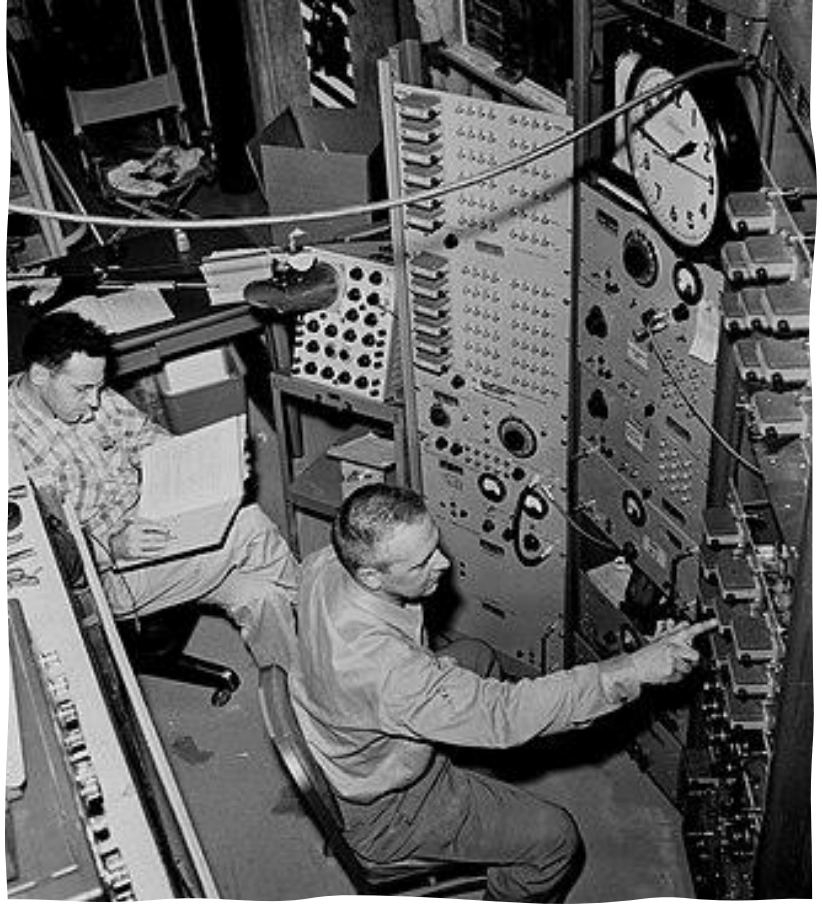
As pioneiras

Antonia Ferrín Moreiras (1914-2009)

Primeira muller doutora en astronomía de España (1963)



Cecilia Payne (1925); Dorothea Klumpke (1893)



A SEARCH FOR ANISOTROPIES IN COSMIC RAY SOURCES
BETWEEN 9° AND 69° DECLINATION

A DISSERTATION

Submitted to the Faculty of the
Graduate School of Arts and Sciences
of The Catholic University of America
In Partial Fulfillment of the Requirements
For the Degree
Doctor of Philosophy

By

Primeiro galego doutor en astrofísica no estranxeiro (1971)

Manuel María Carreira Vérez (1931-2020)

nature

Explore content | About the journal | Publish with us | Subscribe

nature > letters > article

Letter | Published: 25 January 1990

Results for Titan's atmosphere from its occultation of 28 Sagittarii

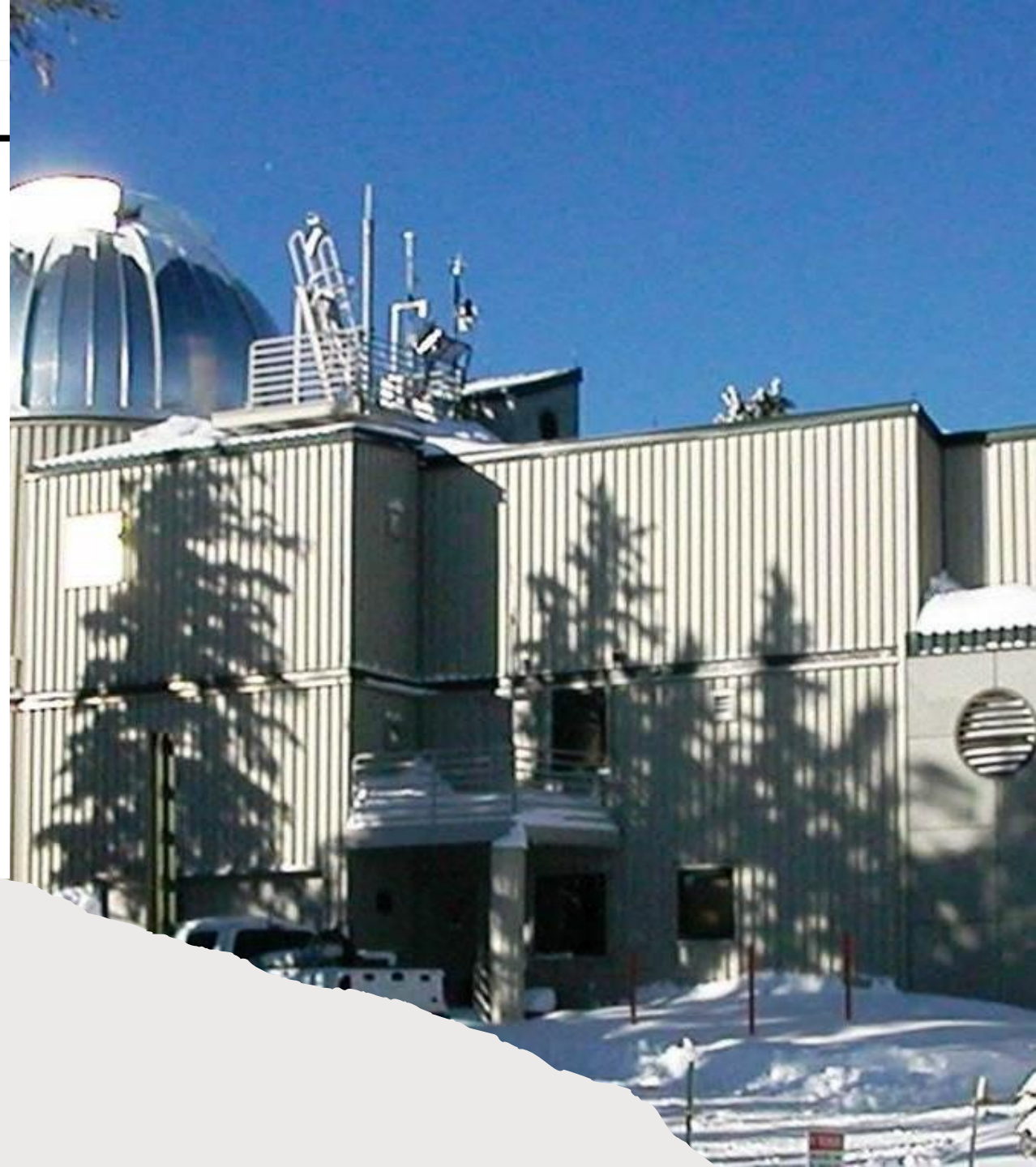
W. B. Hubbard, D. M. Hunten, H. J. Reitsema, N. Brosch, Y. Nevo, E. Carreira, F. Rossi & L. H. Wasserman

Nature **343**, 353–355 (1990) | Cite this article

93 Accesses | **23** Citations | Metrics

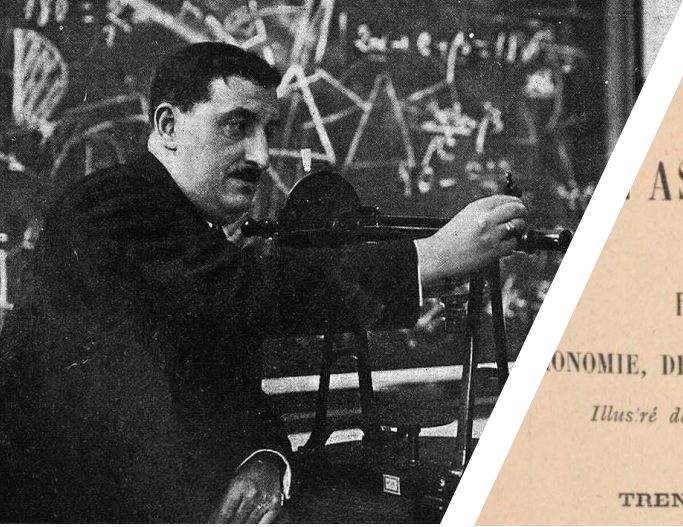
Abstract

ON 3 July 1989 the bright K giant star 28 Sgr was occulted by Saturn's largest moon, Titan. This event, which was predicted by Wasserman[1], offered a unique opportunity to probe Titan's extensive nitrogen-rich atmosphere in an altitude range not investigated by the Voyager 1 spacecraft[2,3]. Our group observed the occultation from three stations in the Mediterranean



VATT, Mount Graham, Arizona

A mestra de Vilarube



BULLETIN

DE LA

ASTRONOMIQUE DE FRA

ET

REVUE MENSUELLE

ONOMIE, DE MÉTÉOROLOGIE ET DE PHYS

Illustré de 217 figures et de 9 planches

TRENTE-NEUVIÈME ANNÉ

.....	Ni	3 995,31	Co
.....	Ti	4 044,16	K
.....	Ni	4 047,23	K
.....	Cr	4 048,74	Mn
.....	Mg	4 077,73	S
.....	Mg	4 102,96	
.....	Mg	4 121,33	
.....	Co	4 215,52	
.....	V	4 254,34	
.....	Si	4 298,99	
.....	Ca	4 300,56	
.....	Al	4 379,23	
,3	Al	4 554,03	
,47	Ca		

météorite contient donc : Mg, Al, Si, K, Ca, Ti, V, Cr, Mn
Nous faisons quelques réserves concernant l'existence du
ns seulement pu trouver la raie la plus intense du spectre q
Ces résultats ont été confirmés en mesurant des plaque
spectre de premier ordre entre 3 500 et 5 500 Å.

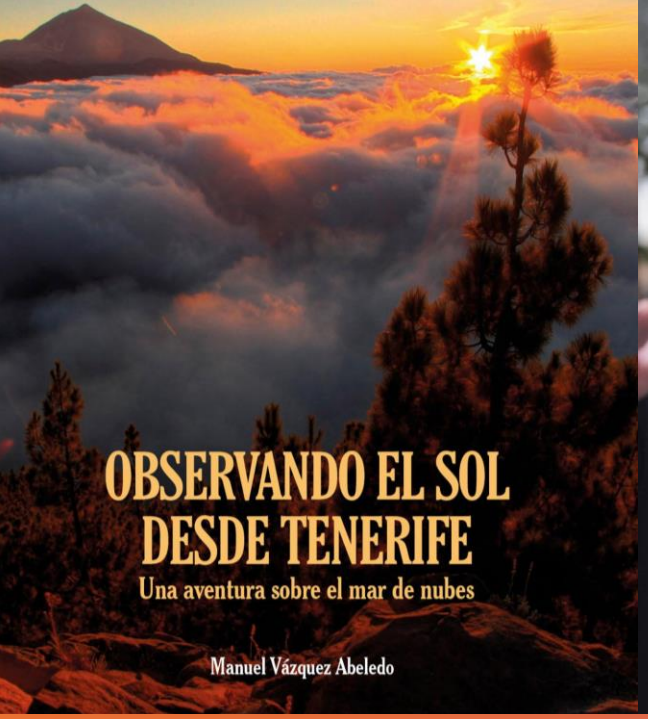
* * *

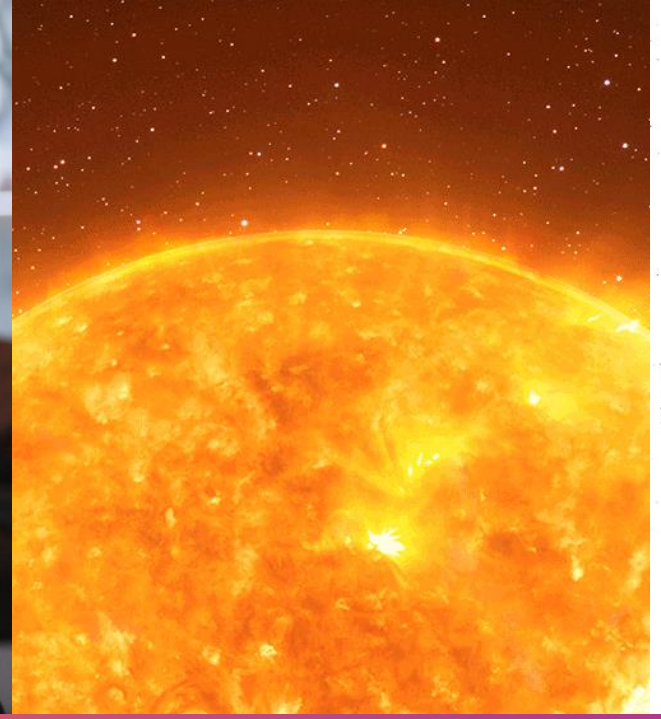
PECTRALE DU MÉTÉORITE DU 19 JUIN

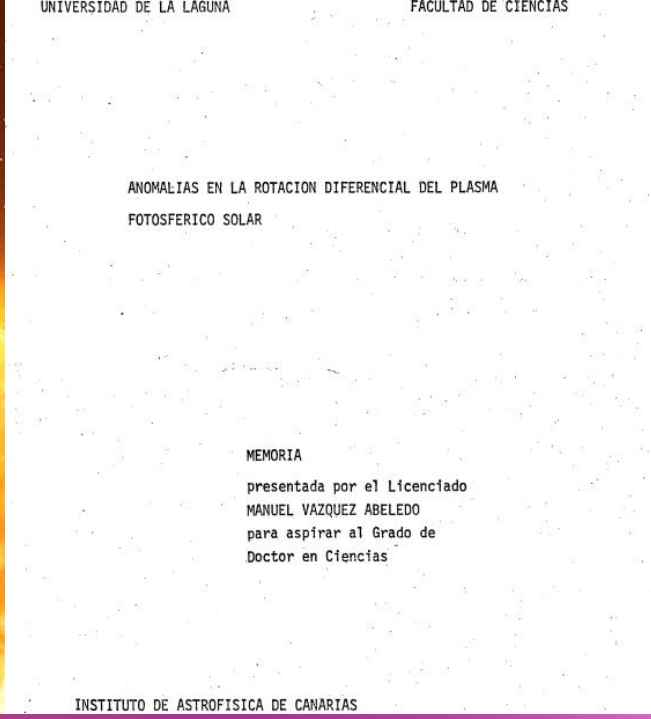
dié un morceau d'un demi-kilogramme du mét
nce de Badajoz (Espagne), le 19 juin, à 9^h35^m, et d
références, de 100 kilogrammes environ.

rendus des séances de l'Académie des Sciences, 20 octobre 19

Manuel Martínez-Risco Macías (1888-1954)






UNIVERSIDAD DE LA LAGUNA FACULTAD DE CIENCIAS

ANOMALIAS EN LA ROTACION DIFERENCIAL DEL PLASMA FOTOSFERICO SOLAR

MEMORIA

presentada por el Licenciado
MANUEL VAZQUEZ ABELEDO
para aspirar al Grado de
Doctor en Ciencias

INSTITUTO DE ASTROFISICA DE CANARIAS

Manuel Vázquez Abeledo, un galego pionero da Física Solar en España

- Supervisor de Valentín Martínez Pillet
- Estudante de Juan Casanovas
- Semente do Telescopio Solar Europeo (EST)

Víctor Costa Boronat, pioneiro do Instituto de Astrofísica de Andalucía (IAA)

primeiros estudos das estrelas δ Sct

ASTRONOMY & ASTROPHYSICS
SUPPLEMENT SERIES

AUGUST **1984,** PAGE 233

Astron. Astrophys. Suppl. Ser. **57,** 233-238 (1984)

Photoelectric photometry of the Delta Scuti star BD + 43°1894

V. Costa, R. Garrido, P. Lopez de Coca, R. Peniche (*), J. H. Peña (*), J. M. Quintana and A. Rolland

Instituto de Astrofisica de Andalucia, Granada, Spain

Received January 25, accepted March 9, 1984

Summary. — Consecutive differential photoelectric photometry of the Delta Scuti star BD + 43°1894 has been carried out at three different observatories to avoid the problem of aliasing. Analysis of the data by the classical O-C method and the Fourier Transform converged to establish BD + 43°1894 as a monoperiodic pulsator with a frequency of pulsation of 10.175611 c/d.

