XI ISIN
CONFERENCE ON IMMUNONUTRITION
IMMUNONUTRITION IN HEALTH AND DISEASE

PROGRAMME

LONDON 2018

GREAT HALL
LONDON METROPOLITAN UNIVERSITY
SEPTEMBER, 10th-12th, 2018
Dear Delegates,

It is our great pleasure to welcome you to the 11th International Symposium on Immunonutrition, here in London. We have organised this symposium on behalf of the International Society for Immunonutrition (ISIN; see http://www.immunonutrition-isin.org/).

This symposium is intended for students, researchers, healthcare and nutrition industry professionals and regulators with an interest in the interaction of nutrition and the immune system and how that impacts on health and disease. The programme includes state of the art lectures by experts from Argentina, Brazil, Finland, Germany, Spain, The Netherlands, the US and the UK. In addition, there will be short oral communications and posters which have been selected from submitted abstracts.

We hope that you enjoy the great experience provided by the symposium and that you also take time to enjoy all that London can offer. Travel around London is easy with an extensive underground system and London’s famous black taxis and red buses.

Visit Buckingham Palace, Big Ben, Tower of London, British Museum, Trafalgar Square and West End Theatres, to name just a few. We wish you a truly great experience here in London.

Laurence S. Harbige
Co-President XIth ISIN Conference

Philip C. Calder
Co-President XIth ISIN Conference
COMMITTEES

Organizing and Conference Committees

Co-Presidents
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.

Laurence S. Harbige
London Metropolitan University. United Kingdom.

Members
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca, Mexico.

Francisco Pérez-Cano
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

Adriana Rita Schultz Moreira

Keb Ghebremeskel
Lipidomics and Nutrition Research Center. London Metropolitan University. United Kingdom.

Mireille Dardenne

Parveen Yaqoob
Food and Nutritional Sciences. University of Reading. United Kingdom.

ISIN Scientific Committee

President - Ascensión Marcos

Vice-President - Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.

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Faculty of Medicine. Autonomous University of the State of Mexico. Toluca, Mexico.

Members
Mireille Dardenne

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London Metropolitan University. United Kingdom.

Gabriela Perdigón
Tucumán University. CONICET-Cerela. Tucumán. Argentina.

Francisco Pérez-Cano
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

Wilson Savino

Nora Slobodianik

Liseti Solano
Monday, September 10th

09.00-10.30h. **Registration opens & continues throughout.**
Main hall by the entrance of the Great Hall.

10:30-11:00h. **Coffee Break**
Rocket Exhibition Area (Ground Floor)

11:00-12:30h. **Workshop, Opening and Welcome.**
Great Hall (Ground Floor)

**Chairs:**
- Ascensión Marcos
- Philip C. Calder
  Faculty of Medicine. University of Southampton. United Kingdom.
- Laurence S. Harbige
  London Metropolitan University. United Kingdom.

- **Special Opening Lecture: Immunonutrition – global perspectives.**
  **Speaker:**
  Andrew Prentice
  London School of Hygiene and Tropical Medicine. United Kingdom.

- **Session I. Molecular and cellular roles of nutrients in the immune system.**
  **Chairs:**
  - Ascensión Marcos
  - Laurence S. Harbige
    London Metropolitan University. United Kingdom.

  » **Vitamin A and the immune system.**
  **Speaker:**
  Catharine Ross
  Penn State University. Pennsylvania. United States of America.
» **Zinc and the immune system.**

**Speaker:**
Inga Wessels
Aachen University. Germany.

12:30-14:00h. **Seated/Buffet Lunch**
Highbury Canteen (Floor -1)

14:00-15:30h. **Session II. Immunometabolism.**
Great Hall (Ground Floor)

**Chairs:**
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Gabriela Perdigón
Tucumán University. CONICET-Cerela. Tucumán. Argentina.

» **Immunometabolic adaptation in pregnancy.**

**Speaker:**
Catherine Thornton
Swansea University. Swansea. United Kingdom.

» **Metabolism in T cells: nutrients, signals and function.**

**Speaker:**
Nancy MacIver
Duke University School of Medicine. United States of America.

**Oral Communications**
380/5. Antioxidant and anti-inflammatory effects of dietary polyphenols on a cellular model for intestinal epithelia.
380/22. Glycyrrhizin inhibits high-mobility group box 1 protein released from damaged intestinal epithelia and antigen sensitization

15:30-16:00h. **Coffee Break**
Rocket Exhibition Area (Ground Floor)

16:00-17:30h. **Session III. Nutrition and inflammation.**
Great Hall (Ground Floor)

**Chair:**
Mireille Dardenne
Keb Ghebremeskel
Lipidomics and Nutrition Research Center. London Metropolitan University. United Kingdom.
» Fats as triggers and modulators of inflammation
   **Speaker:** Philip C. Calder
   Faculty of Medicine. University of Southampton. United Kingdom.

» Nutrition & inflammatory signalling pathways.
   **Speaker:** Harry Wichers
   Wageningen University. Wageningen. The Netherlands.

**Oral Communications**
380/33. Dietary Inflammatory Index score and colorectal cancer risk markers associated with inflammation and WNT signalling
380/52. Inhibitory effects of Withaferin A and Withania somnifera on macrophage inflammation.

