



# DEMYSTIFYING LONG COVID

INTERNATIONAL CONFERENCE 2023

HYBRID MEETING | 7 - 9 DECEMBER | MADRID, SPAIN

Program Book





|   |    |
|---|----|
| <b>Welcome</b>                            | 5  |
| <b>Practical Information</b>              | 6  |
| <b>Organizing Committee &amp; Faculty</b> | 8  |
| <b>Program</b>                            | 10 |
| <b>Potential Conflict of Interests</b>    | 16 |
| <b>Acknowledgments</b>                    | 17 |
| <b>Notes</b>                              | 18 |





Dear Colleagues,

As the Chairs of the Demystifying Long COVID International Conference 2023, we are excited to welcome you to the inaugural Conference in beautiful Madrid and online.

With an excellent array of speakers, we cordially invite you to join us in raising awareness, clarifying misconceptions, and promoting understanding of the many continuing undefined aspects of long COVID. In the coming three days, we will shed light on the challenges in defining Long COVID, the prevalence, evolving profile and remission rates, research avenues, current treatment guidelines, and potential treatments for the future.

We are excited that the program includes a highly diverse team of basic and clinical scientists, clinicians, patient representatives, and trainees coming from different continents. With their complementary perspectives, we will delve into the underlying mechanisms of long COVID, the coordination of care pathways, and possible preventive and treatment options on the horizon.

Given the high disease burden and societal impact of this condition, this conference will give us the opportunity to discuss difficulties that patients and caregivers continue to face and find solutions to improve the quality of care.

We invite you to contribute to demystifying Long COVID and look forward to welcoming you to this unique meeting either in person or virtually!

On behalf of the Organizing Committee,

Dr. Daniel Kuritzkes  
Dr. Monica Gandhi  
Dr. Dominique Salmon  
Dr. Roger Paredes

## Program Chairs



**Daniel Kuritzkes  
MD**

Brigham and Women's  
Hospital / Harvard  
Medical School,  
United States



**Monica Gandhi  
MD, MPH**

University of California  
San Francisco,  
United States



**Dominique Salmon  
MD, PhD**

Paris Descartes  
University,  
France



**Roger Paredes  
MD, PhD**

Hospital Germans  
Trias & IrsiCaixa AIDS  
Research Institute,  
Spain

# Practical Information

## Abstracts

Accepted abstracts are published in the Demystifying Long COVID abstract book.



## Badge Policy

All registered delegates are provided with a conference badge. Admission to all events is restricted to registered delegates and official guests wearing their name badges. Please wear your badge at all times to ensure admission to the conference sessions.

## Certificate of Attendance

Certificates of attendance will be sent by e-mail in the week following the conference (after completion of the post-conference survey).

## Code of Conduct

All individuals are required to observe our Code of Conduct. We cannot tolerate any form of discrimination, harassment, disrespect, or the marginalization of those involved in our programs. Please report any incidents to VE and AME via [info@amededu.com](mailto:info@amededu.com) or to one of our onsite personnel. Any participant who is found to have exhibited any inappropriate conduct or behavior against others may be removed from the program.

### View in full:

[academicmedicaleducation.com/our-commitment-diversity-and-inclusion](https://academicmedicaleducation.com/our-commitment-diversity-and-inclusion)



## Conference Secretariat

The conference secretariat is located at the registration desk in the pre-function area of the meeting room. It is open throughout the conference to address all your questions concerning logistics.

## Feedback

Your feedback is very valuable to us as it allows us to continue to improve future Demystifying Long COVID conferences. Please complete the feedback forms that are distributed via email at the end of each conference day. Your feedback is much appreciated – we will use it to improve the program in 2024.

## Networking Opportunities

*Thursday, December 7 – 19:20* | A welcome reception is scheduled after the last plenary session.

*Friday December 8 - 17:50* | A welcome reception and poster viewing are scheduled after the last plenary session.

## Posters

Posters are displayed in the room next to the plenary room. Please seek out the posters during refreshment breaks and lunch breaks. There is a dedicated poster viewing session for which we ask the poster presenters to be available to present their work.

*Friday December 8 - 17:50* | Welcome Reception & Poster viewing

---

**Disclaimer:** This conference aims to offer participants the opportunity to share information. Virology Education cannot accept any liability for the scientific content of the sessions or for any claims which may result from the use of information or publications from this workshop. Virology Education disclaim all liability for injuries or losses of whatever nature incurred by individuals attending the conference.



## Presenters

Presenters are requested to submit their presentation as early as possible, latest in the break prior to their session. Our technicians will be available for you at the technician table.

## Presentations and Webcast

The full session recordings are available OnAIR for three weeks after the conference. After this time, the lectures and PDF presentations will be made accessible via the conference website.