Key words : variable stars — Delta Scuti stars — pulsation.

ASTRONOMY & ASTROPHYSICS
SUPPLEMENT SERIES

JULY **1994,** PAGE 21

Astron. Astrophys. Suppl. Ser. **106,** 21-28 (1994)

δ Scuti stars: a new revised list*

E. Rodríguez, P. López de Coca, A. Rolland, R. Garrido and V. Costa
Instituto de Astrofísica de Andalucía, CSIC, Apartado 3004, E-18080 Granada, Spain

Received December 10; accepted February 1, 1994

Abstract. — An extensive and up to date list of δ Sct stars is presented. This catalogue is intended to be a comprehensive review of observational characteristics of all the δ Sct stars known until now, including stars contained in earlier catalogues together with other new discovered variables, covering information published until November 1993. Global information in the form of histograms and diagrams are also shown.

Key words: stars: δ Scuti — stars: oscillations

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1584

Konkoly Observatory
Budapest
1979 April 13

HR 5343 A NEW DELTA SCUTI TYPE VARIABLE

The star HR 5343 (mv = 5.28) has been found variable when it was used as a comparison star in the photometric observations of the Am star 22 Boo (mv = 5.27). The study of 22 Boo is part of a largest program whose aim is to check the constancy of evolved Am star and whose results will be published elsewhere (Garrido et al. 1979). The star HR 5343 that we reported here as variable was found constant by Breger (1969) inside a limit of 0.002 mag when he observed it during 2.7 and 2.4 hours in two differents nights.

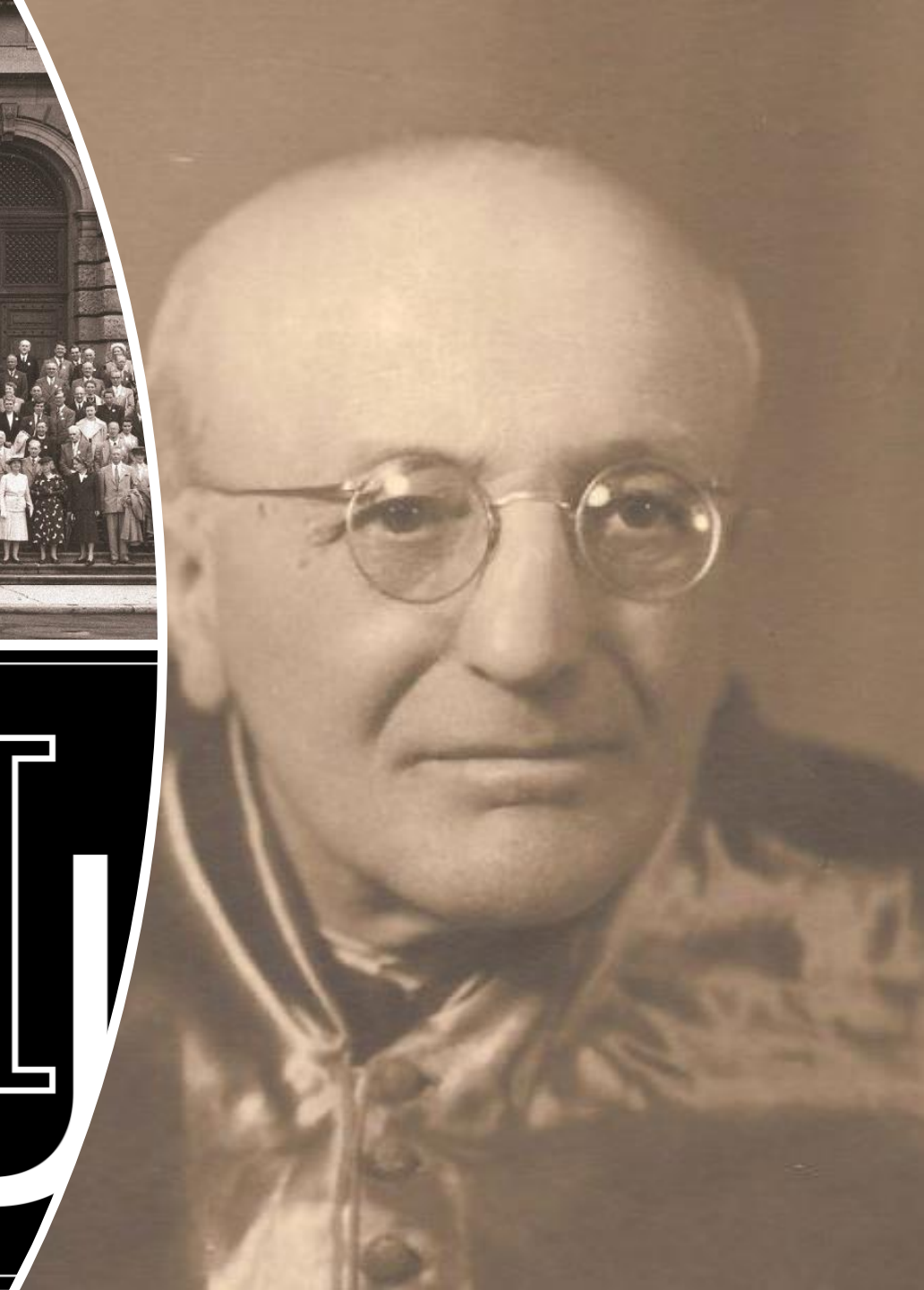
Subida ao Observatorio do Moxón do Trigo

SEA

Primeira galega presidenta da SEA

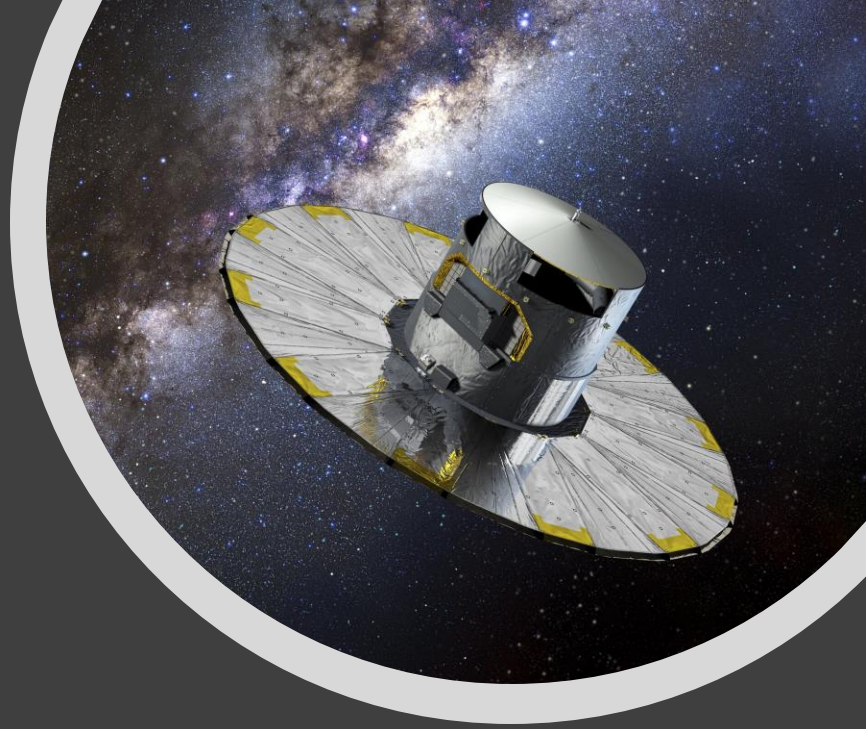
Galegos na IAU (~29)

- Primeiro español na IAU, Luis Rodés.
- **Primeiro galego na IAU**, Ramón María Aller Ulloa, dende 1948.
- **Primeiro galego presidente dunha Comisión**, Jose Angel Docobo: Comisión 26 de Estrelas Dobres e Múltiples (2009-2012).
- **Primeira galega NOC** da OAO (2021-2024), Ana Ulla Miguel.




esa
na Axencia Espacial
Europea (ESA)

...na misión Gaia



Data Processing & Analysis Consortium

esa

gaia

Galegas en Gaia
(2019, Toulouse)

Grandes oportunidades de cooperación rexional

Mesa redonda de mañá ás 12.30 h

proximidade e alto potencial

Mesa redonda de mañá ás 12.30 h

Os edificios en imaxes

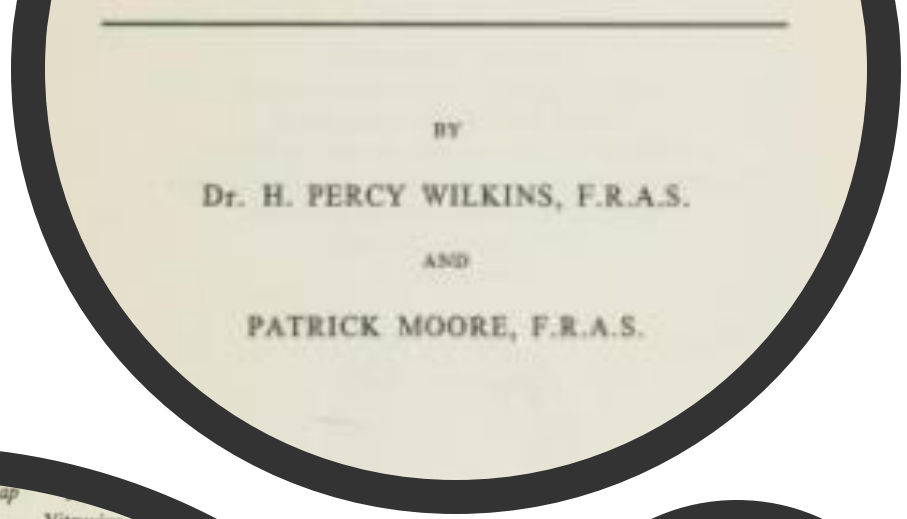
Astrónomos galegos nas rúas

- Rúa Antonia Ferrín Moreiras (Lalín)
- Rúa Ramón María Aller Ulloa (Lalín, Ribeira, A Coruña, Carballiño, Santiago, **Vigo**)
- IES Ramón María Aller Ulloa (Lalín)
- Museo Municipal "Ramón María Aller" (Lalín)
- Observatorio Astronómico Ramón María Aller (Santiago)

Estatuas e murais

a 700 m do restaurante Porto Santo!!!


Galegos no ceo


BY

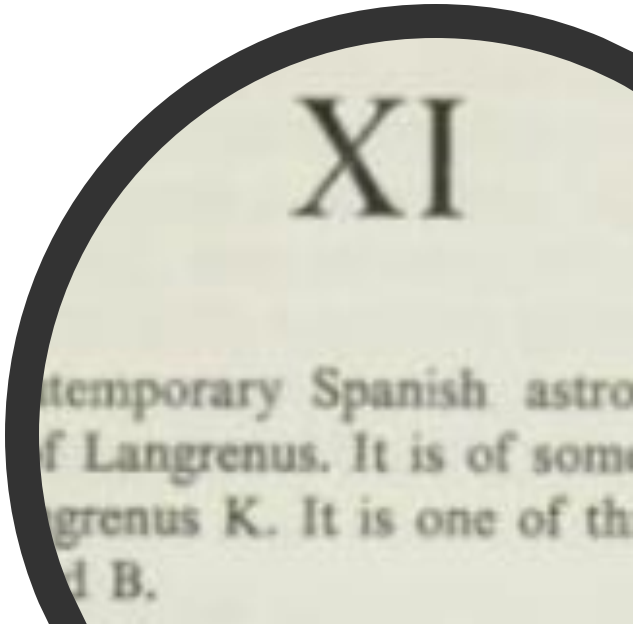
Dr. H. PERCY WILKINS, F.R.A.S.

AND

PATRICK MOORE, F.R.A.S.

Section	Name on Map				
III	Fisher	Vitruvius B			
IV	Gant	Archimedes A			
V	De Bergerac	Carlini D			
V	Mount Dyson	Pytheas Beta	−382		
V	Porthouse	Carlini B	−307		
V	Mount Whipple	La Hire Alpha	−403	+47	
V	Virgil	Bessarion E	−584	+265	
V	Krosigk	Tobias Mayer G	−435	+298	
VI	Eddington	Reinhold B	−367	+075	Wi
VII	Hauet	Wurzelbauer D	−243	−592	Paluz
VII	Lenham	Kies A	−340	−474	Wilkin
VII	Novellas	Agatharchides P	−449	−345	Paluzie
VII	Renart	Unnamed	−212	−602	Paluzie
VIII	Garcia-Gomez	Alpetragius B	−115	−261	Paluzie
VIII	Dublier	Alphonsus D	−014	−260	Paluzie
IX	Romaña	Fracastorius D	+478	−372	Paluzie
IX	Benitez	Pontanus C	+231	−499	Paluzie
IX	Millás	Parrot C	+022	−318	Paluzie
IX	Sisebuto	Azophi A	−410	+190	Paluzie
X	Antoniadi	Hekatæus B	+915	−331	Wilkins
X	Santacruz	Abel (Franz)	+816	−570	Paluzie
X	Steavenson	Reichenbach A	+664	−474	Wilkins
X	Whitaker	Unnamed	+910	−480	Wilkins-Moore
X	Orûs	Petavius B	+790	−340	Paluzie
X	Raurich	Hekatæus D	+945	−320	Paluzie
X	Smith	Vendelinus C	+873	−252	Wilkins
XI	Fébrer	Schubert B	+987	+022	Paluzie
XI	Watts	Kästner B	+988	−114	Wilkins-Hoag
XI	Vernet	Goclenius G	+644	−103	Paluzie
XI	Aller	Langrenus K	+841	−102	Paluzie
XII	Liddiard	Unnamed	+810	+584	Wilkins
XII	Recorde	Alhazen E	+925	+308	Wilkins-Mee
XII	Cooke	Eimmart C	+810	+382	Wilkins
XII	Lower	Hansen B	+953	+247	Wilkins-Mee
XII	O'Neill	Unnamed	+730	+260	Wilkins
XIII	Paluzie	Unnamed	+770	+638	Wilkins
XIII	Russell	Within Paluzie	+758	+645	Wilkins
XIII	Polit	Hallowes H	+692	+720	Paluzie
XIII	Hallowes	Unnamed	+690	+720	Wilkins
XIV	Abineri	Strabo A	+430	+891	Wilkins-M
XIV	Ball, L. F.	Endymion B	+466	+859	Wilkins
XIV	O'Kell	Atlas E	+445	+750	MacDo

O cráter *Aller* na Lúa


XI

temporary Spanish astro

f Langrenus. It is of some

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d B.

