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50th Inner Ear Biology Workshop

Alcalá de Henares
Madrid / Spain
September 10th-13th
2013

&

Symposium

Hearing solutions:
up to the ciliated cell and beyond

September 10th
2013

PROGRAM

Organized by:



50th Inner Ear Biology Workshop

Welcome

On behalf of the Organizing Committee it is our honour to welcome you to the 50th Workshop Inner Ear Biology (IEB).

The Workshop held at the University of Alcalá, from 11th-13th September 2013 is preceded by a clinically-oriented Symposium entitled “Hearing solutions: up to the ciliated and beyond”, on 10th September.

IEB has been consolidated as a series of annual workshops that bring together world leaders in the field. In 2013 we celebrate the 50th IEB Anniversary, and the inaugural and celebration conferences are designed to engage and inspire a new generation of inner ear researchers. The IEB Workshop is a consolidated forum for multidisciplinary interaction between basic research scientists and clinical scientists, working at the genetic, molecular, cellular, and whole-organ levels. Your participation, through the presentation of latest research results, developments, and applications in inner ear biology is instrumental for the success of this edition and of future IEB Workshops.

We are looking forward to share a memorable time at Alcalá de Henares.

On behalf of the Organising Committee.

Teresa Rivera & Isabel Varela-Nieto

IEB 50th Workshop

Chairs

Teresa Rivera Rodríguez
Isabel Varela-Nieto

Organising Committee

Carlos Avendaño	Marta Magariños
Rafael Cediel	Manuel Manrique
Julio Contreras Rodríguez	Miguel Merchán
Francisco J. del Castillo	José María Millán
Ignacio del Castillo	Miguel Ángel Moreno Pelayo
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Javier Gavilán Bouzas	Rafael Ramírez Camacho
José Manuel Juiz	Lorena Sanz López
Luis Lassaletta Atienza	Rafael Urquiza
José Antonio López Escámez	

International Scientific Committee

Jonathan Ashmore (UCL, UK)
Graça Fialho (Univ. Lisbon, Portugal)
Anthony W. Gummer (Univ. Tübingen, Germany)
Juichi Ito (Univ. Kyoto, Japan)
Gaetano Paludetti (Catholic Univ. of the Sacred Heart, Rome, Italy)
Marcelo Rivolta (Univ. Sheffield, UK)
Josef Syka (Inst. Exp. Medicine Prague, Czech Republic)

IEB 50th Anniversary Committee

José Manuel Juiz (Univ. Castilla-La Mancha, Spain)
Andrew Forge (UCL, UK)
Anthony W. Gummer (Univ. Tübingen, Germany)
Stavros Hatzopoulos (Univ. Ferrara, Italy)
Angela Meyer zum Gottesberger (Univ. Düsseldorf, Germany)
Jean-Luc Puel (Univ. Montpellier, France)
Jochen Schacht (Univ. Ann Arbor, USA)
Anne Schrott Fischer (Univ. Innsbruck, Austria)

Spendlin Junior Award Committee

Rafael Urquiza (Univ. Málaga, Spain)
Anna R. Fetoni (Univ. Rome, Italy)
Marlies Knipper (Univ. Tübingen, Germany)
Marcelo N. Rivolta (Univ. Sheffield, UK)

Organising Secretariat

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Symposium

Hearing solutions: up to the ciliated cell and beyond

Program

10th September 2013
Tuesday

Venue: Facultad de Ciencias Económicas y Empresariales
Universidad de Alcalá
De la Victoria Square, 2
Alcalá de Henares (Madrid), Spain

Symposium Chair: Teresa Rivera MD PhD

08:00 **Registration**

10:00 ***Auditory pathway and cochlear implants***

Chair: Manuel Manrique MD PhD

Learning to preserve the inner ear function during cochlear implantation

Manuel Manrique

Drug delivery through cochlear implants

Claude Jolly

PET scan, an alternative to discover the effects of auditory deprivation

Javier Arbizu

Awaking the central auditory system with cochlear implants

Karen Gordon

11:30 **Coffee break**

12:00 ***Indications in auditory implants***

Chair: Luis Lassaletta MD PhD

12:00 ***Conference: From hearing aids to ABI (auditory brainstem implant): a world of options***

Luis Lassaletta MD PhD

12:30 ***Round table: Hearing solutions in different clinical situations***

Chair: Javier Gavilán

Participants:

