

The background of the entire page is a stylized, painterly illustration. It depicts a large, ancient tree with a thick, gnarled trunk and a dense canopy of green leaves. At the base of the tree, several people are sitting on the ground, some looking up at the tree. In the background, there are hints of a cityscape with buildings and a bridge. The overall style is artistic and somewhat abstract, with a focus on natural elements.

ISMOM 2019

Seville, Spain, June 23–28

**8th International Symposium on Interactions of Soil Minerals with Organic Components and Microorganisms,
International Congress of the Division 2.5 of the International Union of
Soil Sciences (IUSS)**

***Understanding Soil Interfacial Reactions
for Sustainable Soil Management and
Climatic Change Mitigation***

***Conference
Guide***

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In the case you find mistakes, we are sorry, but please note the following positive arrow:



I' m not a robot

COMMITTEES INVOLVED IN THE ORGANIZATION OF THE

ISMOM 2019

Chairs:

Heike Knicker and Francisco J. González-Vila

Instituto de Recursos Naturales y Agrobiología de Sevilla
Consejo Superior de Investigaciones Científicas (CSIC)

Scientific Committee:

Session 1: Soil as a C and N sink – *Who is the major player, soil minerals, soil organic matter quality, microbial activity or their interplay?*

- Almendros, Gonzalo; MNCN-CSIC, Spain
- Guggenberger, Georg; Leibnitz Universität Hannover, Germany
- Zaccone, Claudio; University of Foggia, Italy

Session 2: New physical, chemical and biological analytical approaches – *How can they lead us to a better understanding of soil interfaces?*

- González Pérez, José Antonio; IRNAS-CSIC, Spain
- Novotny, Etelvino; Embrapa; Brazil
- Simpson, Myrna; University of Toronto, Canada

Session 3: Ecological disturbances – *How does mismanagement of soils (overgrazing, erosion etc.) or natural disasters (fire, flooding etc.) affect the interplay between soil minerals, SOM and microorganisms?*

- Cornejo Rivas, Pablo Enrique; Universidad de la Frontera, Chile
- De la Rosa, José María; IRNAS-CSIC, Spain
- Heckmann, Kathrine; US Forest Service, Michigan, USA

Session 4: Dynamics of pollutants at soil interfaces – *What is new and how can environmental biotechnology be beneficial for soil restoration and bioremediation?*

- Anaya-Romero, Maria; Evenor-Tech, Spain
- Bucheli, Thomas; Agroscope, Switzerland
- Dick, Deborah P.; Federal University of Rio Grande do Sul, Brazil

Session 5: Soil amendments (biochar, composts and digestates) – *How do they affect interactions at soil interfaces?*

- Abdelrahman, Hamada; University of Cairo, Egypt
- Leifeld, Jens; Agroscope, Switzerland
- Gerzabek, Martin; Boku Vienna, Austria
- Singh, Balwant; Sydney Institute of Agriculture, Australia

Nutrient availability in soils – Can our knowledge on soil interfaces improve biotechnological approaches or soil management to decrease the need for artificial fertilizers?

- Kandeler, Ellen; *University of Hohenheim, Germany*
- Panetteri, Marco; *MNCN-CSIC, Spain*
- Staunton, Siobhan; *INRA, France*

Organizing Committee

- Campos Díaz de Mayorga, Paloma; *IRNAS-CSIC, Spain*
- Domínguez, María Teresa; *Universidad de Sevilla, Spain*
- Fernandez Boy, Elena M.; *Universidad de Sevilla, Spain*
- Jiménez González, Marco Antonio; *MNCN, CSIC, Spain*
- Rogerio Candellera, Miguel Ángel; *IRNAS-CSIC, Spain*
- Paneque, Marina; *IRNAS-CSIC, Spain*

Technical Secretariat

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CONFERENCE VENUE

Location:

The ISMOM 2019 takes place in the conference facilities of the

Hotel Silken Al Andalus Palace, Sevilla,

Avenida de la Palmera s/n, esq. C/ Paraná. 41012. Seville, Spain,

Tel. +34 954 230 600.



It is located in the southeast part of Seville, with good public connection to the center and most attractions of Seville. This 4-star hotel stands out for its extremely spacious facilities, 15,000 m² of gardens and a swimming pool. For more information, please consult:

<https://www.hoteles-silken.com/en/hotel-al-andalus-seville/>

The **oral sessions** will be held in the amphitheater of the “**Sala de Descubrimiento**”. Poster boards for the **poster session** are available in the “**Sala Ibiza**” which is connected with the “**Sala Mallorca**”, where the coffee is served during the **Coffee breaks**.