**17:30-18:30h. Poster Presentations. Session I.**
Virtual e-Poster Exhibition Area (Ground Floor)

**Chairs:**
Adriana Rita Schultz-Moreira
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.

**18:30-19:30h. Welcome Reception**
Rocket Exhibition Area (Ground Floor)

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**Tuesday, September 11th**

- **9.00-10:30 h. Session IV. Micronutrients and immunity.**
  Great Hall (Ground Floor)

**Chairs:**
Ascensión Marcos
Christine Bösch
School of Food Science and Nutrition. University of Leeds. United Kingdom.
» **Vitamin C, immunity and infection.**
**Speaker:** Harri Hemilä
University of Helsinki. Finland.

» **Vitamin D, immunity and infection.**
**Speaker:** Fritz Gombart
Oregon State University. United States of America.

**Oral Communications**
380/3. Effect of vitamin D and n-3 supplementation on cytokines in adults with type 2 diabetes mellitus.
380/11. Diet as a moderator in the association of adiposity and sedentary behavior with inflammatory biomarkers in European adolescents.

**10:30-11:00h. Coffee Break**
Rocket Exhibition Area (Ground Floor)

**11:00-12:30h. Session V. Fats, immunity and inflammation.**
Great Hall (Ground Floor)

**Chairs:**
Keb Ghebremeskel
Lipidomics and Nutrition Research Center. London Metropolitan University. United Kingdom.

Adriana Rita Schultz Moreira

» **Omega-6 fatty acids and autoimmunity.**
**Speaker:** Laurence S. Harbige
London Metropolitan University. United Kingdom.

» **Omega-3 fatty acids and resolution of inflammation.**
**Speaker:** Jesmond Dalli
William Harvey Research Institute. Queen Mary University of London. London. United Kingdom.

**Oral Communications**
380/39. Relationship between visfatin levels and nutritional status in adolescents with and without Down Syndrome.
380/46. Associations of maternal immune response, methylmercury and polyunsaturated fatty acids at 28 weeks gestation.

12:30-14:00h. **Seated/Buffet Lunch**
Highbury Canteen (Floor -1)

14:00-15:30h. **Session VI. The Mediterranean diet, immunity and inflammation.**
Great Hall (Ground Floor)

**Chairs:**
Philip C. Calder  
Faculty of Medicine. University of Southampton. United Kingdom.  
Kenneth White  
Molecular Systems for Health Research Group, London Metropolitan University. United Kingdom.

» **Flavanoids and allergy.**
**Speaker:**  
Francisco Pérez-Cano  
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

» **Beer, immune system and microbiota.**
**Speaker:**  
Ascensión Marcos  

**Oral Communications**
380/44. Effect of mango (Mangifera indica L.) by-product on the immune system of scholar children.

15:30-16:00h. **Coffee Break**
Rocket Exhibition Area (Ground Floor)

16:00-17:30h. **Session VII. Nutrition and infectious disease.**
Great Hall (Ground Floor)

**Chairs:**  
Laurence S. Harbige  
London Metropolitan University. United Kingdom.  
Roxana Valdés-Ramos  
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.
» **Vitamin D and infection.**

**Speaker:**
Adrian Martineau
Queen Mary University of London. London. United Kingdom.

» **Iron and infection**

**Speaker:**
Alexander Drakesmith
Oxford, United Kingdom.

**Oral Communications**
380/29. 2′-Fucosyllactose prevents rotavirus diarrhoea in suckling rats by preventing microbiota alteration and boosting Toll-like receptors.

**17:30-18:30h. Poster Presentations. Session II.**
Virtual e-Poster Exhibition Area (Ground Floor)

**Chairs:**
Adriana Rita Schultz-Moreira

Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.

**Wednesday, September 12th**

**09.00-10.30h. Session VIII. Microbiota and immune health.**
Great Hall (Ground Floor)

**Chairs:**
Caroline Childs
Human Development and Health. Faculty of Medicine University of Southampton. United Kingdom.

Francisco Pérez-Cano
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

» **Microbiota & GALT.**

**Speaker:**
Marie Lewis
University of Reading. Reading. United Kingdom.
Probiotic interaction with host immunity.

Speaker: Gabriela Perdigón
Tucumán University. CONICET-Cerela. Tucumán. Argentina.

Oral Communications
380/4. Interrelation between chronic consumption of sweeteners, GALT lymphocytes and the small intestine microbiota of CD1 mice.
380/53. Association between probiotic fermented milk (PFM) consumption and Bifidobacterium species in healthy adults.

10:30-11:00h. Coffee Break
Rocket Exhibition Area (Ground Floor)

11.00-12.30h. Session IX. Obesity, immunity and inflammation.
Great Hall (Ground Floor)

Chairs:
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.
David McCarthy

Why obesity is an inflammatory disease.

Speaker: Jazz Sethi
University of Southampton. Southampton. United Kingdom.

Adipose tissue as an inflammatory focus.

Speaker: Fatima Perez-Heredia
Liverpool John Moores University. Liverpool. United Kingdom.