Carlos Cenjor

Martin Kompis

Georg Sprinzl

Ángel Ramos

Luis Lassaletta

IEB 50th Workshop Program

10th

September 2013
Tuesday

16:00

Registration Poster Session I Stands

Venue:

Facultad de Ciencias Económicas y Empresariales
Universidad de Alcalá
De la Victoria Square, 2
Alcalá de Henares

18:00

Inauguration Plenary Conference: *Celebrating IEB 50th Anniversary*

Chair: José Manuel Juiz

Inner ear biology at fifty

Jochen Schacht (UMICH, Ann Arbor, USA)

Venue:

Colegio San Ildefonso (Rectorado)
Universidad de Alcalá
San Diego Square
Alcalá de Henares

19:00

Guided visit to the old University of Alcalá

Venue:

Colegio San Ildefonso (Rectorado)
Universidad de Alcalá
San Diego Square
Alcalá de Henares

20:00

Welcome Cocktail

Venue:

Patio de Filósofos
Colegio San Ildefonso (Rectorado)
Universidad de Alcalá
San Diego Square
Alcalá de Henares

11th September 2013 Wednesday

08:00

**Registration
Poster Session I**

08:30

Welcome to the participants

08:45

Session 1: *Molecular and anatomical bases of hearing and hearing loss (I)*

Chairs: Miguel Merchán and Angela Meyer zum Gottesberg

Target Lecture:

Behavioral responses in a complex auditory discrimination task depends on the sequence of cues
Alessandro E.P. Villa (UNIL, Lausanne, CH)

09:15

Oral presentations:

- O-01 *Sensorineural hearing loss and ischemic injury: development of animal models to assess vascular and oxidative effects*
Elena Olivetto, Valeria Guaran, Edi Simoni, Pietro Giordano, Rina Bragagnolo, Laura Astolfi and Alessandro Martini
- O-02 *Dexamethasone prevents electrode insertion trauma-initiated inflammatory response and fibrosis*
Esperanza Bas, Chhavi Gupta, Adrien A. Eshragui and Thomas R. Van De Water
- O-03 *The inferior colliculus is not an obligatory relay in the ascending auditory pathway*
Enrique Saldaña, F. Javier Bernardo, Yongming Jin, Marcelo Gómez-Álvarez, M. Auxiliadora Aparicio, Emmanuel Márquez, David Sloan and Albert S. Berrebi
- O-04 *On the controversy about the sharpness of human cochlear tuning*
Enrique A. López-Poveda and Almudena Eustaquio-Martin
- O-05 *Voltage under fire: fast IR laser-induced shifts in prestin's Boltzmann distribution along the voltage axis*
Rotimi Okunade and Joseph Santos-Sacchi

- O-06 *Intravital calcium imaging of cochlear hair cells upon sound stimulation*
Yu Matsumoto, Shotaro Karino, Shigeyuki Namiki,
 Kazunori Kataoka and Tatsuya Yamasoba

10:45

Coffee break

11:15

Session 2: *Molecular and anatomical bases of hearing and hearing loss (II)*

Chairs: Barbara Canlon and Anthony W. Gummer

Target Lecture:

Myosins as system integrators for the regulation of mechanotransduction in the inner ear
 Bechara Kachar (NIDCD, Bethesda, USA)

11:45

Oral presentations:

- O-07 *Identification of tympanic border cells as slow-cycling cells in the cochlea*
Norio Yamamoto, Mirei Taniguchi,
 Takayuki Nakagawa, Eriko Ogino and Juichi Ito
- O-08 *A voltage sensitive dye assessment of electrical coupling in cell networks of the inner ear*
Federico Ceriani and Fabio Mammano
- O-09 *Circadian rhythms in the auditory system*
 Inna Meltser, Vasiliki Basinou, Sergey Savelyev,
 Christopher R. Cederroth, Gabriella Schmitz
 Lundkvist and Barbara Canlon
- O-10 *The role of transmembrane channel-like proteins in hair cell mechanotransduction*
Robert Fettiplace, Kyunghye X. Kim,
 Shanthini Mahendrasingam, Carole M. Hackney
 and David N. Furness
- O-11 *Inner hair cell membranes in three dimensions: links between membranes, mitochondria and synaptic vesicles*
Anwen Bullen, Roland Fleck, Jonathan Ashmore,
 Carolyn Moores and Andrew Forge