Getting to the venue:

Arriving the hotel from the airport “San Pablo”:

By car: If you are coming from the Airport “San Pablo”, take the Autovía de Andalucía [Andalusia Motorway] A-4 in the direction to Seville/Cadiz. Leave the A4 (SE 30) at the **exit: Avenida de Palmera** and follow the **Avenida de Jerez** until its crossing with the Avenida de Italia. In order to go left, you first have to turn right and follow the circle. Once on the Avenida de Italia, you keep right until you reach the first crossing. Here you turn right into the **Avenida Holanda** and then again right into the **Calle Parana**.

By taxi: Taxi service to/from the Seville airport is provided by several official taxi companies and disposes of single taxi rank at the passenger terminal, both for drop off passengers and pick up passengers.

Taxis operating at the airport are white with a yellow stripe on the back doors. The passage takes about 15 – 30 min depending on the traffic.

Airport flat rates are available: Please consult:

<https://www.aeropuerto-sevilla.com/seville-airport/transportation/taxi-seville-airport.php>

Taxi stop at the Seville airport: Terminal T1 level 0, Arrivals sidewalk

Arriving the hotel from the train station “Santa Justa”:

By taxi: Taxi stops are located in front of the main entrance. To obtain an idea of the costs consult:

<https://www.aeropuerto-sevilla.com/seville-airport/transportation/taxi-seville-airport.php>

By bus: Public transportation in Seville is relatively cheap (approx. 1.40 € per trip)

To reach the bus station, leave the train station through the main entrance and cross the parking slot. Take either **the bus 21** in the direction “**Plaza de Armas**” until the bus stop **Avenida del Cid** or **C1** in the direction to **Prado de San Sebastian**, stop “**Avenida de la María Luisa (Tetro Lope de Vega)**”. Here you change to **bus 34** in the direction “**Los Bermejales**” and leave the bus at the bus stop “**Avenida Holanda, (Paraná)**”. From there, the walking distance to the hotel is about 140 m, turning left around the corner.

Registration Desk and conference information point:

The conference registration desk will be open on Sunday June 23th 2019 from 15:00 to 20:00 in front of the conference facilities of the Hotel Silken Al Andalus. From Monday, June 24th to Friday, June 28th except Tuesday, June 27th the desk will open at 8:30 and close at 18:00.

GENERAL INFORMATION

Public transportation

An extensive public transportation network covers the whole city of Seville. They run from about 6:00 to 23:30, with night buses leaving from the Prado de San Sebastian from 12 midnight to 2 am. For more information:

<http://www.tussam.es/index.php?id=1>

https://moovitapp.com/index/en/public_transit-lines-Sevilla-3802-975186

Tickets cost 1.40 € per trip and are bought onboard.

A cheaper option is the **Tarjeta Multiviaje** (plastic card, 1.50 € refundable deposit), which can be recharged, and also be used on the tram (see below). The minimum amount is seven euros, for *sin transbordo* (without changes, ie using one line only) or *con transbordo* (with changes, using more than one line); each journey costs 0.69 euros (sin transbordo) or 0.76 (con transbordo). The cards and recharges are available from kiosks and estancos (tobacconists) and via internet.

A good option for short visits are the **one-day card** (5 euros) or **three-day card** (10 euros), offering unlimited travel. These can be purchased in the Puntos de Información de TUSAM (TUSAM Information points). On purchase you have to pay a 1.50 € deposit which will be returned if you take the card back. The card can also be recharged online at the TUSAM website.

Bus stops close to the hotel: The most convenient bus stops close to the hotel are for the line 3 and 34. Night bus: line A6

Shops and banks:

Shops in the center of Seville are generally open from 9:30/10:00 to 14:00 and from 17:00 to 20:00 from Monday to Friday. Saturday they open half day. Department stores and malls usually open from 10:00 to 22:00 and do not close for lunch. Sunday, shops are closed. Banks open from Monday to Friday from 8:30/9:00 to 14:00/14:30:



Restaurants:

Breakfast is usually served from eight to ten in the morning. Lunch, at restaurants, is served between 13.00/14:00 to 16:00 h. Dinner is served from 20.30 to 24.00 h. Many establishments are open continuously throughout the day, especially bars and cafeterias; there you can have "tapas", appetizers, and combo meals.

Electricity supply:

Electricity is supplied at 220V -50 Hz AC wit European plugs

Temperature:

BE PREPARED FOR ELEVATED TEMPERATURES!