Oral Communications
380/6. The effect of obesity on adipose tissue fatty acid composition and lipid mediators, and their response to chronic marine omega-3 fatty acid supplementation.
380/54. Differences in bacterial genus depending on the body mass index of healthy adults.

12:30-14:00h. Seated/Buffet Lunch
Highbury Canteen (Floor -1)
14:00-15:00h. Session X. Nutrition and immunosenescence.  
Great Hall (Ground Floor)

**Chairs:**
Wilson Savino  
Ascensión Marcos  

» **Probiotics and the ageing immune system.**  
**Speaker:**  
Parveen Yaqoob  
Food and Nutritional Sciences. University of Reading. United Kingdom.

» **Vitamin E and the ageing immune system.**  
**Speaker:**  
Dayong Wu  

15:00-15:30h. Coffee Break  
Rocket Exhibition Area (Ground Floor)

15:30-17:30h. Session XI. Nutrition and immune development.  
Great Hall (Ground Floor)

**Chairs:**
Gabriela Perdigón  
Tucumán University. CONICET-Cerela. Tucumán. Argentina.  
Francisco Pérez-Cano  
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

» **Breast milk oligosaccharides and the developing immune system.**  
**Speaker:**  
Sharon Donovan  
University of Illinois. United States of America.

» **Breast feeding, microbiota and immune development in early life.**  
**Speaker:**  
Aletta Kraneveld  
T-cell development in malnutrition: consequences for acute infections.

**Speaker:**
Wilson Savino

**Oral Communications**
380/34. Intrauterine growth restriction induced by maternal low-protein diet during pregnancy is associated with alterations of Intrathymic Thymocyte distribution in offspring.
380/43. Probiotic Ganeden BC30 promotes innate immune response in Mexican children after 3 months of consumption.

17:30-18:00h. **Special closing lecture: The immunology of Asthma.**
Great Hall (Ground Floor)

**Chairs:**
Ascensión Marcos
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Laurence S. Harbige
London Metropolitan University. United Kingdom.

**Speaker:**
Stephen Holgate
University of Southampton. Southampton. United Kingdom.

18:00-18:30 h. **Awards, Closing & Handover.**
Great Hall (Ground Floor)
GENERAL INFORMATION

Registrations

All registrations should be accompanied by full payment of the registration fee.

- No registration will be confirmed until payment is received.

<table>
<thead>
<tr>
<th></th>
<th>Registration Price</th>
<th>Applying 20% discount bringing a New attendant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher – ISIN Member</td>
<td>£ 200</td>
<td>£ 160</td>
</tr>
<tr>
<td>Researcher – NON ISIN Member</td>
<td>£ 300</td>
<td>£ 240</td>
</tr>
<tr>
<td>Students/ PhD Students and Post Docs</td>
<td>£ 125</td>
<td>£ 100</td>
</tr>
<tr>
<td>One-day delegate</td>
<td>£ 125</td>
<td>£ 100</td>
</tr>
<tr>
<td>Last-day delegate</td>
<td>£ 140</td>
<td>£ 112</td>
</tr>
<tr>
<td>Exhibitors/Commercial</td>
<td>£ 300</td>
<td>£ 240</td>
</tr>
<tr>
<td>Industry professional</td>
<td>£ 395</td>
<td>£ 316</td>
</tr>
<tr>
<td>Delegates from developing Countries(*)</td>
<td>£ 130</td>
<td>£ 104</td>
</tr>
</tbody>
</table>

VAT included

* If you have registered as a participant in the Conference and invite a fellow colleague/student, we will apply an additional 20% discount to your original registration fee once they have registered correctly referencing your invitation.

*You can check the list of the countries on the website.


For Delegates:

- Attendance to the Welcome Reception September 10th, 2018.
- Admission to all scientific sessions.
- Access to exhibition and poster area.
- Congress and name badge, mini program and lanyard.
- ANM on line publication (with impact factor) including this Conference’s abstracts.
- Certificate of Attendance.
- Seated/Buffet lunch and coffee/tea breaks for duration of the meeting.

For One Day Delegates:

- Admission to scientific session on registered date.
- Access to exhibition and poster area on registered date.
- Name badge, mini program and lanyard.
• Buffet lunch and coffee/tea breaks on registered date.

For Exhibitors:
• Attendance to the Welcome Reception – September 10th, 2018.
• Access to exhibition area for duration of the Meeting.
• Name badge, mini program and lanyard
• Certificate of attendance.
• Buffet lunch and coffee/tea breaks for duration of the meeting.

Payment methods
• By credit card
  Please provide the name of the card holder, card type (VISA, Mastercard) card number and the expiry date.

Cancellation policy
In no case refunds shall be made.
All cancellations and renaming must be made in writing to the Technical Secretariat by email at: registrations@immunonutrition-isin.org

Organizer
International Society for Immunonutrition (ISIN)

Dates & Venue
Date: September 10 – 12, 2018
Venue: The Great Hall – London Metropolitan University
166-220 Holloway Road, London, N7 8DB
“London Metropolitan University is proud to host the ISIN Immunonutrition Conference”.
Email: info@fase20.com
Web: http://www.immunonutrition-isin-london2018.com/
Technical Secretariat
Delivery of documentation, information, incidents, new registrations, assistance to speakers, exhibitors and lost objects.