Estrelas dobres

Aller 1 (2000.0): 21 55.9 +19 47

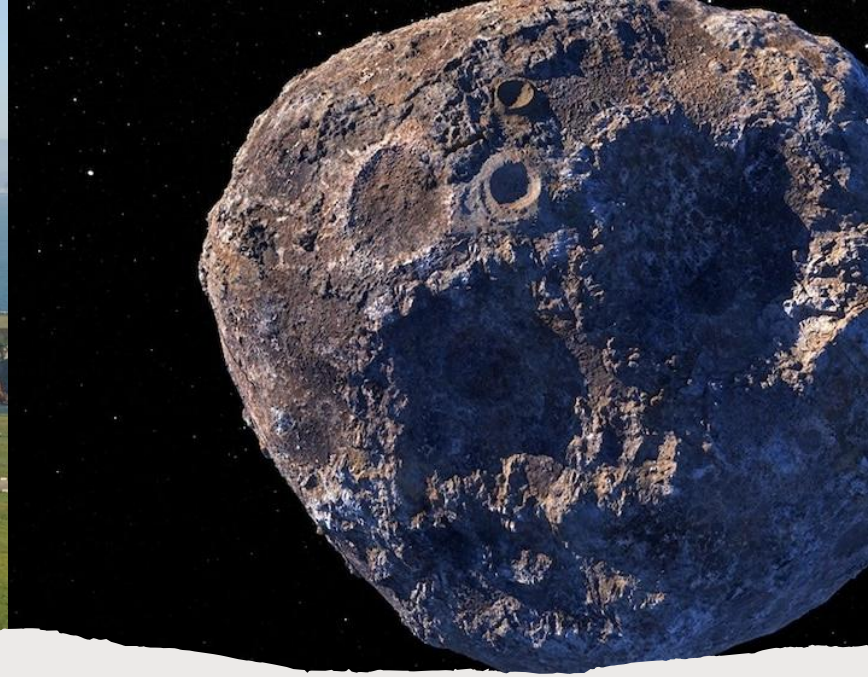
Aller 2 (2000.0): 00 34.5 –04 33

Aller 3 (2000.0): 18 59,3 +03 31

Aller 4 (2000.0): 17 57.8 +27 50

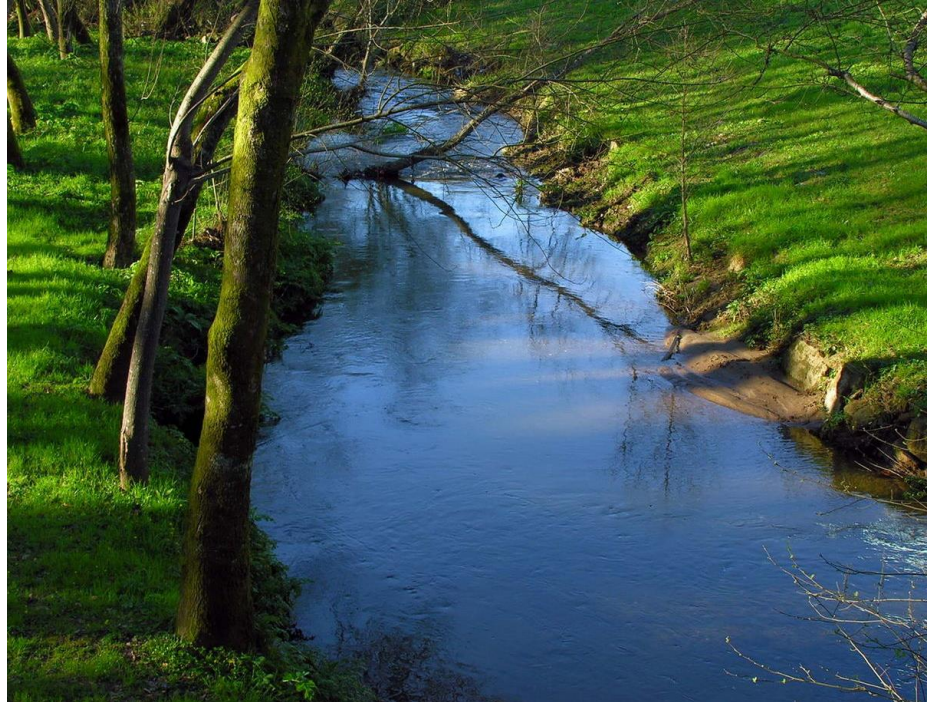
- BD+19 4822; BD+19 4822B
- HD 3125, HD 3125A, HD 3125B, HD 3125C
- BD+03 3855; BD+03 3856
- BD+27 2922; BD+27 2922B

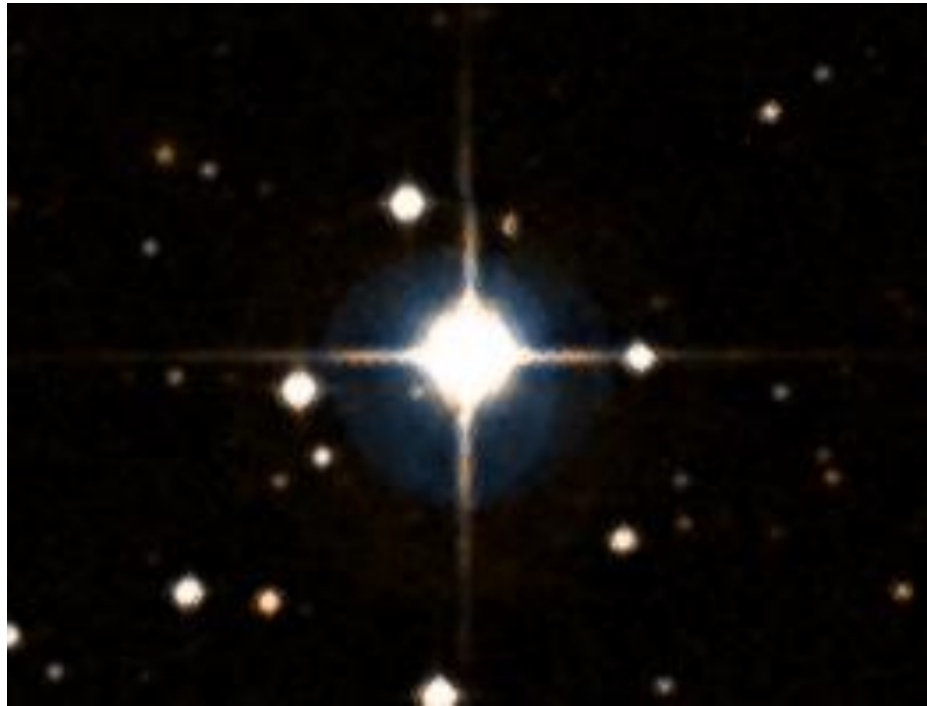
LIN 1 Aa,Ab. 21435+4448LIN. BD+44 3916
(descuberta en 1992)



Asteroide *(9605) A Coruña*
(dende 2025)

Cráter *Rosalía de Castro* en Venus (dende 1994)



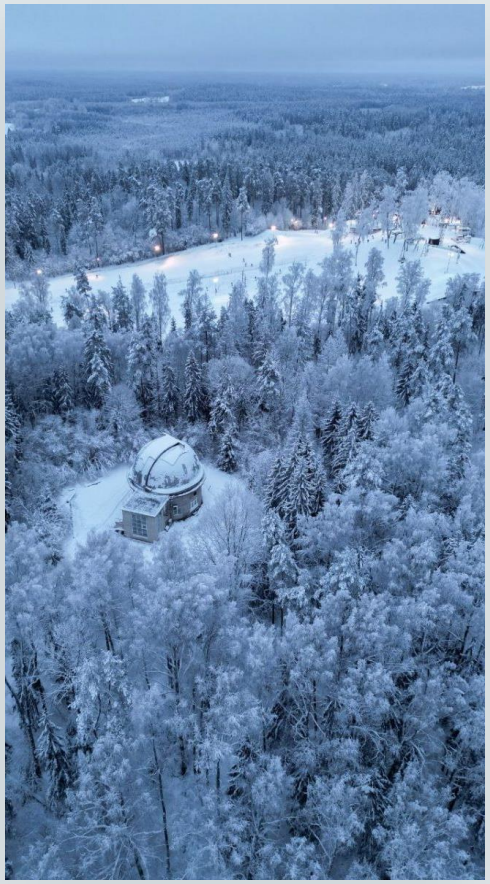


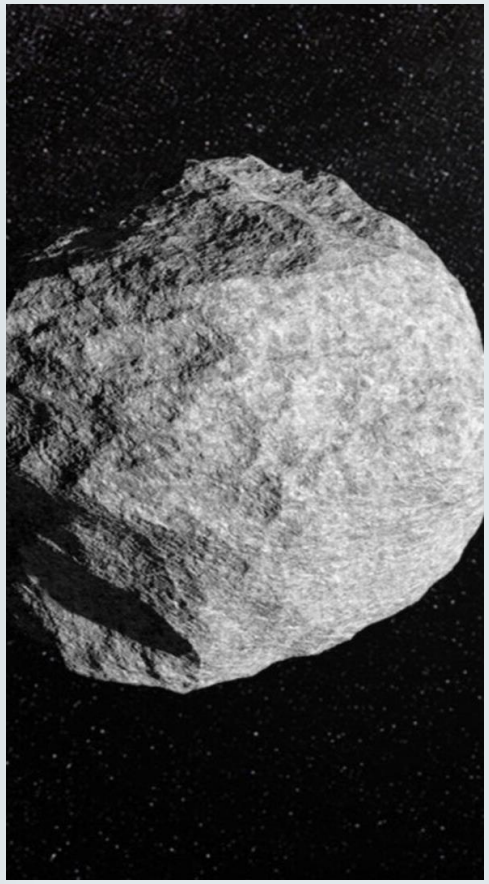
Dende 2019

Estrela *Rosalíadecastro* (HD 149143)

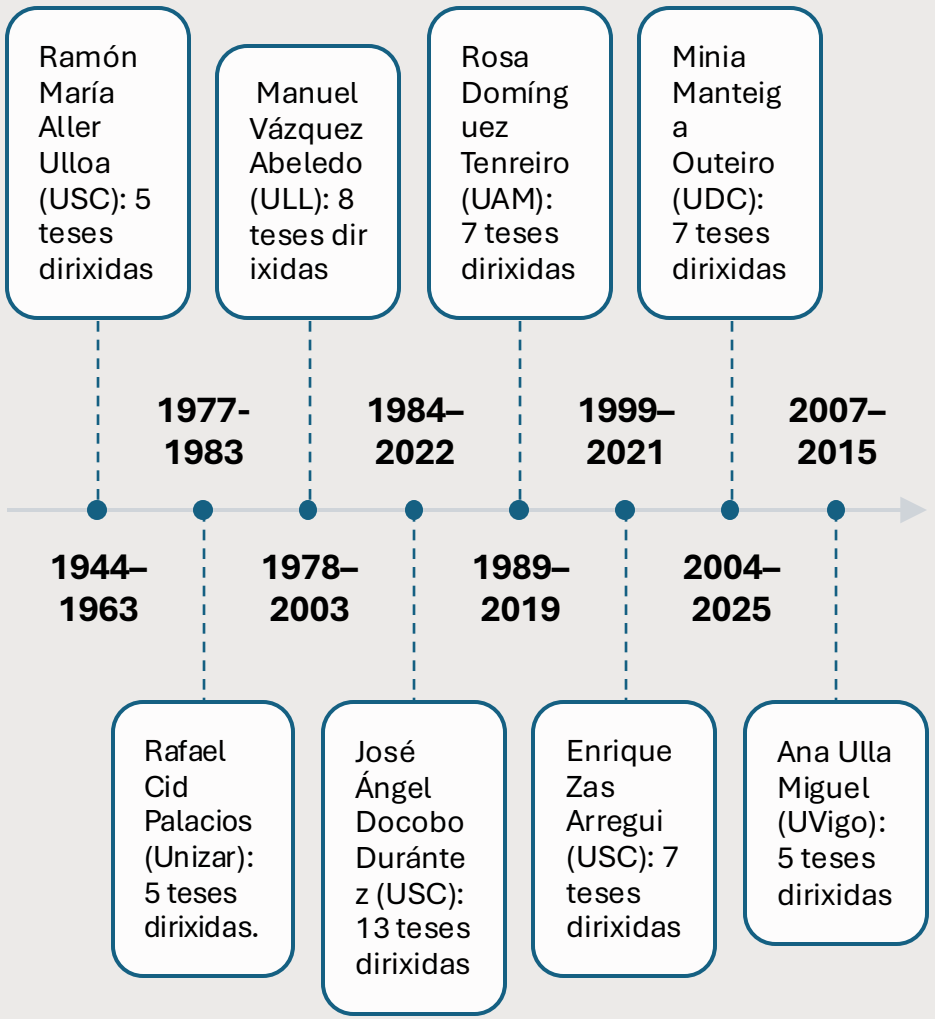
Exoplaneta *Riosar* (HD 149143b)

Asteroide *(658642) Carreira* (dende 2024)