During summer, Seville faces a hot and dry clime. In average, during June/July maximum temperatures are 32 to 36°C during the day and 17° to 19° C during the night. However, temperatures above 40°C can easily be reached. Very high UV-indices between 8 and 10 have to be considered during summer, which makes **SUN PROTECTION ABSOLUTELY NECESSARY.**

Therefore, - in particular for the field trip - it is strongly recommended to use:

- **sun cream with sufficiently high protection level**
- **sun hat**
- **respective clothes**

It is further recommended **to avoid long stays** in the direct sun and **to drink enough water**. Bear in mind, that in Seville, the high temperatures are often underestimated due to the low humidity.

Liability:

The Organizing Committee cannot accept liability for personal accidents or loss of, or damage to private property of participants and accompanying persons either during or indirectly arising from the participation at the ISMOM 2019. For your own safety, we recommend that delegates do not leave their personal computer or personal belong in the Amphitheater even though it will be locked during the breaks.

SOCIAL ACTIVITIES

Visit of the Real Alcazar and Welcome Reception in the old Royal Tobacco Factory:

Monday, June 24 th 2019: 20:15 – 21:15:	Guided Visit of the Real Alcázar Prize: 5 € (for guide, payable at the registration)
Monday, June 24 th 2019: 21:30 – 22:30:	Welcome Reception in the Patio of the University of Seville.

On Monday evening, just before the Welcome reception, there is an opportunity to visit the Real Alcazar, which together with the Alhambra (Granada) is one of the best examples of Mudejar architecture. Most of the Alcázar was built by Moorish workmen for King Pedro the Cruel of Castile in the 1360's who, with his mistress Maria de Padilla, lived in and ruled from the Alcazar. Later Monarchs, have let many additional traces. Even, nowadays, a part of the installation is used by the Spanish Royal Family as official residence during their stays in Seville.

Only after a view-minutes-walk from the Real Alcázar you will reach the old Royal Tobacco Factory, a beautiful and legendary building constructed between 1728 and 1771 by Sebastián Van der Bocht. These halls, nowadays used as the main Building of the Rectorate of the University of Seville, inspired not only Prosper Mérimée (1847) to his famous novel "Carmen" but also Georges Bizet to his world known opera "Carmen" (1875).

The entrance to the Real Alcazar is free and was made possible by **Patronato del Real Alcázar de Sevilla**. However, only guided tours are allowed, which have to be paid by the respective visitor (5 € per person). This fee is not included in the conference fee.

For the visit, we will meet at the “**Puerta del Apeadero (Patio de Banderas)**” of the Alcázar.

Note: the costs for transport to and from the events is in the responsibility of the participants.

The sites can be reached either **by taxi** or with **the bus 34**, stopping at the **Avenida del CID** and having a nice walk (ca. 15 min) to the entrance via the “**Jardines del Murillo**”, along the “**Calle Agua**” through the “**Juderia**”. Alternative, you take the tram **T1** in the direction **Plaza Nueva** until “**Archivo de Indias**”. From there you will walk passing by the cathedral (on the left side) and the “**Plaza del Triunfo**” to the **Patio de Banderas**,

After the visit, we will meet at the entrance of the **old Tobacco Factory for the welcome reception** (Archivos de Indias, Puerta Jerez and walk in the direction to Prado de San Sebastian).

In order to return to the hotel Silken al Andalus, take **the bus 34** in the direction “**Los Bermejales**” at the bus stop “**Avenida de la María Luisa (Tetro Lope de Vega)**” and leave the bus at the bus stop “**Avenida Holanda, (Paraná)**”. From there the walking distance to the hotel is about 140 m around the corner.

Note that the last bus will leave at 11:28 pm!

However, there is a **night bus A6** operating from **midnight until 2 am** and leaving from the bus stop at the **Avenida Carlos V** close to the bus station “**Prado de San Sebastian**”.

For bus schedules consult:

https://moovitapp.com/index/en/public_transit-lines-Sevilla-3802-975186

Visit of the Mills of Alcalá de Guadaira (not included in the registration fee):

Tuesday, June 25th 2019: 19:30-22.30/23:00: Entrance of the Hotel Silken Al Andalus

Prize: 15 € (for transport, payable at the registration, guide is provided by the city of Alcalá de Guadaira, food not included)

A bit of history: Alcalá de Guadaira and its mills:

One of the landmarks of Alcalá de Guadaira, in the southeast of Seville on the shore the River Guadaira (ca. 17 km) are the remains of a Moorish castle at the Southwest entrance of the city. Alcalá's Castle is the result of almost 4,500 years of human history. The older archaeological findings are from the Bronze Age (2000 BC), when a small walled village settled down on the East edge of the Hill below the present castle.