Technical Secretariat Opening Hours
- Monday, September 10, from 8:00h to 12:30h / 13:30h to 18:30h
- Tuesday, September 11, from 8:30h to 12:30h / 13:30h to 18:00h
- Wednesday, September 12, from 8:30h. to 12:30h / 13:30h to 18:00h

Important notes
The documentation will be delivered by the Technical Secretariat from Monday, September 10, from 8:00h in main hall by the entrance of the Great Hall London Metropolitan University. Please check that you have all the documents that correspond to you.

Delegates must wear their accreditation badge in a visible place to access the scientific sessions.

Mobile phones should remain disconnected in all rooms with scientific activities. Any variation of the official program or novelty that may arise will be announced in due course through the bulletin board and the Technical Secretariat.

The presentation of the invitations or tickets to the auxiliary personnel shall be obligatory to be able to accede to all the social acts that so require.

Accreditation Badges Legends
- Red: Committee
- Blue: Speaker
- Green: Delegate
- Yellow: Guest
- White: Technical Secretariat
- Purple: Exhibitors

Access Control
The entrance to the rooms and assistance to the activities will be monitored through Access Control Arcs. For this purpose, you must wear your accreditation card in a visible place. Otherwise the security system will not record your entrance to the rooms.

If you have any questions or queries, there will be volunteers to assist you the door of the room, from 10 minutes before and up to 10 minutes after each session.
Certificates
The Certificates (registration, attendance, collaborations, abstract) can be downloaded directly on the website (http://www.immunonutrition-isin-london2018.com) accessing your personal area with your access details (user and password) after the event. Therefore, please verify that the Technical Secretariat has your complete and updated data.

The Technical Secretariat will announce to all attendees when the certificates are available for download.

Checkroom
If you need to store your luggage, please consult with the Technical Secretariat.

WIFI
London Metropolitan University’s Great Hall counts with a WIFI network which you may join by using the access code in the back of your registration badge.
Social Programme

Monday, September 10th

11:00-12:30h. Workshop, Opening and Welcome.
Great Hall (Ground Floor)

Chairs:
Ascensión Marcos
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Laurence S. Harbige
London Metropolitan University. United Kingdom.

» Special Opening Lecture: Immunonutrition – global perspectives.
Speaker:
Andrew Prentice
London School of Hygiene and Tropical Medicine. United Kingdom

12.30 – 14.00 Seated/Buffet Lunch*
Highbury Canteen (Floor -1). The Great Hall- London Metropolitan University
166-220 Holloway Road, London, N7 8DB.
* The presentation of the corresponding ticket that you can find within your accreditation card will be essential for our staff to grant access to this catering service.

18:30-19:30h. Welcome Reception
Rocket Exhibition Area (Ground Floor). The Great Hall- London Metropolitan University
166-220 Holloway Road, London, N7 8DB.
* The presentation of the corresponding ticket that you can find within your accreditation card will be essential for our staff to grant access to this catering service.

Tuesday, September 11th

12.30-14.00h. Seated/Buffet Lunch*
Highbury Canteen (Floor -1). The Great Hall- London Metropolitan University
Wednesday, September 12th

12.30-14.00h. **Seated/Buffet Lunch**
Highbury Canteen (Floor -1). The Great Hall- London Metropolitan University
166-220 Holloway Road, London, N7 8DB.
* The presentation of the corresponding ticket that you can find within your accreditation card will be essential for our staff to grant access to this catering service.

17:30-18:00h. **Special closing lecture: The immunology of Asthma.**
Great Hall (Ground Floor)

**Chairs:**
Ascensión Marcos
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Laurence S. Harbige
London Metropolitan University. United Kingdom.

**Speaker:**
Stephen Holgate
University of Southampton. Southampton. United Kingdom.

18:00-18:30h. **Awards, Closing & Handover.**
Great Hall (Ground Floor)
ABSTRACT PRESENTATIONS

Oral Abstract Presentation Session

Monday, September 10th

14.00-15.30h. Session II. Immunometabolism

Chairs:
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Gabriela Perdigón
Tucumán University. CONICET-Cerela. Tucumán. Argentina.

380/5. Antioxidant and anti-inflammatory effects of dietary polyphenols on a cellular model for intestinal epithelia.

Authors:
(1) Porras, O.; (2) Hidalgo, M.; (2) Kallens, V.; (2) Tobar, N.

Affiliation:
(1) Advanced Research Center in food for Wellness in Life Cycle (ABCVital), INTA-Universidad de Chile. Institute for Nutrition and Food Technology (INTA). Universidad de Chile.; (2) Institute for Nutrition and Food Technology (INTA). Universidad de Chile.

380/22. Glycyrrhizin inhibits high-mobility group box 1 protein released from damaged intestinal epithelia and antigen sensitization.

Authors:
Wakabayashi, A.; Shimizu, M.; Shinya, E.; Takahashi, H.

Affiliation:
Department of Microbiology and Immunology. Nippon Medical School. Japan.

16.00 - 17.30h. Session III. Nutrition and inflammation.