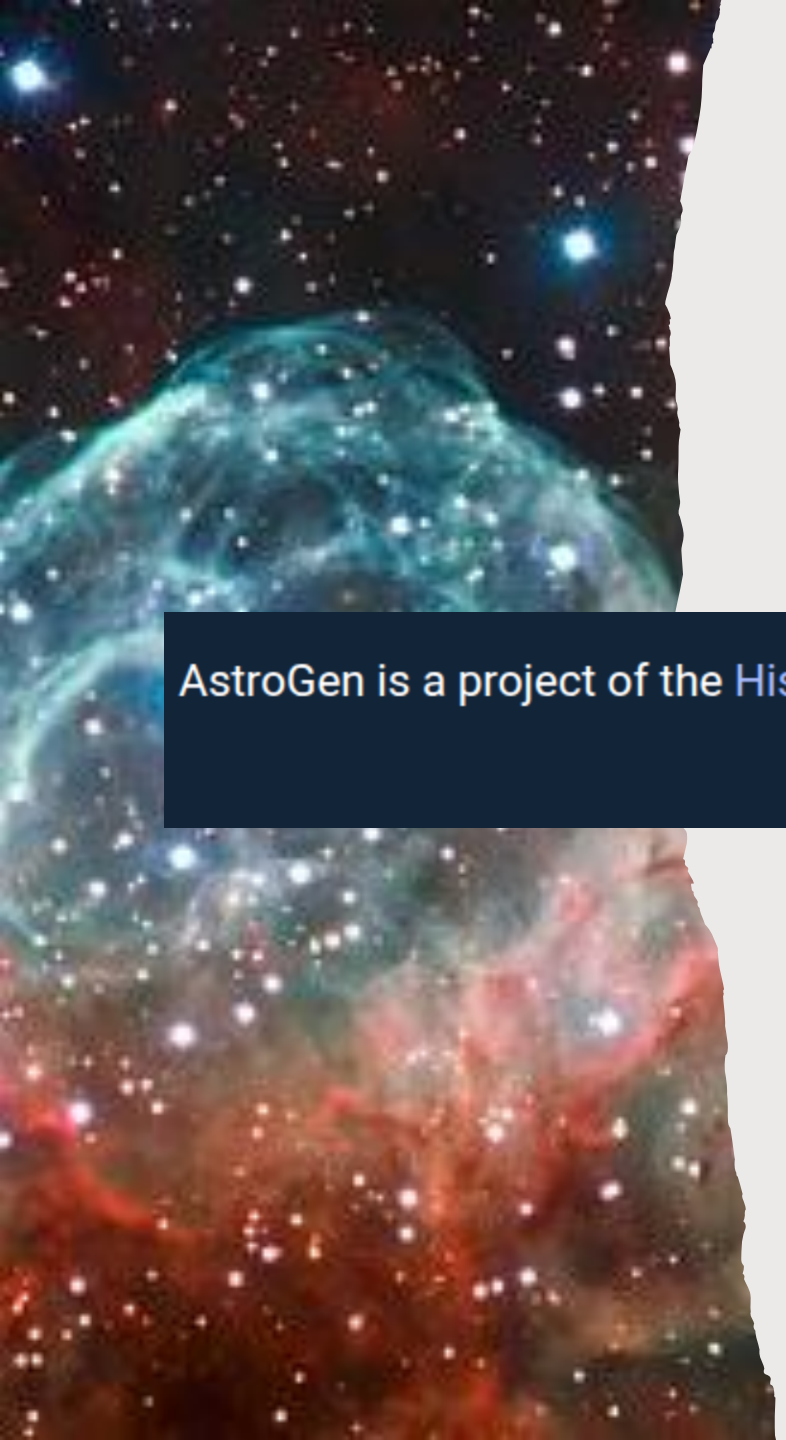




Os que crearon escolas; pais e nais da A&A profesionai galega:



Os que crearon escolas; pais e nais da A&A profesionai galega:



Ramón María Aller Ulloa (USC): 5 teses dirixidas

Manuel Vázquez Abeledo (ULL): 8 teses dirixidas

Rosa Domínguez Tenreiro (UAM): 7 teses dirixidas

Minia Manteiga Outeiro (UDC): 7 teses dirixidas

AstroGen is a project of the Historical Astronomy Division (HAD) of the American Astronomical Society (AAS)

1944–1963

1978–2003

1989–2019

2004–2025

Rafael Cid Palacios (Unizar): 5 teses dirixidas.

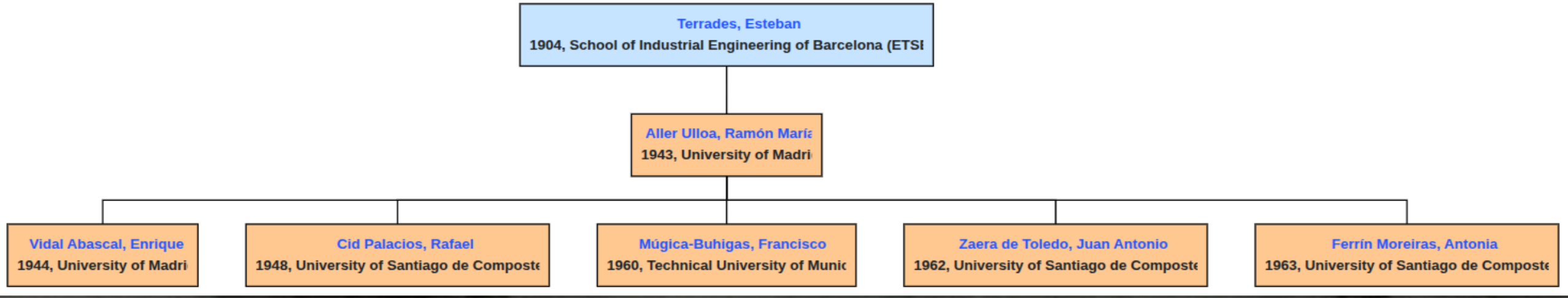
José Ángel Docobo Durántez (USC): 13 teses dirixidas

Enrique Zas Arregui (USC): 7 teses dirixidas

Ana Ulla Miguel (UVigo): 5 teses dirixidas

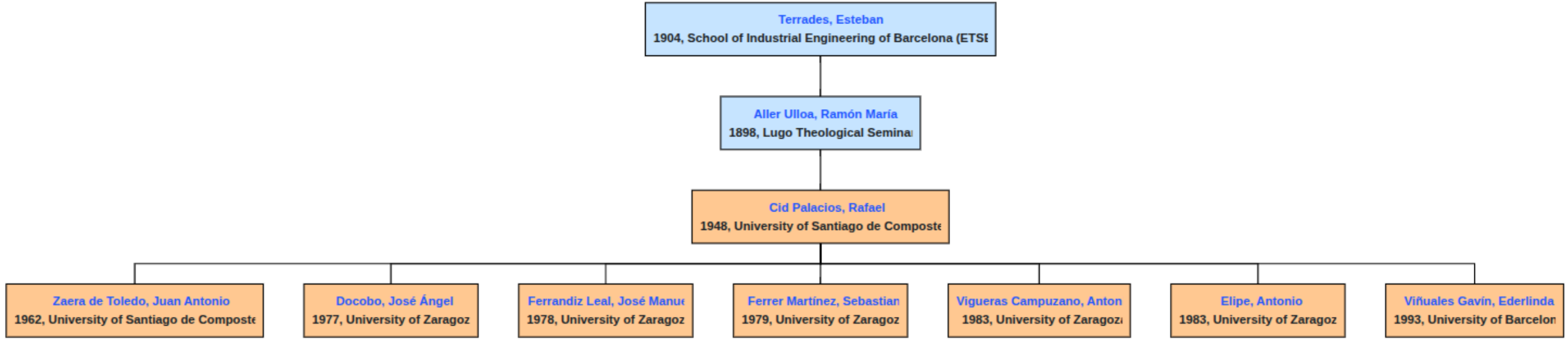
Aller Ulloa (5)

Estrelas binarias



Rafael Cid Palacios (7)

Mecánica celeste

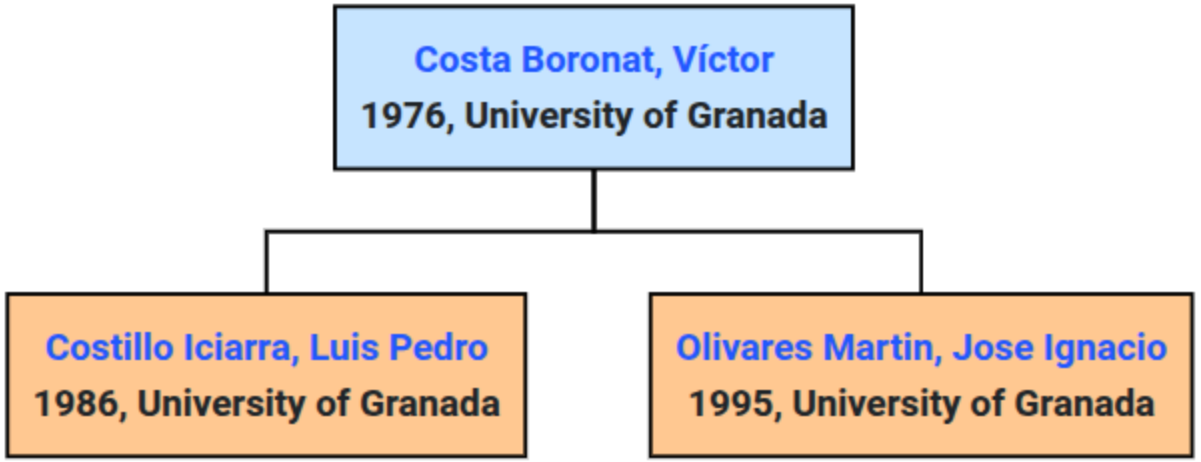


Manuel Vazquez Abeledo (8)

Astrofísica solar

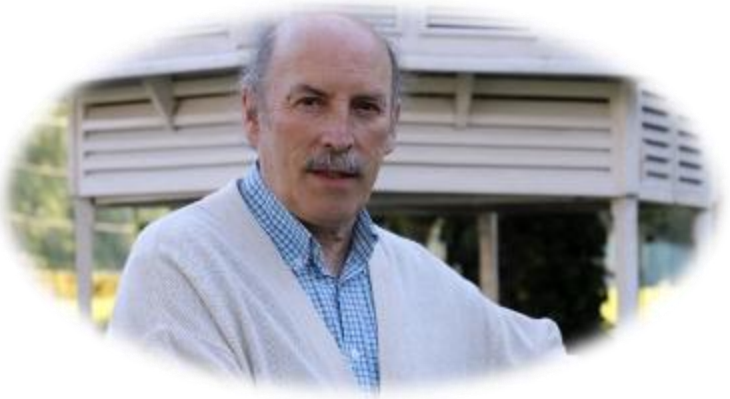
Víctor Costa Boronat (2)

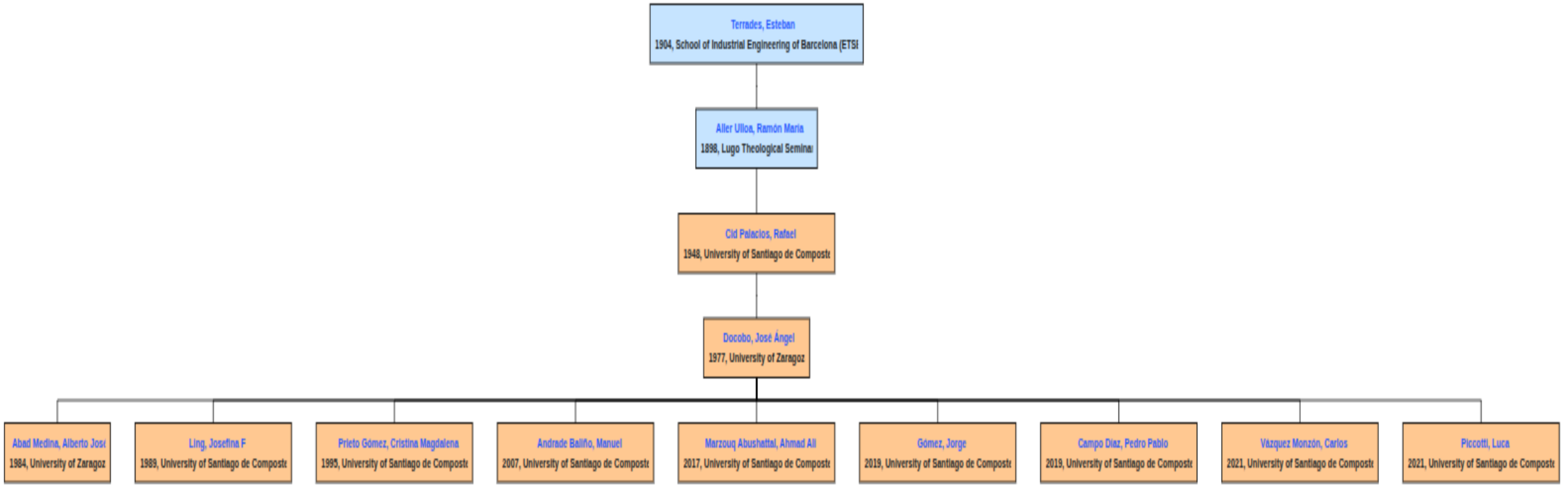
Instrumentación astronómica



José Ángel Docobo Durántez (12)

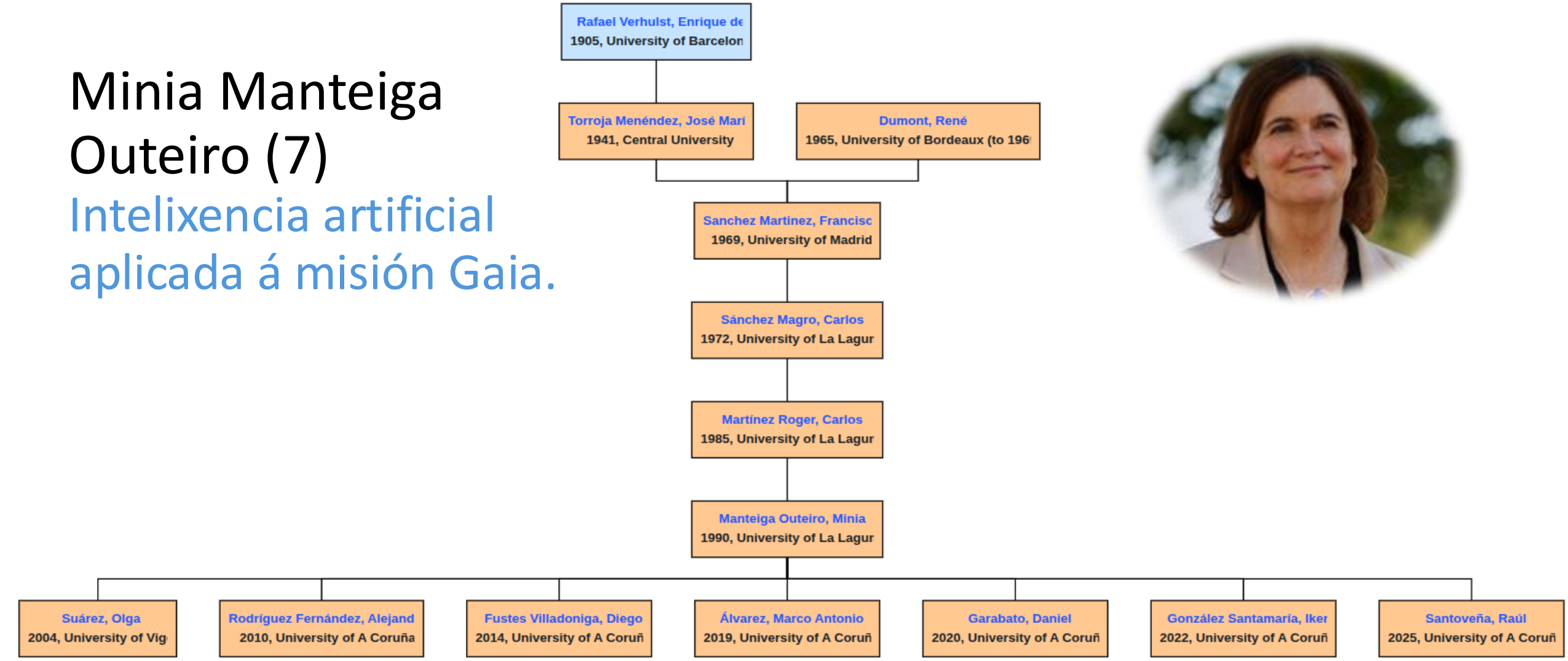
Estrelas binarias





Minia Manteiga Outeiro (7)

Intelixencia artificial aplicada á misión Gaia.