The romans funded the castle, which under *the Almohads* was expended to a huger fortress, which gave the town its name: (Al-Qalat: Arabic, the castle). With its importance as entrance to Seville, it became one of the biggest fortresses of Andalusia. However, King Ferdinand III had no problems to conquer it in 1246 and use it for its Reconquista. By the end of the 13th century XIII, Alcalá became part of the inner line of the "Moorish Belt" set of fortifications, frontier area between the Kingdom of Seville and the Kingdom of Granada.



Later, Alcalá lost its strategic importance, but fortified its economic significance as bread producer and provider for the Metropole of Seville. This was possible due to the numerous mills along the river, some of which were already built during the Moorish time, which is also indicated by their Arabic names. Actually, it is very likely that mills were already present during roman time. Based on its importance for Bread production, the city of Alcalá de Guadaira is also known as

"Alcalá de los panaderos" (Alcalá of the bakers) and its inhabitants as "Panaderos/Panaderas".

<http://www.turismoalcaladeguadaira.es/en/tourist-guide/interesting-places>

The tour:

After arriving at the Hotel Oromana, a building of Regionalist style, built by the Sevillian architect **Juan de Talavera** by the end of the 1920s, because of the Latin-American Exposition of Seville. His architecture reminds us the typical haciendas or Andalusian **cortijos** (country estates with houses). This spot offers beautiful panoramic views of the River Guadaira and the mills on its banks.

From there, we will walk down to the river banks through the greens and shadows of the “**Parque Oromana**” passing several mills, the history of which will be explained by a local guide. The tour along the river will end at the historic “Harinera” close to the “Feira” place.

After a short break in a local restaurant, the excursion continues with a stop at the **Castillo**, from which you can enjoy great views over Alcala de Guadaira and the landscape until Sevilla.

The bus will pick you up around 22:30 and bring you back to the hotel around 23:00.

Gala Dinner:

Wednesday, June 26th 2019: 20:30 – 23:00

The conference dinner takes place in the restaurant “**La Raza**” in the **Avda. Isabel la Católica, 2**, located close to the “**Plaza España**” at the edge of the park of Maria Luisa and surrounded by extensive vegetation and several outdoor terraces.

It is located in the former “**Information Pavilion**”, which welcomed the visitors of the Ibero-American Exposition in 1929.

The name of the restaurant La Raza was inspired by the verses of Ruben Dario, of his poem “The optimist’s greeting”, which are also engraved in a monolith located in Avda. Isabel la Católica and quoting: “***Ínclitas razas ubérrimas, sangre de Hispania fecunda, espíritus fraternos, luminosas almas, ¡salve!***” (*Famous and fruitful races, blood of fertile Spain, spirits fraternal, souls all luminous, greeting*)

The restaurant is reachable by public transportation from the Hotel using the **bus 34** stopping at the bus stop Avenida de María Luisa or Avenida del Cid.

TOURISTIC ACTIVITIES

Seville and its surroundings offer a wealth of touristic attractions, nature experiences and historic sites. The tourist information in the lobby of the hotel as well as our collaborator Ag Viajes El Cortes Ingles will be happy to inform you and to help you with arrangements:

Here a selection of interesting sites outside of Sevilla:

- **Italica:** Excavation of a Roman city

<http://www.andalucia.org/en/cultural-tourism/visits/sevilla/monuments/conjunto-arqueologico-de-italica/>



- **Carmona:** Picturesque town 30 km outside of Seville

<http://www.andalucia.org/en/articles/carmona-a-fascinating-trip-30-minutes-from-seville/>

- **Ronda:** Town located in the middle of the Serrania de Ronda with a bridge over a steep canyon

<http://www.turismoderonda.es/en/>



- **Aracena:** Typical town of the Sierra de Aracena close to the “La Gruta de las Maravillas”, a marvelous stalactite cave

<http://www.andalucia.org/es/destinos/zonasturisticas/sierra-de-aracena-y-picos-de-arocha/>

- **Camenito del Rey:** An exciting walk through a beautiful canyon (day tour) in the Mountains of Malaga. Tickets are limited and dedicated to a certain date and time. They have to be ordered in advance:

<https://reservas.caminitodelrey.info/?lang=en>

- **The Torcal de Antequera Nature Reserve:** One of the most important, beautiful karstic phenomenon in Spain, placed in the north of the province of Málaga.

<http://www.torcaldeantequera.com/en/>

SCIENTIFIC ACTIVITY

Instructions for presenters:

Oral presentation

The presentation **must be made in Power Point** in format 16:9.

Mac and own laptops will NOT be admitted.