Chairs:
Mireille Dardenne
Keb Ghebremeskel
Lipidomics and Nutrition Research Center. London Metropolitan University. United Kingdom.
380/33. Dietary Inflammatory Index score and colorectal cancer risk markers associated with inflammation and WNT signalling

Authors:
(1) Malcomson, F.; (2) Shivappa, N.; (2) Wirth, M.; (2) Hebert, J.; (3) Johnson, I.; (1) Mathers, J.

Affiliation:
(1) Newcastle University. UK.; (2) University of South Carolina. USA.; (3) Quadram Institute Bioscience. UK.

380/52. Inhibitory effects of Withaferin A and Withania somnifera on macrophage inflammation.

Authors:
Boesch, C.; Nugraheni, K.

Affiliation:
University of Leeds. UK.

Tuesday, September 11th

09.00-10.30h. Session IV. Micronutrients and immunity.

Chairs:
Ascensión Marcos
Christine Bösch
School of Food Science and Nutrition. University of Leeds. United Kingdom.

380/3. Effect of vitamin D and n-3 supplementation on cytokines in adults with type 2 diabetes mellitus.

Authors:

Affiliation:
(1) Faculty of Medicine. Universidad Autónoma del Estado de México. México.; (2) Faculty of Medicine. Universidad Autónoma del Estado de México. Mexico.; (3) School of Human Sciences. London Metropolitan University. United Kingdom.

380/11. Diet as a moderator in the association of adiposity and sedentary behavior with inflammatory biomarkers in European adolescents.

Authors:
(1) Arouca, A.; (2) Moreno, L.; (3) Marcos, A.; (4) Kafatos, A.; (1) Michels, N.; (1) De Henauw, S.
Abstract Presentations - 21

Affiliation:

11.00-12.30h. Session V. Fats, Immunity and Inflammation.

Chairs:
Keb Grebremeskel
Lipidomics and Nutrition Research Center. London Metropolitan University. United Kingdom.
Adriana Rita Schultz-Moreira

380/39. Relationship between visfatin levels and nutritional status in adolescents with and without Down Syndrome.

Authors:
(1) Gutiérrez Hervás, A.; (2) Gómez-Martínez, S.; (3) Izquierdo-Gómez, R.; (4) Veiga, Ó.; (5) Marcos, A.

Affiliation:

380/46. Associations of maternal immune response, methylmercury and polyunsaturated fatty acids at 28 weeks gestation.

Authors:
McSorley, E.

Affiliation:
Nutrition Innovation Centre for Food and Health (NICHE). Northern Ireland.

14.00-15.30h. Session VI. The Mediterranean diet, immunity and inflammation.

Chairs:
Philip C. Calder
Faculty of Medicine. University of Southampton. United Kingdom.
Kenneth White
Molecular Systems for Health Research Group, London Metropolitan University. United Kingdom.
**380/32.** Association between plasma polyphenols and chronic low-grade inflammation: a cross-sectional data analysis.

**Authors:**
(1) Aleksandrova, K.; (2) M. Harms, L.; (3) Scabert, A.; (4) Zamora-Ros, R.; (3) Rinaldi, S.; (3) Jenab, M.

**Affiliation:**

**380/44.** Effect of mango (Mangifera indica L.) by-product on the immune system of scholar children.

**Authors:**

**Affiliation:**

**16.00-17.30h. Session VII. Nutrition and infectious disease.**

**Chairs:**
Laurence S. Harbigé
London Metropolitan University. United Kingdom.
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.

**380/29.** 2'-Fucosyllactose prevents rotavirus diarrhoea in suckling rats by preventing microbiota alteration and boosting Toll-like receptors.

**Authors:**
(1) Azagra Boronat, I.; (1) Castell Escuer, M.; (2) Knipping, K.; (2) Garssen, J.; (3) Rodríguez Lagunas, M.; (4) Pérez-Cano, F.

**Affiliation:**
Wednesday, September 12th

09.00-10.30h. **Session VIII. Microbiota and immune health.**

**Chairs:**
Caroline Childs  
Human Development and Health. Faculty of Medicine University of Southampton. United Kingdom.  
Francisco Pérez-Cano  
Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

**380/4. Interrelation between chronic consumption of sweeteners, GALT lymphocytes and the small intestine microbiota of CD1 mice.**

**Authors:**
(1) Martinez-Carrillo, B.; (2) Rosales-Gómez, C.; (3) Reséndiz-Albor, A.; (1) Valdés-Ramos, R.; (2) Velásquez-Mondragón, T.

**Affiliation:**

**380/53. Association between probiotic fermented milk (PFM) consumption and Bifidobacterium species in healthy adults.**

**Authors:**
(1) Redondo Useros, N.; (2) Gheorghe, A.; (2) Díaz Prieto, L.; (2) Villavisencio, B.; (2) Marcos, A.; (2) Nova, E.

**Affiliation:**

11.00-12.30h. **Session IX. Obesity, immunity and inflammation.**

**Chairs:**
Roxana Valdés-Ramos  
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.  
David McCarthy  
380/6. The effect of obesity on adipose tissue fatty acid composition and lipid mediators, and their response to chronic marine omega-3 fatty acid supplementation.