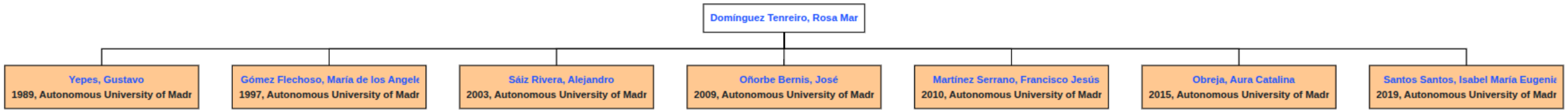


Ana Ulla Miguel (5)

Subananas quentes

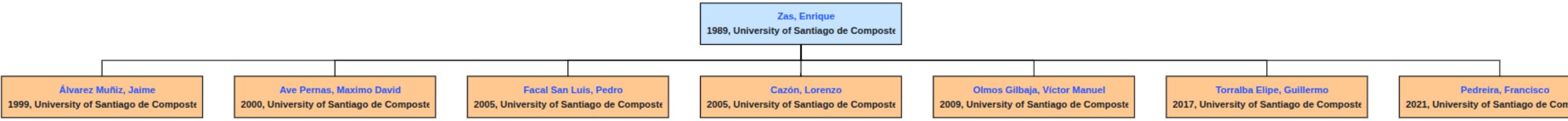
Rosa Domínguez Tenreiro (7)

Galaxias



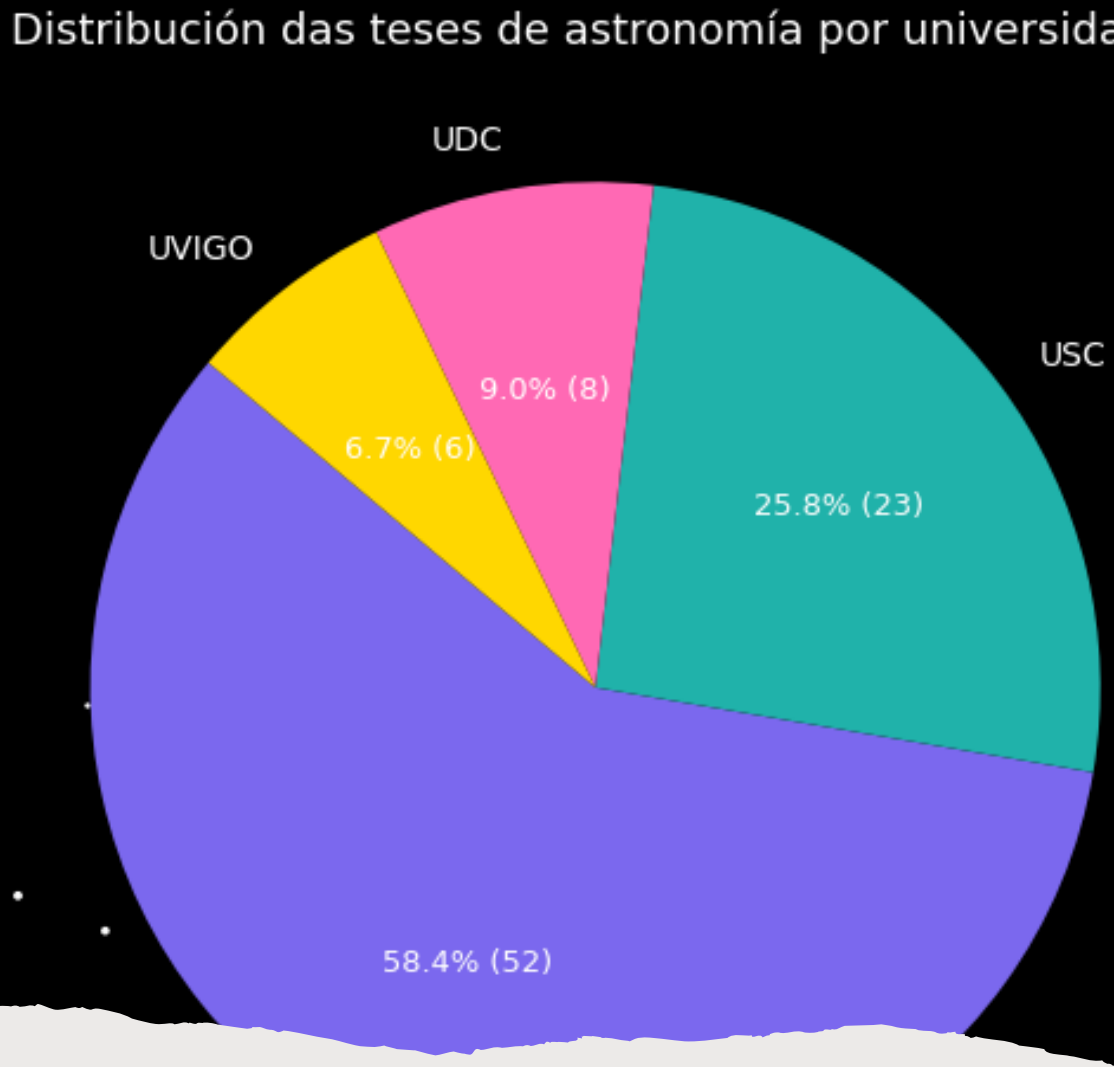
Enrique Zas Arregui (7)

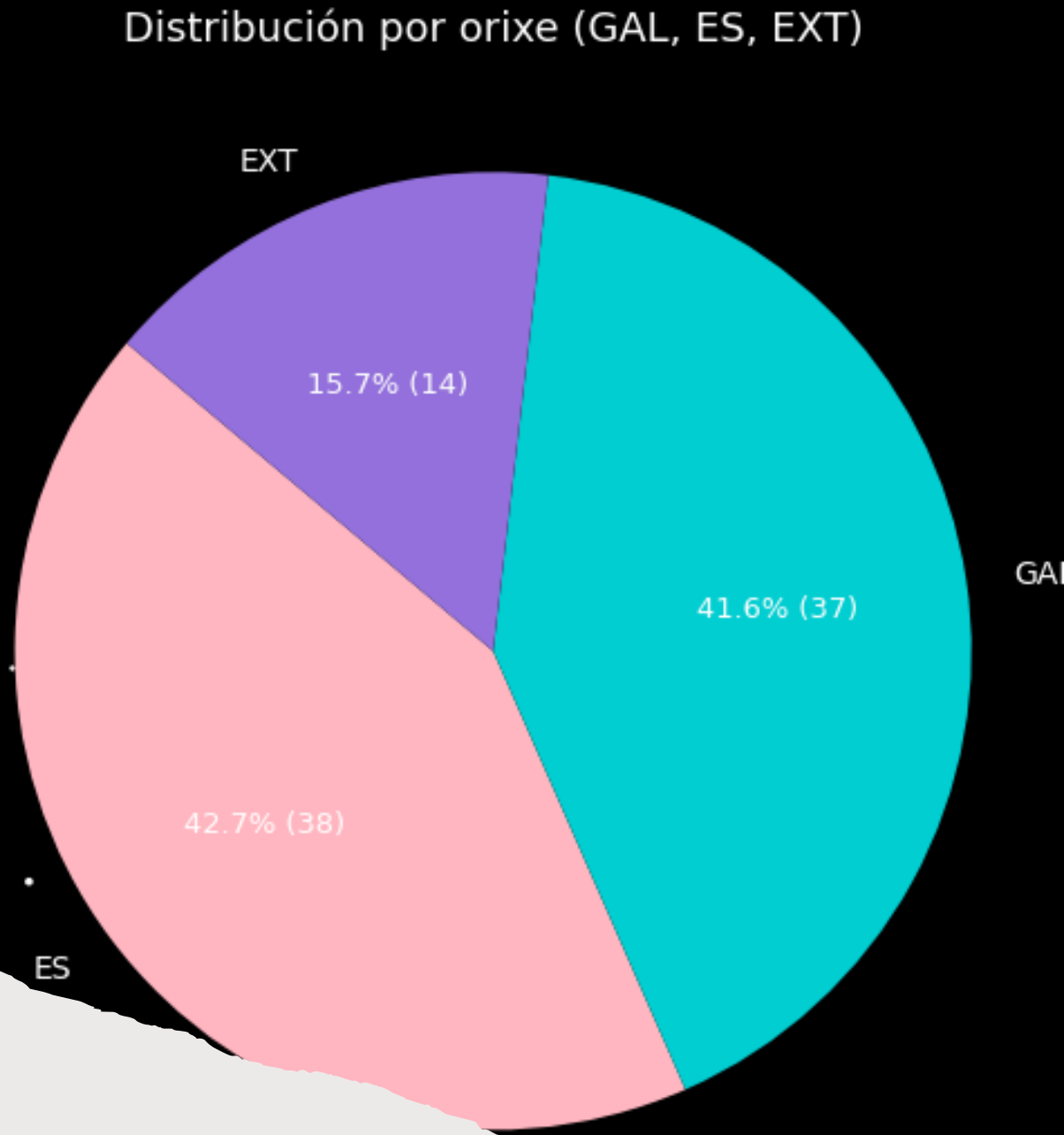
Astrofísica de partículas



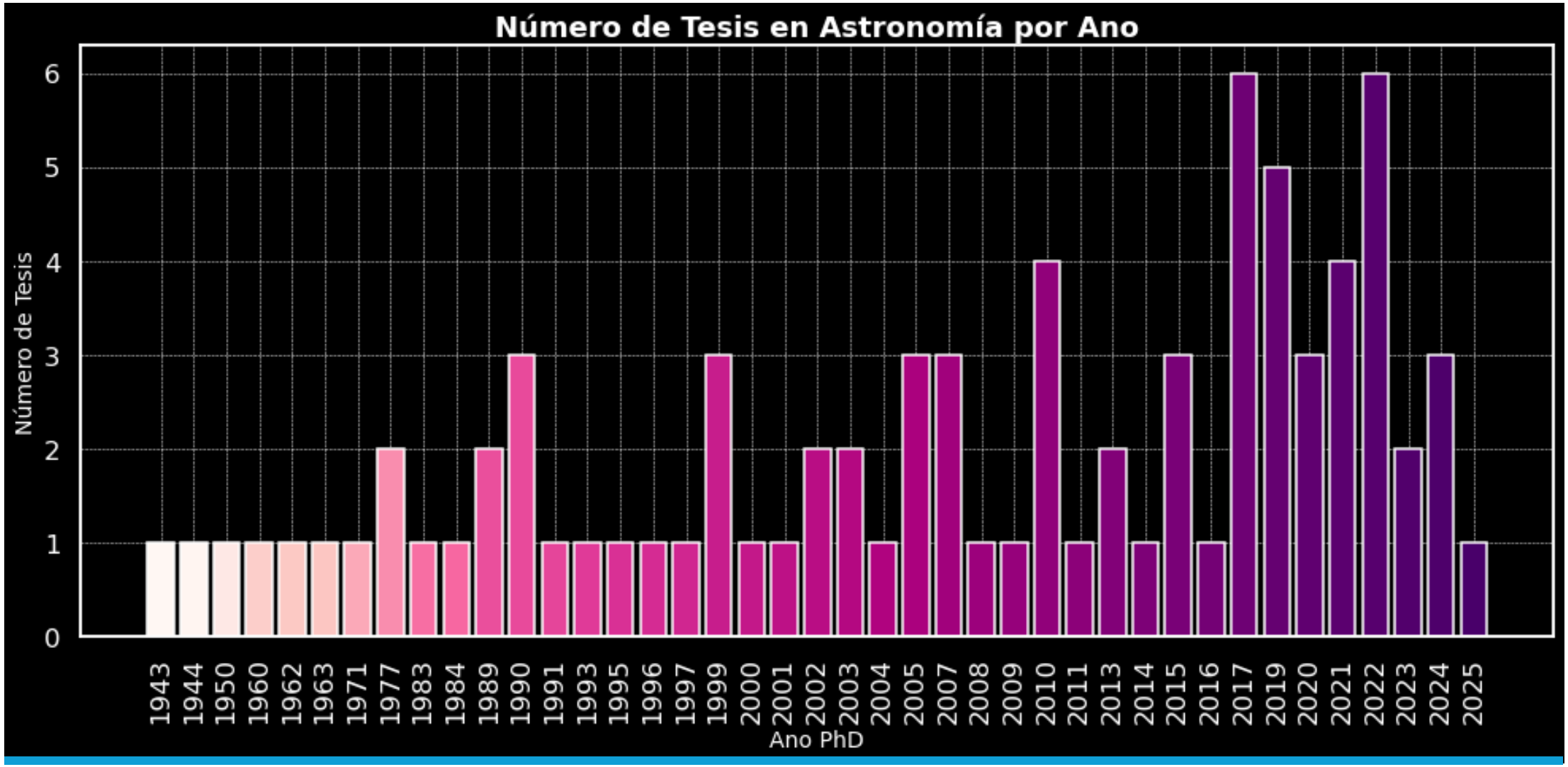
José Carlos Dafonte Vázquez (5)

Intelixencia artificial aplicada á misión Gaia.