The talk shall **not be longer than 15 min** leaving **additional 2 min for questions** for general talks and 25 min + 5 min for keynote contributions. The time will be strictly controlled. A "warning signal" will be given after 10 min (general talk) and 20 min (keynote) talking. At the end of each conference day, time is scheduled for a general discussion about scientific issues, which will have attracted attention during the presentations of the day.

Poster presentation:

The poster shall be placed between **8:00 and 10:00 at the day of your session**. Each poster is assigned to a marked board. Authors are expected to be present by their poster during the core time of their session. A second day of poster presentation, but without the need of the author to be present, is scheduled. Before each poster session a "**Pico-session**" is scheduled at which the authors of the respective session have the chance to introduce their poster with **one to two slices** within **1 min** as a very short oral presentation. The Pico presentations shall be in **Power Point in the format 16:9**. **It shall be limited to the title, reasoning and main conclusion of the research**. Presentation of results and details shall be reserved for the poster presentation. The poster **must be removed after finishing the poster session at the same evening** (otherwise the organization committee will remove it after 19:00 h and may be thrown away). We will provide material for attaching your poster. **The maximum poster size is A0: 1189 mm (height) x 841 mm (width).**

- *Soil as a C and N sink – Who is the major player, soil minerals, soil organic matter quality, microbial activity or their interplay? (S)*

Core day: Monday, June 24th 2019; **Extension day:** Wednesday, June 26th 2019

- *New physical, chemical and biological analytical approaches – How can they lead us to a better understanding of soil interfaces? (T)*

Core day: Tuesday, June 25th 2019; **Extension day:** Monday, June 24th 2019

- *Ecological disturbances – How do mismanagement of soils (overgrazing, erosion etc.) or natural disasters (fire, flooding etc.) affect the interplay between soil minerals, SOM and microorganisms? (D)*

Core day: Tuesday, June 25th 2019; **Extension day:** Monday, June 24th 2019

- *Dynamics of pollutants at soil interfaces – What is new and how can environmental biotechnology be beneficial for soil restoration and bioremediation? (P)*

Core day: Tuesday, June 25th 2019; **Extension day:** Wednesday, June 26th 2019

- *Soil amendments (biochar, composts and digestates) – How do they affect interactions at soil interfaces? (A)*

Core day: Wednesday, June 26th 2019; **Extension day:** Tuesday, June 25th 2019

- *Nutrient availability in soils – Can our knowledge on soil interfaces improve biotechnological approaches or soil management to decrease the need for artificial fertilizers? (N)*

Core day: Wednesday, June 26th 2019; **Extension day:** Tuesday, June 25th 2019

Program overview:

Sunday, June 23, 2019:

15:00 – 20:00

Registration (Reception hall of the Hotel Silken Al Andalus)

		Monday	Tuesday	Wednesday	Thursday	Friday
8:00 -		Registration	Registration	Registration		
8:30-10:30			New Techniques	Amendments I		C/N-Sink III
	8:30-9:00	Welcome	Keynote: Denis Courtier Murias	Keynote: Etelvino Novotny		Keynote: Deborah P. Dick
	9:00-9:45	Plenary 1: Siobhan Staunton	T1-T5	A1-A5		S 14 - S18
	9:45-10:30	Plenary 2: Claire Chenu				
10:30-11:00		Coffee Break				
11:00-13:00		C/N-Sink I/II	Soil Disturbance	Amendments II		Nutrient Availability
	11:00-11:30	S1-S7	Keynote: Ana Miller	A6 – A12		N1-N3
			D1-D5			
	12:00-12:30					
	12:30-13:00					Final Discussion
	13:00-13:15			Discussion Session 5	Closing Remarks	
13:15-14:30		Lunch			Good-bye Cocktail	
14:30-16:30		Poster: C-Sink: 1.1-1.50	Poster: New Techniques: 2.1-2.20 Soil Disturbance: 3.1-3.20 Pollutants: 4.1-10	Poster: Pollutants: 4.11-4.20 Amendments: 5.1-5.25 Nutrients: 6.1-6.20	Field Trip: Doñana: 14:30 - 23.30	
	14:30-15:15	Pico session	Pico session	Pico session		
16:30-18:15		C/N-Sink III	Pollutants I	Pollutants II / Nutrients		
	16:30-17:00	S8-S13	Keynote: Francisco Cabrera	P5 – P8		
			P1 – P4			
18:15- 18:45		Discussion session 1 (I/II/III)	Discussion sessions 2/3	Discussion session 4 (I/II)		
	19:30-22:30		Mills of Alcala d. Guadaira			
	20:30-	Real Alcazar /Reception		Gala Dinner		