13:30

Lunch

15:00

Poster Session I: from P-01 to P-37

16:00

Sessions 3 and 4: *Genetics of Hearing Impairment in Human and Mouse*

Chairs: Karen P. Steel and Hannie Kremer

Target Lecture 1:

Genetics of monogenic deafness unraveled at fast pace
 Hannie Kremer (UMC, Nijmegen, NL)

16:30

Target Lecture 2:

*Mouse models for human hereditary deafness
DFNA8/12 and DFNB21*

Guy Richardson (US, Sussex, UK)

17:00

Oral presentations:

O-12 *A nonsense mutation in CLIC5 causes autosomal recessive sensorineural hearing impairment with vestibular dysfunction*
Celia Zazo Seco, Anne Oonk, Jaap Oostrik, Ronald Admiraal, Hannie Kremer and Margit Schraders

O-13 *Novel genetic tools to screen for deafness-causing mutations in the tandemly-duplicated region that contains the STRC (stereocilin) gene and its pseudogene*
Laura Ruiz-Palmero, Marta Gandía, Elena Gómez-Rosas, Manuela Villamar, Felipe Moreno, Ignacio del Castillo and Francisco J. del Castillo

O-14 *Identification of rare variants in Mt-ND1 and LARS human genes in Meniere's disease suggest a two-hit model*
Teresa Requena, Sonia Cabrera, Irene Gázquez and José Antonio López-Escámez

O-15 *Disturbance of axonal microtubules in the auditory nerve and outer hair cell degeneration accompanied by progressive hearing loss in the Pmn/Pmn mouse*
Kristen Rak, Silke Frenz, Johannes Völker, Andreas Radeloff, Rudolf Hagen, Sibylle Jablonka and Robert Mlynski

O-16 *Correction of hearing in the mouse model of hereditary deafness by Gjb2 gene transfer using adeno-associated viral vectors*
Katsuhisa Ikeda, Takashi Iizuka, Kazusaku Kamiya and Osamu Minowa

O-17 *Developmental changes of epithelial Na⁺ channel expression and function in the inner ear of pendrin knock-out mouse as a perspective of development of endolymphatic hydrops*
Sung Huhn Kim, Bo Gyung Kim, Jin Young Kim and Jae Young Choi

18:30

End of Poster Session I

19:30

Guided visit to the old historic city center of Alcalá de Henares

Starting from:

Facultad de Ciencias Económicas y Empresariales
Universidad de Alcalá
De la Victoria Square, 2
Alcalá de Henares

12th September 2013 Thursday

08:00

**Registration
Poster Session II**

09:00

Session 5: *Ototoxic damage and Vestibular diseases*

Chairs: Agnieszka J. Szczepek and Giovanni Paludetti

Target Lecture:

Deep phenotyping of vestibular disorders for next generation sequencing

José Antonio López Escámez (UGR, Granada, SP)

09:30

Oral presentations:

O-18 *Modulation of copper transporters in protection against cisplatin-induced cochlear hair cell damage*
Dalian Ding and Richard Salvi

O-19 *Effect in vivo of dimethyl sulphoxide (DMSO) in the ototoxicity by cisplatin, an animal model*
Amaya Roldán-Fidalgo, Almudena Trinidad Cabezas and Rafael Ramírez-Camacho

O-20 *Co-treatment with ototoxic nitriles and CYP2E1 inhibitors: a new mouse model for vestibular hair cell loss with limited systemic toxicity*
Jordi Llorens, Sandra Saldaña-Ruiz, Lara Sedó-Cabezón and Pere Boadas-Vaello

O-21 *Ubiquinone rescues auditory hair cells from the cisplatin-induced toxicity*
Agnieszka J. Szczepek, Elisabeth Gerschner, Heidi Olze, Olga Hegend and Birgit Mazurek

O-22 *Local delivery of brain-derived-neurotrophic factor on the perforated round window membrane: a possible clinical application*
Sarah Havenith, HuibVersnel, Sjaak F.L. Klis and Wilko Grolman

11:00

**Coffee break
Poster Session II**

11:30

Session 6: Noise-induced hearing loss

Chairs: Lukas Rüttiger and Anna Fetoni

Target Lecture:*ACEMg in the prevention and treatment of hearing impairment*

Josef M. Miller (UMICH, Ann Arbor, USA)