Teses de astronomía (89)


Número de Tesis en Astronomía por Ano
Número de Tesis
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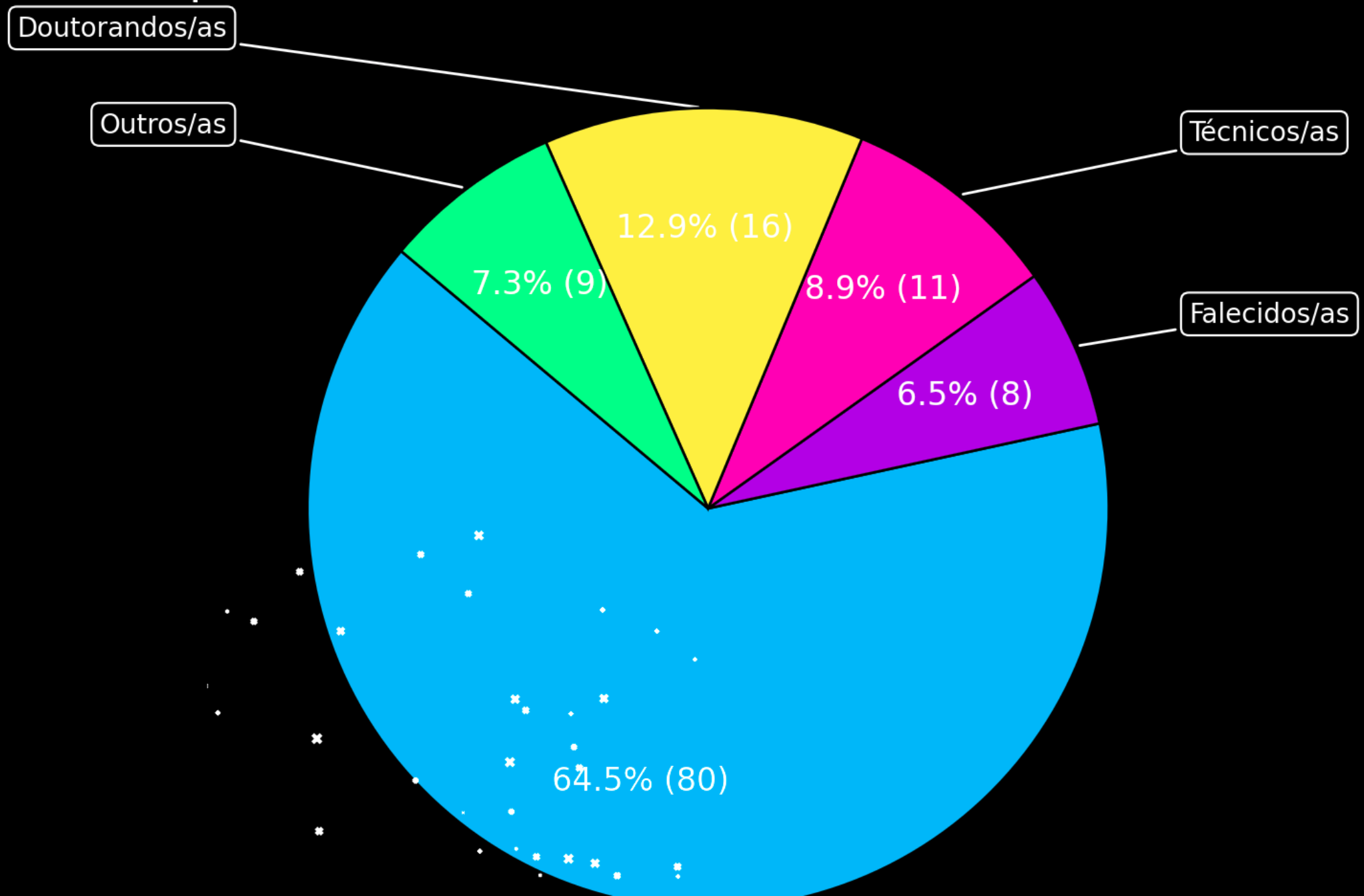
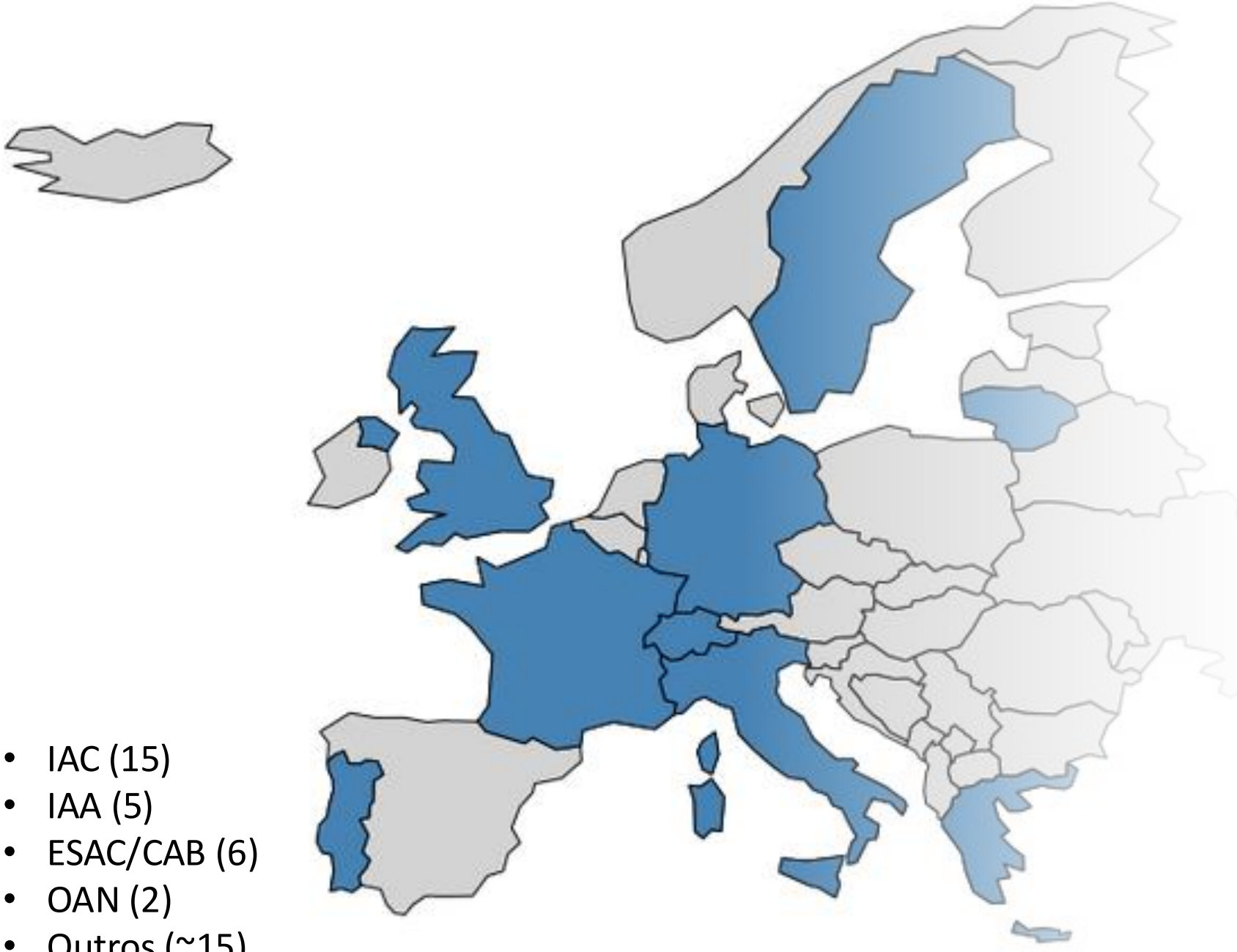
Ano PhD

Distribución por Perfil Profesional no eido da Astronomía (sobre 124)

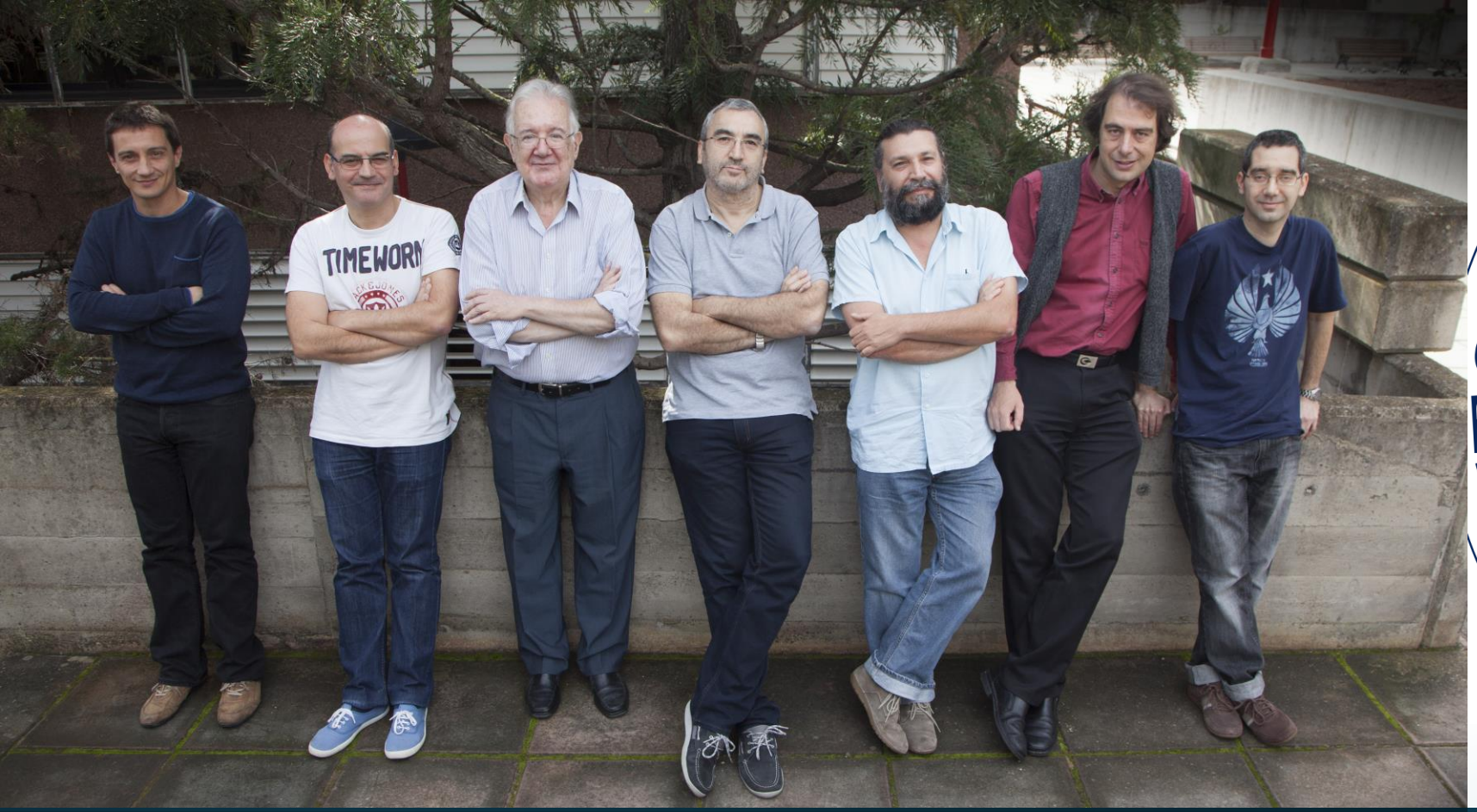




Astrónomos/as galegos/as na diáspora:

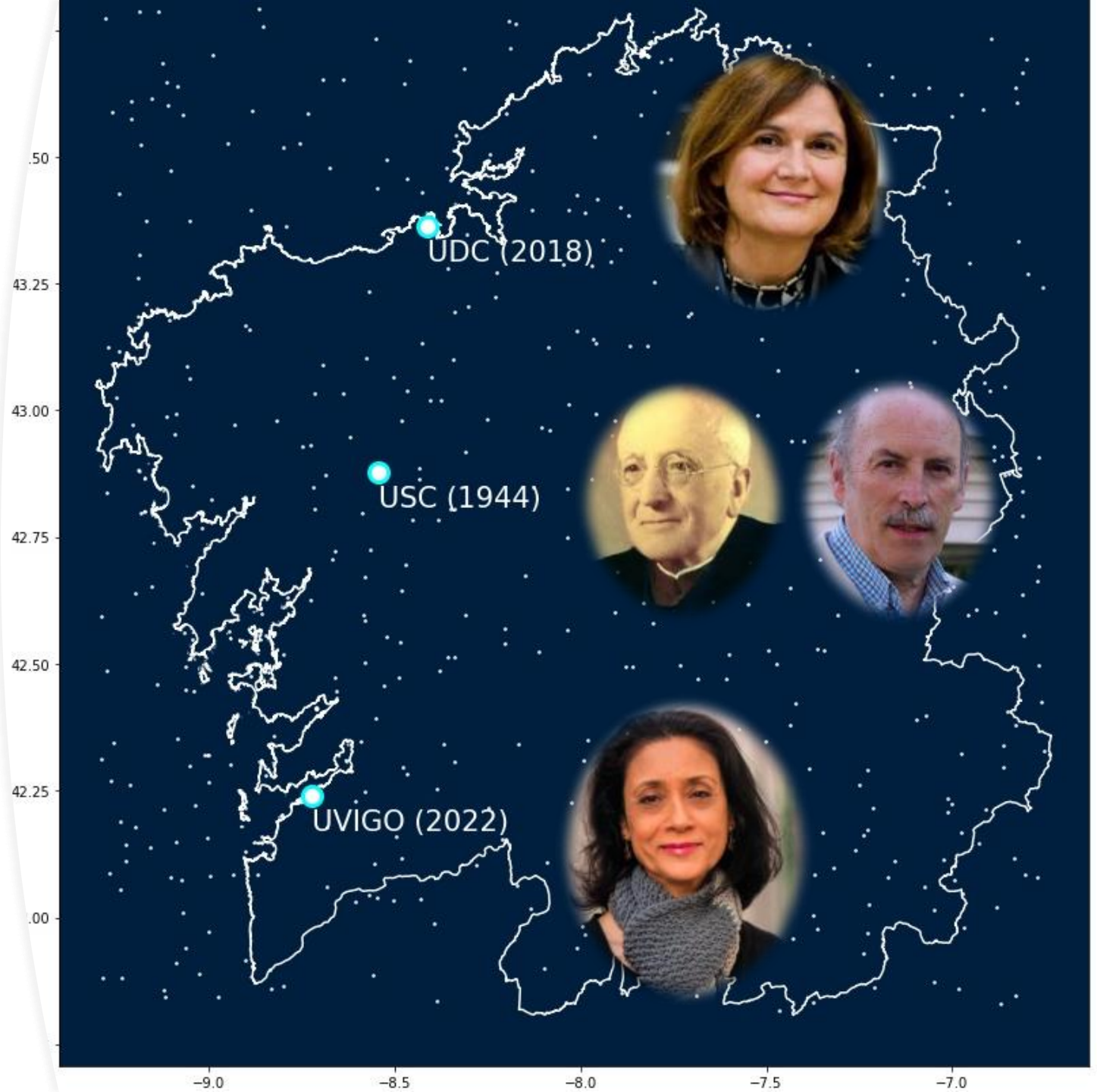
- Alemaña (2)
- Estados Unidos (5)
- Francia (4)
- Grecia (1)
- Italia (3)
- Lituania (1)
- Portugal (1)
- Reino Unido (2)
- Suecia (1)
- Suíza (1)