Authors: (1) Fisk, H.; (1) Ayres, R.; (2) Kuda, O.; (2) Kopecky, J.; (3) Calder, P.

Affiliation: (1) University of Southampton. UK.; (2) Institute of Physiology of the Czech Academy of Sciences. Czech Republic.; (3) Faculty of Medicine. University of Southampton. Southampton. United Kingdom.

380/54. Differences in bacterial genus depending on the body mass index of healthy adults.

Authors: (1) Redondo Useros, N.; (2) Gheorghe, A.; (2) Díaz Prieto, L.; (2) Villavisencio, B.; (2) Marcos, A.; (2) Nova, E.


15:30-17:30h. Session Session XI Nutrition and Immune Development.

Chairs:
Gabriela Perdigón
Tucumán University. CONICET-Cerela. Tucumán. Argentina.
Francisco Pérez-Cano
Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Sciences. University of Barcelona. Spain.

380/34. Intrauterine growth restriction induced by maternal low-protein diet during pregnancy is associated with alterations of Intrathymic Thymocyte distribution in offspring.

Authors: (1) Armengaud, J.; (2) Labes, D.; (2) Sala de Oyaguren, F.; (1) Angelini, F.; (3) Candotti, F.

Affiliation: (1) Department Woman-Mother-Child. Pediatrics and DOHaD Laboratory. CHUV. Lausanne. Switzerland.; (2) Flow Cytometry Facility – Agora site. CHUV. Lausanne. Switzerland.; (3) Division of Immunology and Allergy. CHUV. Lausanne. Switzerland.
380/43. Probiotic Ganeden BC30 promotes innate immune response in Mexican children after 3 months of consumption.

Authors:
(1) Pérez-Ramírez, I.; (2) Enciso-Moreno, J.; (3) Keller, D.; (4) Anaya-Loyola, M.

Affiliation:

Poster Presentations. Session I.

Monday, September 10th. 17.30-18.30h.

Chairs:
Adriana Rita Schultz-Moreira
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.

• Molecular and cellular roles of nutrients in the immune system.

380/20. In Vitro Immunomodulating Effect of Quinoa and Hemp Proteins.

Authors:
Lacroix, I.; de Vries, A.

Affiliation:
Wageningen University & Research. Netherlands.

• Immunometabolism.

380/35. Overtraining and exhausting exercise alter redox status, composition and functionality of lymphoid tissues in rats.

Authors:
(1) Camps Bossacoma, M.; (1) Estruel-Amades, S.; (2) Garcia-Cerdà, P.; (1) Massot Cladera, M.; (2) Periz, M.; (1) Castell Escuer, M.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) University of Barcelona. Spain.
380/37. Effects of overtraining and an exhausting exercise on the mucosal immune system in rats.

Authors:

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.

• Nutrition and Inflammation.

380/7. Comparison between different branched-chain amino acids supplementation protocols on cytokines synthesis in lipopolysaccharide-stimulated macrophages.

Authors:
(1) Bonvini, A.; (1) Coqueiro, A.; (2) Fock, R.; (2) Borelli, P.; (3) Rogero, M.; (1) Tirapegui, J.

Affiliation:

380/9. Late supplementation with branched-chain amino acids in lipopolysaccharide-stimulated macrophages does not change inflammatory parameters.

Authors:
(1) Bonvini, A.; (1) Raizel, R.; (2) Fock, R.; (2) Borelli, P.; (3) Rogero, M.; (1) Tirapegui, J.

Affiliation:


Authors:
(1) Baker, E.; (1) Miles, E.; (2) Yaqoob, P.; (3) Calder, P.

Affiliation:
(1) University of Southampton. UK.; (2) Department of Food & Nutritional Sciences. University of Reading. Whiteknights. United Kingdom.; (3) Faculty of Medicine. University of Southampton. Southampton. United Kingdom.

Authors:
(1) Wahab, N.; (2) A.A, Awofala.

Affiliation:

380/18. Effect of supplementation with polyphenol-rich extract of Passiflora ligularis on the risk factors of metabolic syndrome in a murine model.

Authors:
(1) Carmona-Hernandez, J.; (2) Angel-Isaza, J.; (2) Gonzalez-Correa, C.; (2) Narvaez-Solarte, W.

Affiliation:
(1) University of Manizales. Laboratory intern University of Wisconsin-Madison. USA.; (2) University of Caldas. Colombia.

380/23. Functionality of spleen lymphocytes from suckling rats is modulated by breast milk growth factors.

Authors:
(1) Torres Castro, P.; (2) Grases-Pintó, B.; (3) Abril, M.; (1) Castell Escuer, M.; (4) Pérez-Cano, F.; (2) Franch, À.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.; (3) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona (UB). INSA-UB. Spain.; (4) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.

380/41. Circulating leptin in healthy Nigerian females is positively associated with insulin but not in healthy Nigerian males.

Authors:

Affiliation:
**380/47. Fatty Acid Status of Sudanese Patients with Drug-Resistant Epilepsy.**

**Authors:**
(1) Abuknesha, N.; (2) A. S. Ibrahim, F.; (3) M. Mohmed, I.; (2) A. Daak, A.; (4) Ghebremeskel, K.; (2) I. Elbashir, M.