12:00

Oral presentations:O-23 *Acute antioxidant response and apoptosis regulation in rats after noise exposure*Pedro Melgar-Rojas, Juan Carlos Alvarado, Verónica Fuentes-Santamaría, M. Cruz Gabaldón and José Manuel JuizO-24 *Adenosine amine congener as a cochlear rescue agent: an update*Srdjan M. Vlakovic, Song Y. Paek, Howard H-T. Chi, Hao Chang and Peter R. ThorneO-25 *Autophagy is a defense mechanism against noise-induced hearing loss*Su-Hua Sha and Hu YuanO-26 *The early onset of oxidative stress processes in the organ of Corti after intense noise exposure: the role of membrane fluidity*A.R. Fetoni, G. Maulucci, S.L.M. Eramo, M. De Spirito, F. Paciello, D. Troiani and G. PaludettiO-27 *Hyperacusis and tinnitus studies in the aging rat*Dorit Möhrle, Ksenia Varakina, Marlies Knipper and Lukas RüttigerO-28 *C-RAF deficiency causes cochlear abnormalities and profound sensorineural deafness in the mouse*Marta Magariños, Rocío de Iriarte, Ulf R. Rapp and Isabel Varela-Nieto

13:30

Group photo

Venue:

Cloister of the Facultad de Ciencias Económicas y Empresariales

13:45

Lunch

15:00

Poster Session II: from P-38 to P-96

16:00

Session 7: Novel therapies and diagnostic tools

Chairs: Anneliese Schrott-Fischer and Allen Ryan

Target Lecture:*Exploring disrupted cochlear homeostasis: a second youth for "old" diagnostic tools?*

Paul Avan (UdA, Clermont-Ferrand, FR)

16:30

Oral presentations:

- O-29 *Auditory threshold estimation using short-pulse DPOAE input-output functions*
Dennis Zelle, Anthony W. Gummer and Ernst Dalhoff
- O-30 *Video head impulse test may represent a method for high frequency vestibular function and compensation phenomena assessment*
Hayo A. Breinbauer, Karina Aracena, José L. Anabalón, Diego Nazal and Jorge Caro
- O-31 *Visualization of internal structures in the vestibule and the semicircular canals using optical coherence tomography (OCT)*
Tatsunori Sakamoto, Yosuke Tona, Akiko Taura, Takayuki Nakagawa and Juichi Ito
- O-32 *Probing auditory nerve fiber loss using round-window neural noise*
Charlène Batrel, Jing Wang, Marc Lenoir, Jean-Luc Puel and Jérôme Bourien
- O-33 *Intratympanic administration of triamcinolone-acetonide: In-vivo release and proof of oto-compatibility*
Elisabeth Engleder, Clemens Honeder, Gottfried Reznicek, Michael Wirth, Christoph Arnoldner and Franz Gabor
- O-34 *Targeting the somatostatin receptors as a therapeutic approach for the preservation and protection of the mammalian cochlea from excitotoxicity*
Daniel Bodmer, Yves Brand, Soledad Levano, Cristian Setz and Vesna Radojevic

18:00

Plenary Conference: 50 years of IEB Science

Chair: Ignacio del Castillo

Inner ear biology at fifty - a science timeline

Jonathan Ashmore (UCL, London UK)

18:45

Spoendlin Award Lecture

Chair: Marcelo N. Rivolta

19:15

Spoendlin Award

21:00

Workshop dinner

Venue:

Parador de Alcalá de Henares

Colegios Street, 8

Alcalá de Henares

13th September 2013

Friday

08:00

Registration

09:00

Session 8: *Molecular bases of inner ear development and regeneration*

Chairs: Brigitte Malgrange and Takayuki Nakagawa

Target Lecture:*Translating development into regeneration for the ear*

Marcelo N. Rivolta (UoS, Sheffield, UK)