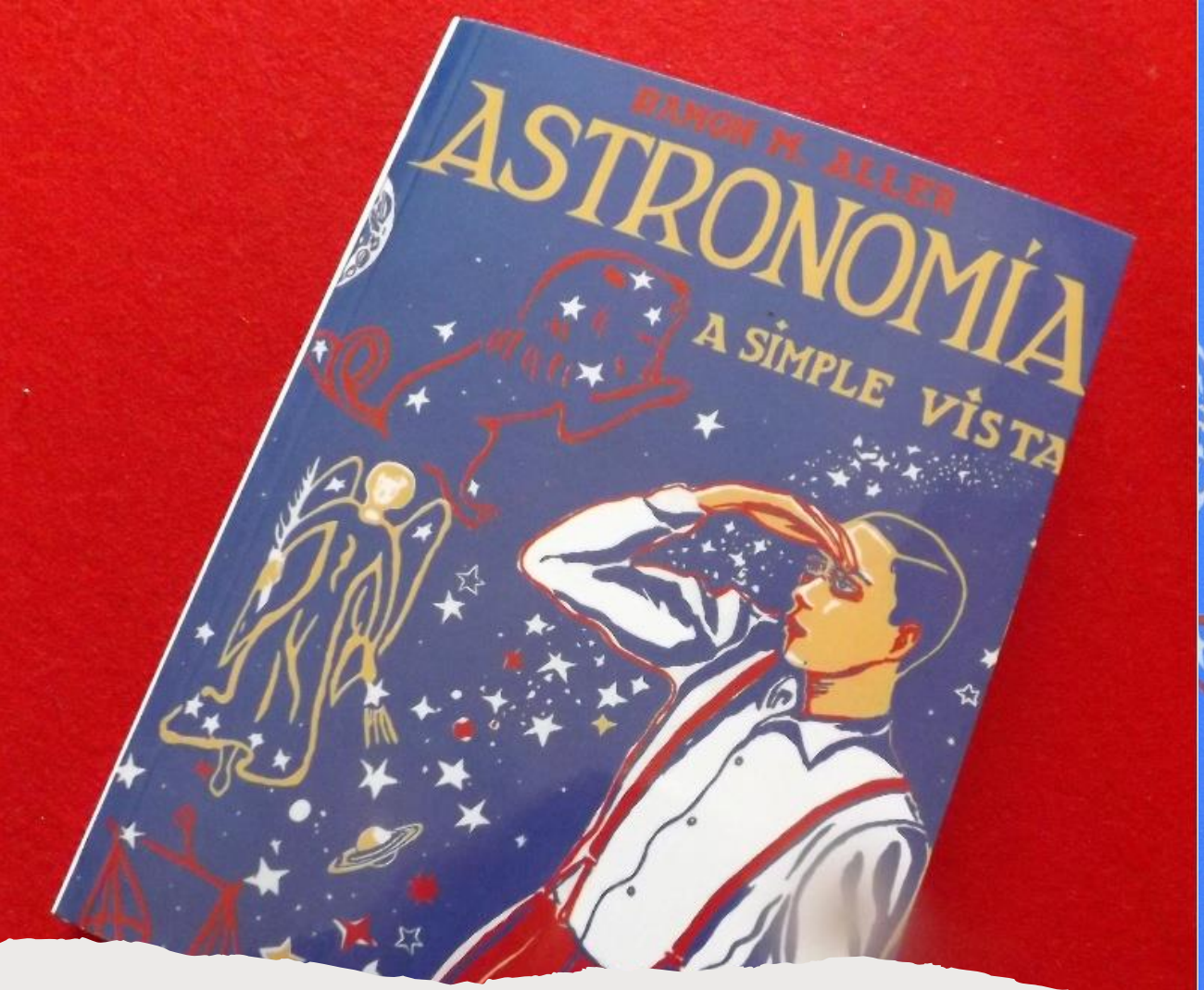
- IAC (15)
- IAA (5)
- ESAC/CAB (6)
- OAN (2)
- Outros (~15)

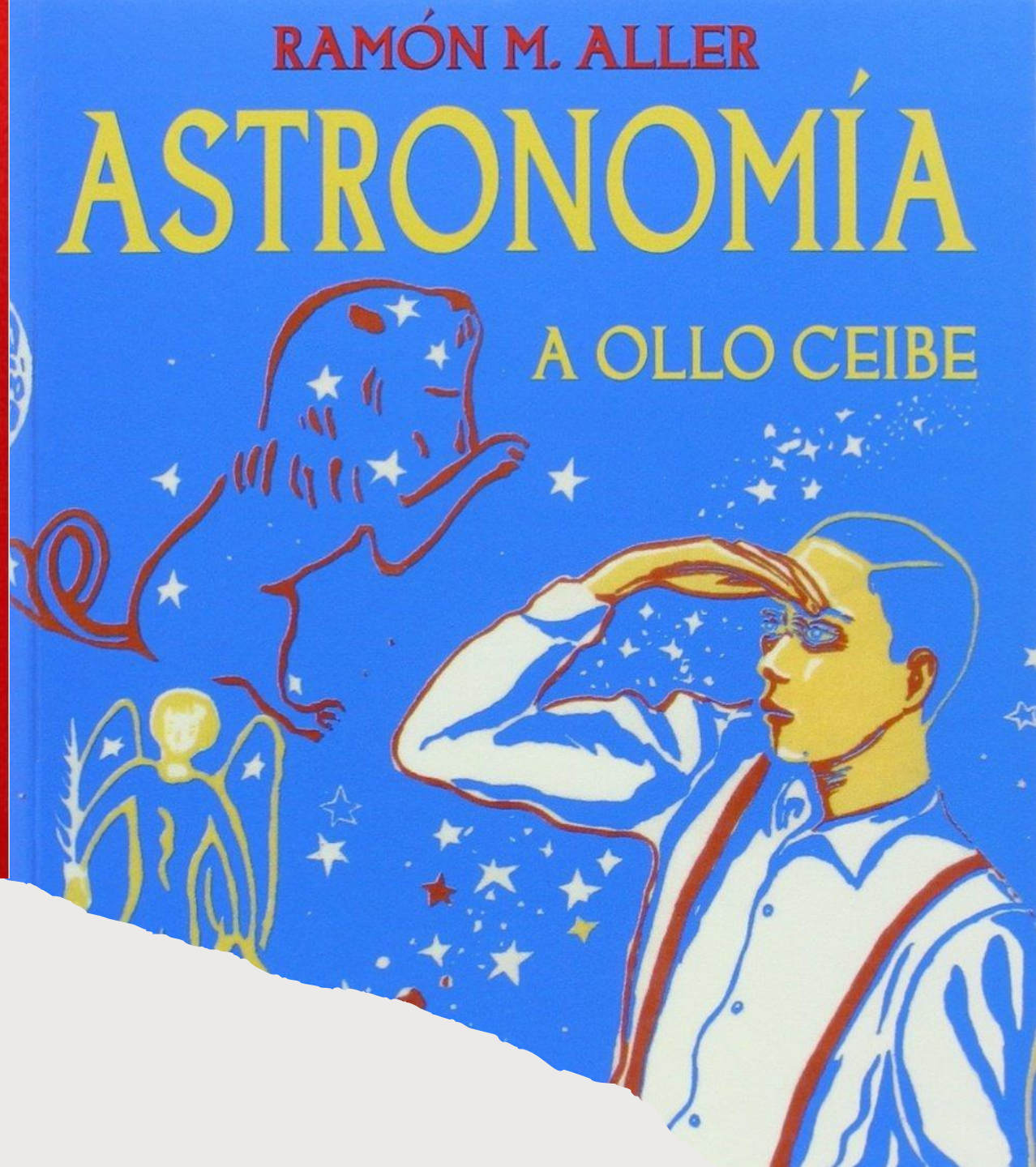


o grupo máis numeroso

As Cátedras de Astronomía e Astrofísica de Galicia



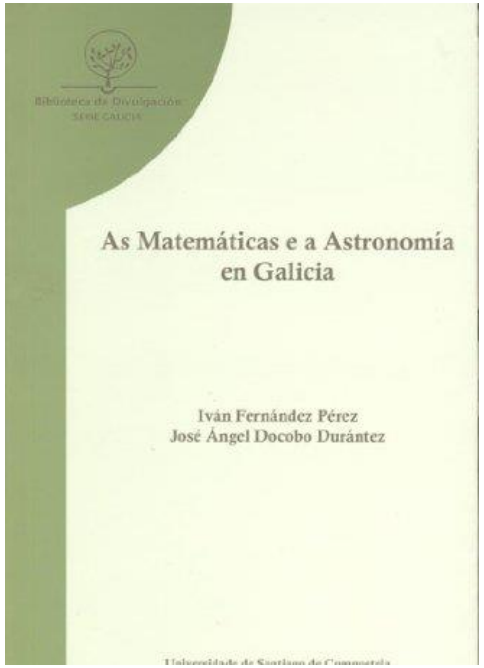


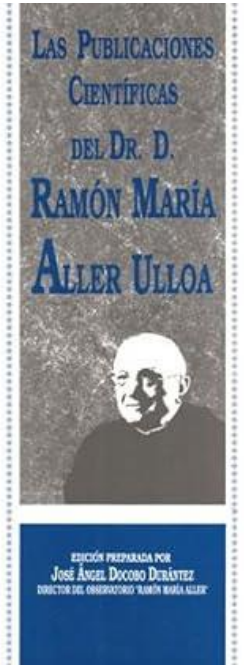


Ramón María Aller Ulloa

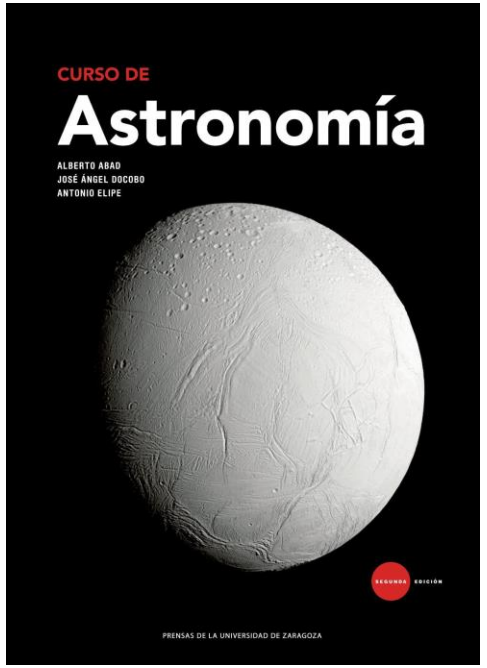
Ana Ulla Miguel

Docobo et al.


As Matemáticas e a Astronomía en Galicia
Iván Fernández Pérez
José Ángel Docobo Durántez

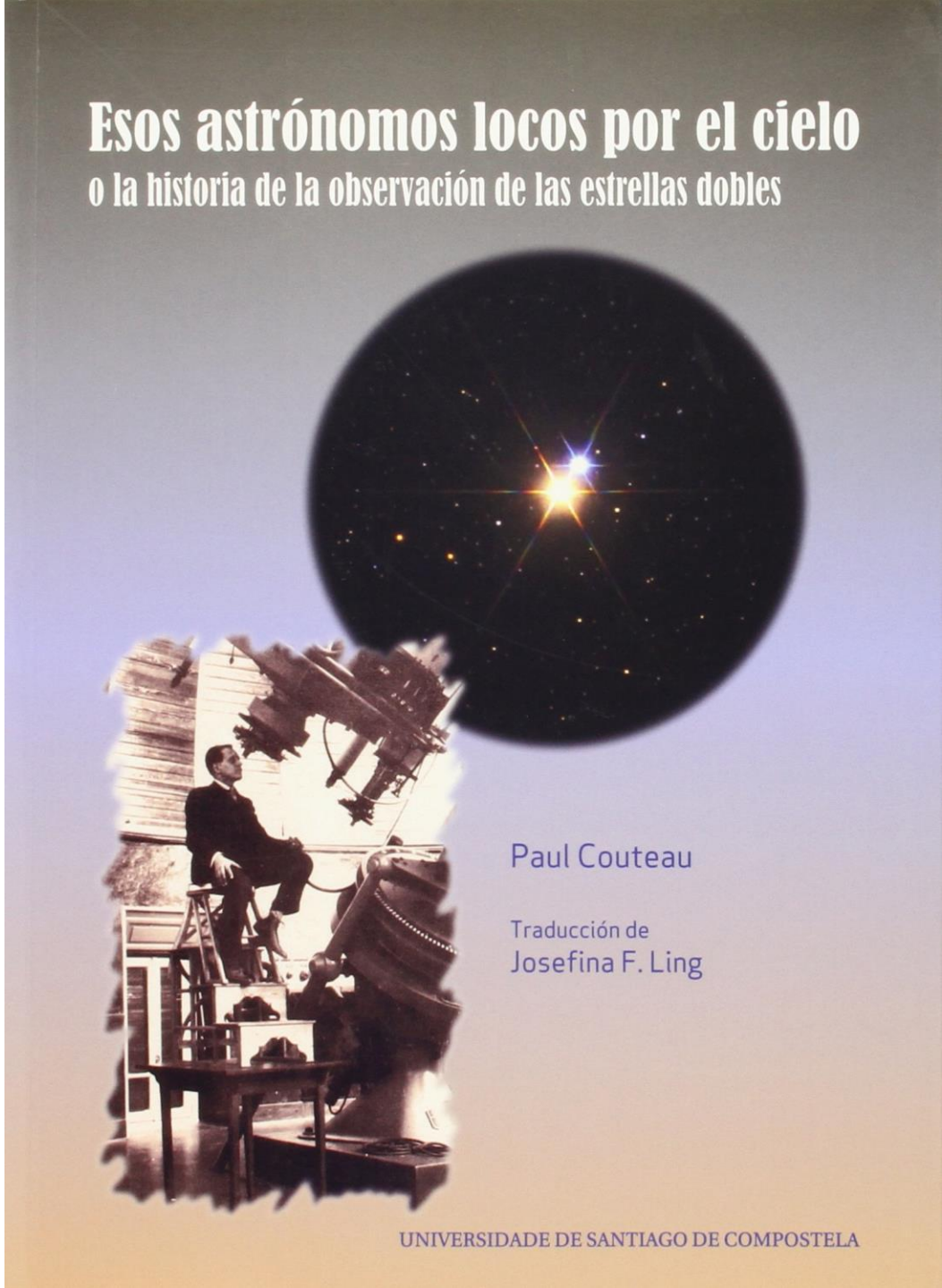

Las Publicaciones Científicas del Dr. D. Ramón María Aller Ulloa
Edición preparada por
José Ángel Docobo Durántez