**Affiliation:**

**380/75. Effect of acute ingestion of sucralose on glucose tolerance and monocyte subpopulations in healthy young adults.**

**Authors:**
Gómez Arauz, A.

**Affiliation:**
General Hospital of Mexico in the Proteomics and Metabolomics Laboratory of the Research Directorate. Mexico.

- **Micronutrients and immunity.**

**380/19. Correlation of plasma vitamin D with phagocytosis in elderly care home residents.**

**Authors:**
(1) Castro-Herrera, V.; (2) Phillip, C.

**Affiliation:**
(1) PhD candidate. Nutritional Immunology. University of Southampton. UK.; (2) University of Southampton. UK.

**380/36. Role of hesperidin on the intestinal immune system of young healthy rats.**

**Authors:**
(1) Estruel-Amades, S.; (1) Massot Cladera, M.; (2) Pérez-Cano, F.; (3) Franch, À.; (1) Castell Escuer, M.; (1) Camps Bossacoma, M.

**Affiliation:**
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.; (3) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.
• Phytochemicals, immunity and inflammation.

380/15. Immunomodulatory effect of consumption of Andalusian white wine in elderly men with high risk cardiovascular.
Authors: (1) Ribó Coll, M.; (1) Roth, I.; (2) Casas, R.; (3) Estruch, R.

380/50. Lycium intricatum: phytochemical study and evaluation of antioxidant activity.
Authors: Bouaouda, K.; Rahhal, R.; Fougrach, H.; Kettani, A.; Taki, H.; Saile, R.
Affiliation: Department of Biology and Heath. Faculty of Sciences Ben Msik-University Hassan II. Casablanca. Morocco.

Authors: Boesch, C.; Perez Hernandez, L.; Nugraheni, K.; Orfila, C.; Morgan, M.
Affiliation: University of Leeds. UK.

Poster Presentations. Session II.

Tuesday, September 11th. 17.30-18.30h.

Chairs: Adriana Rita Schultz-Moreira
Roxana Valdés-Ramos
Faculty of Medicine. Autonomous University of the State of Mexico. Toluca. Mexico.
• Fats, immunity and inflammation.

380/10. Beneficial effects of PARAISO yogurt on digestive symptoms, nutritional and immunological profile.

Authors:
Casamayor Laime, Z.

Affiliation:
Sociedad Cubana de Nutrición. La Habana. Cuba.

380/21. EPA and DHA habitual intake is associated with pro-inflammatory cytokines in Mexican population with and without type 2 diabetes mellitus.

Authors:

Affiliation:
(1) Faculty of Medicine. Universidad Autónoma del Estado de México. México.; (2) School of Human Sciences. London Metropolitan University. United Kingdom.

380/31. Supplementation with omega 3 in olive oil diet. Study in experimental model.

Authors:
Slobodianik, N.; Impa Condori, A.; Perris, P.; Fernandez, I.; Feliu, M.

Affiliation:

380/40. Plasma phosphatidylcholine saturated and monounsaturated fatty acids in healthy Nigerian and Mexican subjects.

Authors:

Affiliation:

380/42. Comparison of n-3 plasma phosphatidylcholine (PC) fatty acids in healthy Nigerian and Mexican subjects.

Authors:
Affiliation:

- Nutrition and infectious disease.

380/14. Calprotectin modulates bacterial metabolism during Clostridium difficile infection

Authors:
Lopez, C.; Zackular, J.; Knippel, R.; Weiss, A.; Skaar, E.

Affiliation:
Vanderbilt University Medical Center. Tennessee. USA.

- Microbiota and immune health.

380/27. Effect of a multivitamin and fibre mixture on immunity and microbiota of adult rats.

Authors:
(1) Massot Cladera, M.; (1) Azagra Boronat, I.; (2) Franch, À.; (1) Castell Escuer, M.; (3) Rodriguez Lagunas, M.; (4) Pérez-Cano, F.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.; (3) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona (UB). INSA-UB. Spain.; (4) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.

380/28. Lactobacillus fermentum CECT5716 administration in rats during gestation and lactation improves immune quality of milk.

Authors:
(1) Azagra Boronat, I.; (1) Massot Cladera, M.; (2) Franch, À.; (1) Castell Escuer, M.; (3) Pérez-Cano, F.; (4) Rodriguez Lagunas, M.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona. INSA-UB. Spain.; (2) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.; (3) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.; (4) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona (UB). INSA-UB. Spain.
380/38. Immunological effects of prebiotic B-GOS® on adult peripheral blood mononuclear cells.

Authors:
(1) Del Fabbro, S.; (1) Childs, C.; (2) Calder, P.

Affiliation:
(1) University of Southampton, UK.; (2) Faculty of Medicine, University of Southampton, Southampton, United Kingdom.

- Nutrition and immunosenescence.

380/76. The impact of smoking habit on white blood cells in healthy elderly adults.

Authors:
(1) Díaz, L.; (1) San Mauro, I.; (2) Marcos, A.; (2) Nova, E.