09:30

Oral presentations:O-35 *Function and regulation of Hey1 and Hey2 in cochlea development*Ana Benito González and Angelika DoetzlhoferO-36 *Effect of IGF-1 for spiral ganglion afferent dendrite and synapse regeneration*Nakarin Asaka, Takayuki Nakagawa, Norio Yamamoto, Tomoko Kita, Akiko Taura, Masaaki Ishikawa, Yushi Hayashi and Juichi ItoO-37 *Transcriptional regulation of the Pou4f3 gene*Allen F. Ryan, Yan Li, Kwang Pak, Eduardo Chavez, Masatsugu Masuda and Ryoukichi IkedaO-38 *Translational research of cell-based therapy for restoration of spiral ganglion neurons*Takayuki Nakagawa, Hiroe Ohnishi, Masa-aki Ishikawa, Yosuke Tona, Nakarin Asaka, Yoshitaka Kawai and Juichi ItoO-39 *Electrophysiological properties of stem-cell derived sensory neurons*Bryony A. Nayagam, Tomoko Hyakumura, Mirella Dottori and Karina NeedhamO-40 *Derivation of otic progenitor and inner ear cells from normal or pathological human induced pluripotent stem cells for modeling hereditary hearing loss*Grobarczyk Benjamin, Laurence Borgs, Audrey Purnelle, Philippe Lefebvre, Laurent Nguyen and Brigitte Malgrange

11:00

Coffee break**Poster Session II**

11:30

Closing conference:

Chair: Miguel Ángel Moreno

Insights into deafness from new mouse mutants

Karen P. Steel (King's College, London, UK)

12:30

Business Meeting**Closing Ceremony****End of Poster Session II****End of Workshop**

General Information

Conference Venue

The Workshop and Symposium will be held in the Meeting Room of the “Facultad de Ciencias Económicas y Empresariales” of the “Universidad de Alcalá”, located within 10 minutes walking distance from the city centre and from most accommodation.



Map of the city center of Alcalá de Henares

- 1 Registration desk**
Meeting Room
Start of the guided visit to the old historic city center of Alcalá de Henares
Facultad de Ciencias Económicas y Empresariales,
Universidad de Alcalá
De la Victoria Square, 2
- 2 Inauguration and Plenary Conference**
Start of the guided visit to the old University of Alcalá
Welcome cocktail
Universidad de Alcalá, Colegio San Ildefonso (Rectorado)
San Diego Square
- 3 Workshop dinner**
Parador de Alcalá de Henares
Colegios Street, 10

Registration

The registration desk is located in the hall of the Facultad de Ciencias Económicas y Empresariales, Universidad de Alcalá. De la Victoria Square, 2.

It will be open during the following hours:

Tuesday, September 10th:
from 08:00 to 10:00 and 16:00 to 18:00 hours

Wednesday, September 11th:
from 08:00 to 13:30 and 15:00 to 18:30 hours

Thursday, September 12th:
from 08:00 to 13:30 and 15:00 to 18:30 hours

Friday, September 13th:
08:00 to 13:30 hours

Presentations

1. Oral presentations

Time allotted to speakers is 12 minutes with an additional 3 minutes for discussion. Adhesion to the allocated speaking time is strongly recommended; session chairpersons will be urged to consider time management.

Presentations are only accepted in PowerPoint or PDF formats. Please bring your presentation on a CD or a USB memory stick (do not protect it with software). For video and audio files please submit AVI, WMV and MPG files only, as a separate file. Please make sure that any required CODEC files for the videos are also submitted. You may check and edit, if necessary, your presentation during the congress. There will be a notebook with MS PowerPoint 2007 and 2010 at the venue.

The projection data of your presentations before and during the whole congress will be recorded and managed centrally. Speakers should contact the Organising Secretariat to hand in their presentations for uploading at least two hours before the beginning of the session or in the late afternoon of the day before, in case of early morning presentations.

2. Posters

Posters Nº P-01 to P-37 should remain posted from Tuesday to Wednesday evening, whilst posters Nº P-38 to P-96 should remain posted from Thursday to Friday lunch time. Presenting authors should be at their posters during the indicated presentation times. Poster board dimensions are 80 cm (32-inch) in width and 100 cm (40-inch) in height (portrait orientation).

Lunches and coffee breaks

Lunches and Coffees will be provided from Wednesday to Friday free of charge to registered participants.

Coffee breaks will be held in the “Patio de Columnas” (Cloister) of the Facultad de Ciencias Económicas y Empresariales, from Wednesday to Friday, according to the Workshop program.

Lunches will be held at the Restaurant of the Facultad de Ciencias Económicas y Empresariales, Wednesday and Thursday, according to the Workshop program.

Finally, the **Workshop dinner** will be held in “Parador de Alcalá de Henares” at 21:00 on Thursday 12th. A limited number of tickets for the Workshop Dinner will be available for purchase at the Registration Desk.