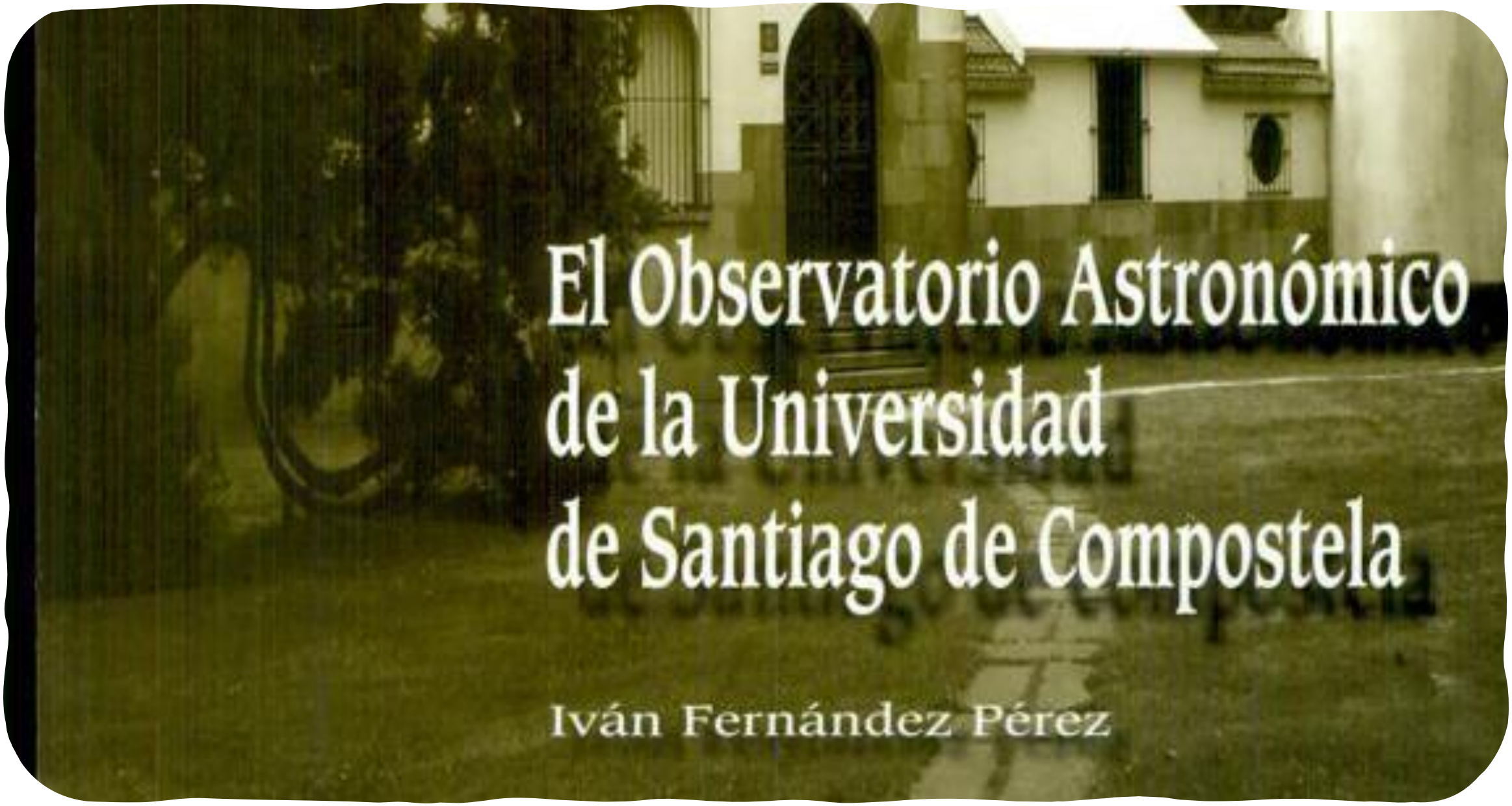

Ramón María Aller Ulloa
Astrónomo e Matemático
BIOGRAFÍA

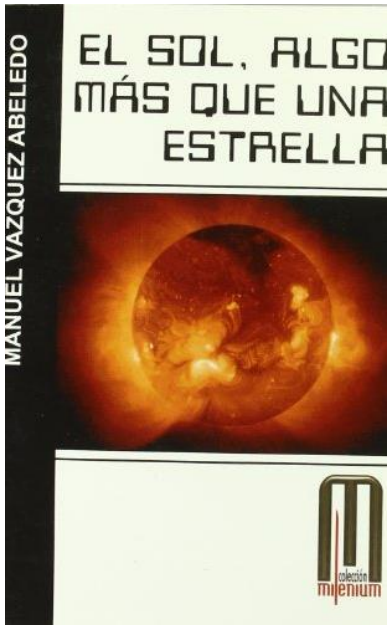

CURSO DE
Astronomía
ALBERTO ABAD
JOSÉ ÁNGEL DOCOBO
ANTONIO ELIPE
PRENSAS DE LA UNIVERSIDAD DE ZARAGOZA

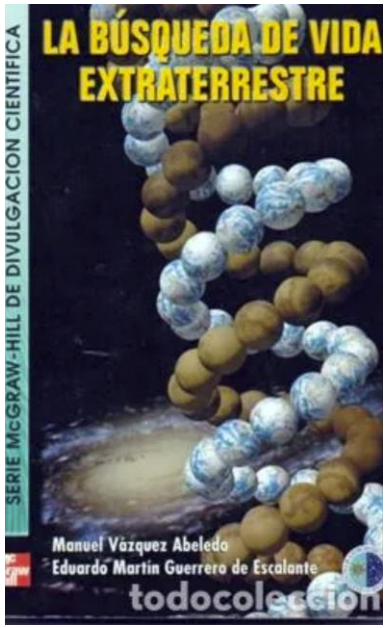

ASTRONOMÍA
EN GALEGO
PARA APRENDER E DESFRUTAR
José Ángel Docobo Durántez
Pedro Pablo Campo Díaz
José Ramón González Romay

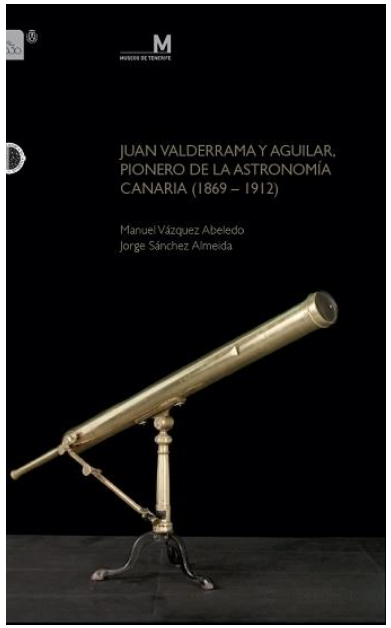
Josefina Faen Ling

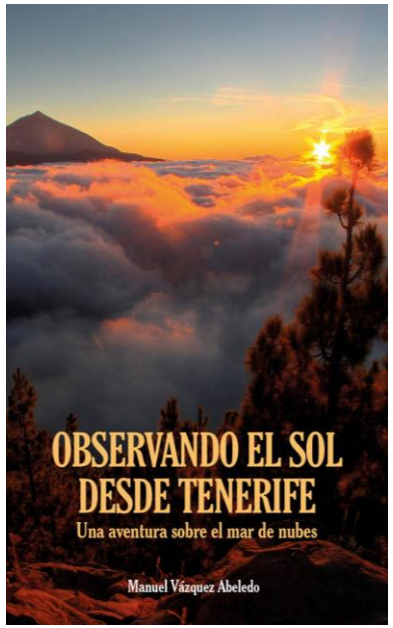


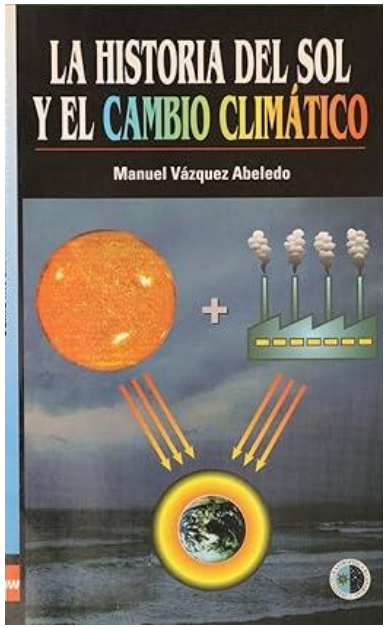

El Observatorio Astronómico
de la Universidad
de Santiago de Compostela
Iván Fernández Pérez

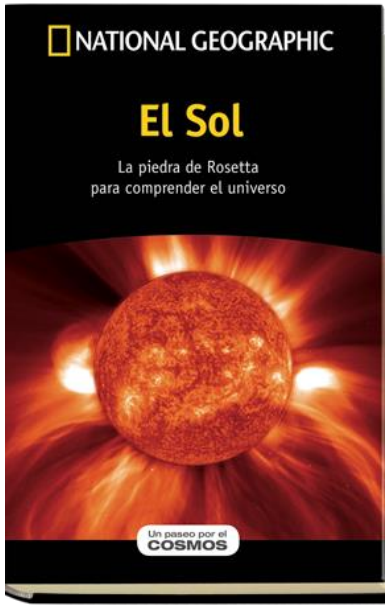












Manuel Vázquez Abeledo

IV Reunión Científica SEA (Santiago de Compostela, 2000)

Visual double stars: formation, dynamics and evolutionary tracks, Santiago, 1996.

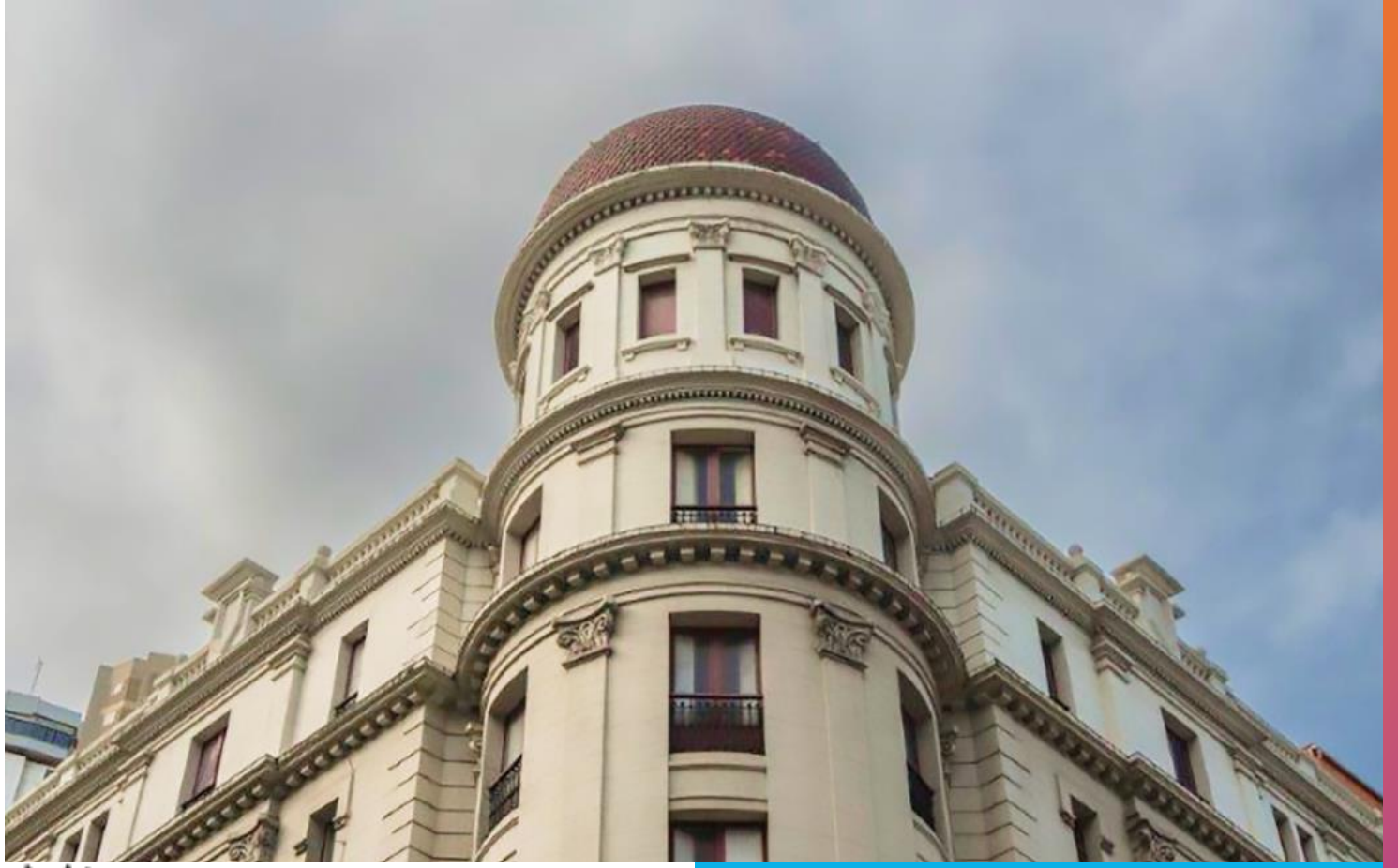
MW-Gaia WG5 workshop
Breaking Barriers: Inspiring the Next Generation, Santiago 2022

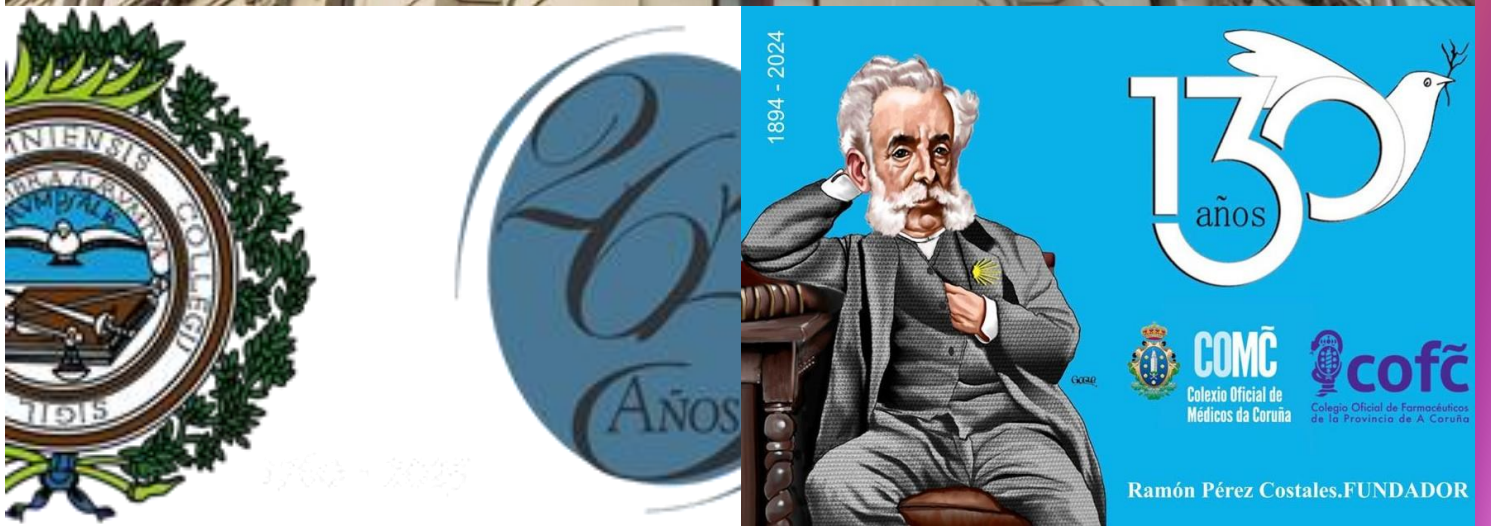
22 de agosto de 2024,
Observatorio Astronómico de Forcarei (OAF)

Os colexios profesionais en Galicia

Notarios, avogados, médicos, farmacéuticos, enxeñeiros... teñen as súas asociacións en Galicia dende hai décadas ou mesmo séculos.

Os astrónomos galegos tamén temos dereito a organizarnos como profesionais!





Conclusións

Mañá: 12.10 h Discusión conxunta sobre asuntos do grupo GIAA

- Galicia conta cunha **tradición** científica ligada á astronomía.
- Dispón de **capital humano** altamente cualificado.
- Posúe **infraestruturas** axeitadas para a investigación e a colaboración científica.
- Ten **potencial** para destacar a nivel nacional e internacional.
- Reúne as **condicións necesarias** para organizarse como unha **comunidade** profesional sólida.