Affiliation:
(1) Immunonutrition group, Metabolism and Nutrition Department, Institute of Food Science, Technology and Nutrition, Spanish National Research Council, Madrid, Spain.; (2) Immunonutrition Group, Metabolism and Nutrition Department, Institute of Food Science, Technology and Nutrition, Spanish National Research Council, Madrid, Spain.

- Nutrition and immune development.

380/24. Epidermal Growth Factor promotes the intestinal barrier maturation of preterm rats.

Authors:
(1) Torres-Castro, P.; (2) Duran-Castells, C.; (2) Marín-Morote, L.; (1) Abril, M.; (3) Pérez-Cano, F.; (4) Franch, À.

Affiliation:
(1) Physiology Section, Faculty of Pharmacy and Food Science, University of Barcelona (UB), INSA-UB, Spain.; (2) Physiology Section, Faculty of Pharmacy and Food Science, University of Barcelona (UB), Spain.; (3) Section of Physiology, Department of Biochemistry and Physiology, Faculty of Pharmacy and Food Science, University of Barcelona, Spain.; (4) Physiology Section, Faculty of Pharmacy and Food Science, University of Barcelona, INSA-UB, Spain.

380/25. Lactobacillus paracasei supplementation effect on the intraepithelial lymphocytes composition in rat early life.

Authors:
(1) Abril, M.; (2) De Almagro, M.; (2) Moreno-Muñoz, J.; (2) Rodríguez-Palmero, M.; (3) Pérez-Cano, F.; (4) Franch, À.

Authors:
(1) Grases-Pintó, B.; (2) Prykhodko, O.; (2) Fåk Hållenius, F.; (3) Castell Escuer, M.; (4) Franch, À.; (5) Pérez-Cano, F.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona (UB). INSA-UB. Spain.; (2) Department of Basic Research. Laboratorios Ordesa. Barcelona. Spain.; (3) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.; (4) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.

380/30. Immune system development in a rat model of prematurity for immunonutrition studies.

Authors:
(1) Grases-Pintó, B.; (1) Torres-Castro, P.; (1) Abril, M.; (1) Rodriguez Lagunas, M.; (2) Pérez-Cano, F.; (3) Franch, À.

Affiliation:
(1) Physiology Section. Faculty of Pharmacy and Food Science. University of Barcelona (UB). INSA-UB. Spain.; (2) Section of Physiology. Department of Biochemistry and Physiology. Faculty of Pharmacy and Food Science. University of Barcelona. Spain.; (3) Physiology Section. Faculty of Pharmacy and Food Science, University of Barcelona. INSA-UB. Spain.

380/45. Antioxidant capacity of the plasma lipid-soluble fraction in anorexia nervosa patients during a one-year follow-up.

Authors:

Affiliation:
AWARDS

• Best Oral Abstract Presentation
• Second Prize Oral Abstract Presentation
• Best Poster Presentation
• Second Prize Poster Presentation

The decision on the awarded abstracts will be announced during the closing ceremony, therefore we kindly suggest to attend the event.

Note: The awards or any of their categories may be declared void in the case the Scientific Committee deems it appropriate.
# Overview of Scheduled Activities

**Legend**
- **Plenary/Special lecture**
- **Session**
- **Abstract Presentation**
- **Ceremonies**
- **Workshop**

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<td><strong>Monday 10th September</strong></td>
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<td>Registration opens &amp; continues throughout</td>
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<td>Session VII. Nutrition and infectious disease</td>
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<td>17.30-18.30</td>
<td>Coffee Break</td>
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**Sessions**
- **Session IV. Micronutrients and Immunity**
- **Session V. Fats, immunity and inflammation**
- **Session VI. The Mediterranean diet, immunity and inflammation**
- **Session VII. Nutrition and infectious disease**

**Virtual e-Poster Exhibition Area (Rocket Exhibition Area), Ground Floor**
- Coffee Break
- Welcome Reception

**Highbury Canteen, Floor -1**
- Seated/Buffet Lunch
The Nutrition Society was established in 1941 and is dedicated to delivering its mission of advancing the scientific study of nutrition and its application to the maintenance of human and animal health. Highly regarded by the scientific community, the Society is one of the largest learned societies for nutrition in the world. The Society is a not for profit, membership organisation. Those with a genuine interest in the science of human or animal nutrition can become a member from across the world. The Society:

- Publishes five renowned journals consisting of highly regarded scientific research.
- Creates and organises CPD endorsed conferences disseminating nutritional science and attracting nutrition scientists.
- Works with industry representatives and researchers from the around the world.
- Offers CPD endorsed training workshops and webinars to enhance and develop skills.
- Creates opportunities to network and develop relationships with like-minded individuals and communities.
- Publishes six highly regarded textbooks.
- Offers up to date news in areas of nutrition research.

### Collaborators

The Nutrition Society was established in 1941 and is dedicated to delivering its mission of advancing the scientific study of nutrition and its application to the maintenance of human and animal health. Highly regarded by the scientific community, the Society is one of the largest learned societies for nutrition in the world. The Society is a not for profit, membership organisation. Those with a genuine interest in the science of human or animal nutrition can become a member from across the world. The Society:

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- Publishes six highly regarded textbooks.
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