Internet Access

Internet access will be available at the “Room O5” in the Facultad de Ciencias Económicas y Empresariales. Three laptops will be provided by the Workshop Organization for the registered participants.

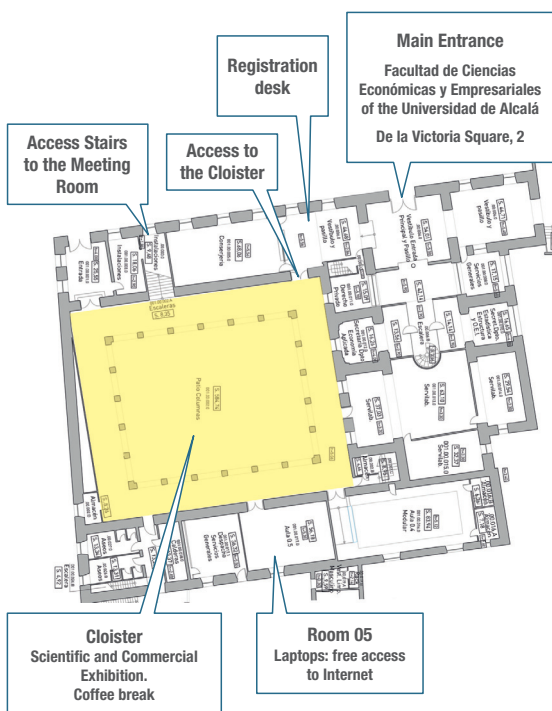
There will be free WIFI:
SSID Name: IEB2013 Workshop
Password: ALCALAIEB2013

Guided visits

The **guided visit to the old Universidad de Alcalá** will be held on Tuesday, September 10th free of charge to registered participants. The visit will start at 19:00 from the front of the Colegio San Ildefonso (Rectorado), San Diego Square.

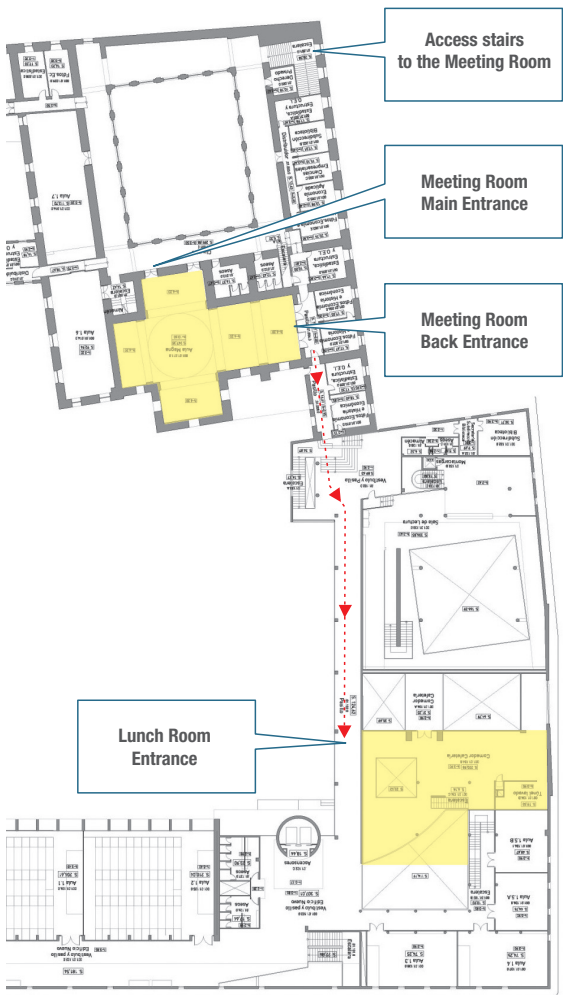
The **guided visit to the old historic center of Alcalá de Henares** will be held on Wednesday, September 11th free of charge to registered participants. The visit will start at 19:30 from the front of the Facultad de Ciencias Económicas y Empresariales, Universidad de Alcalá (Main Entrance), De la Victoria Square, 2.

Ground floor of the Facultad de
Ciencias Económicas y Empresariales
of the Universidad de Alcalá



First floor of the Facultad de Ciencias Económicas y Empresariales of the Universidad de Alcalá

Meeting Room and Lunch Room



Organized by:



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