## Social Media

We encourage all to share your conference experience on your social media accounts. Hashtag: #DemystifyingLongCOVID

## Our Team



**Kim Go**  
Project Manager  
[kim.go@amededu.com](mailto:kim.go@amededu.com)



**Hana Agustine**  
Project Coordinator  
[hana.agustine@amededu.com](mailto:hana.agustine@amededu.com)



**Christina Moustakaki**  
Project Coordinator  
[christina.moustakaki@amededu.com](mailto:christina.moustakaki@amededu.com)



**Federica Ressa**  
Project Manager  
[federica.ressa@amededu.com](mailto:federica.ressa@amededu.com)



**Michiel de Groot**  
AV Manager



**Bilal Badsı**  
AV

# Organizing Committee & Faculty

## Chairs



**Daniel Kuritzkes, MD**

Brigham and Women's Hospital /  
Harvard Medical School,  
United States



**Monica Gandhi, MD, MPH**

University of California  
San Francisco, United States

## Organizing Committee



**Jonathan Schapiro, MD**

National Hemophilia Center,  
Sheba Medical Center,  
Israel



**Serena Spudich, MD**

Yale University,  
United States

## Speakers



**Brent Appelman, MD**

Amsterdam Universitair Medische  
Centra,  
The Netherlands



**Carolyn Bramante, MD, MPH**

University of Minnesota Medical  
School,  
United States



**Chantal Britt, MA**

Long COVID Europe,  
Belgium



**Fanny Brunet, PhD**

Hôpitaux de Saint-Maurice,  
France



**Lisa Chakrabarti, PhD**

Institut Pasteur, Université de Paris,  
France



**Guilherme Dias de Melo,  
DVM, MSc, PhD**

Institut Pasteur,  
France



**Andrea Foulkes, ScD**

Massachusetts General Hospital  
Biostatistics; Harvard Medical  
School; Harvard TH Chan School of  
Public Health, United States



**Giovanni Guaraldi, MD**

University of Modena and  
Reggio Emilia,  
Italy



**Nathalie Kubis, MD, PhD**

Université Paris Cité,  
France



**Mayssam Nehme, MD**

Hôpitaux University of Geneva,  
Switzerland





**Dominique Salmon, MD, PhD**  
Paris Descartes University,  
France



**Roger Paredes, MD, PhD**  
Hospital Germans Trias & IrsiCaixa  
AIDS Research Institute,  
Spain



**Otavio Berwanger, MD, PhD**  
Academic Research Organization,  
Hospital Israelita Albert Einstein,  
Brazil



**Anton Pozniak, MD, FRCP**  
Chelsea and Westminster Hospital,  
United Kingdom



**Pauline Oustric, PhD**  
#ApresJ20 Association Covid Long  
France, INSERM/Centre Léon Bérard,  
France



**Etheresia Pretorius, PhD**  
Stellenbosch University, South Africa;  
University of Liverpool,  
United Kingdom



**Terry Segal, MBChB, MRCP,  
MRCPCH**  
University College Hospital  
London,  
United Kingdom



**Upinder Singh, MD**  
Stanford University  
School of Medicine,  
United States



**Gemma Torrell, MD, PhD**  
CAP Les Indiennes,  
Spain



**Helen Ward, PhD, MBChB,  
MSc, FFPH, FRCP**  
Imperial College London,  
United Kingdom



**Annemarie Wensing, MD, PhD**  
University Medical Center Utrecht,  
The Netherlands

## Thursday, 7 December

Times are in Central European Time

### Opening of the Conference

#### Opening Words

- 16:30 **Daniel Kuritzkes**  
Brigham and Women's Hospital / Harvard Medical School,  
United States

### Session 1 Basic Facts about Long COVID

*Chairs: Daniel Kuritzkes & Ethersia Pretorius*

- 16:35 **Long COVID Prevalence, Incidence, and Risk Factors**  
**Monica Gandhi**  
University of California San Francisco, United States
- 17:00 **Defining the Syndrome, and Clusters of Symptoms**  
**Andrea S Foulkes**  
Massachusetts General Hospital Biostatistics; Harvard Medical School,  
Harvard TH Chan School of Public Health, United States
- 17:25 **Where the Gaps Are?**  
**Helen Ward**  
Imperial College London, United Kingdom

17:50 Short break

### Abstract Session

*Chairs: Serena Spudich & Lisa Chakrabarti*

- 18:05 **SARS-CoV-2 viral persistence in lung alveolar macrophages is controlled by IFN- $\gamma$  and NK cells** #1  
Nicolas Huot, France
- 18:20 **Blood transcriptomics reveal persistent SARS-CoV-2 RNA and candidate clinical biomarkers in a Belgian Long COVID cohort** #2  
Johan van Weyenbergh, Belgium
- 18:35 **Cytokine Profile Associated with Post-COVID-19 Condition candidate clinical biomarkers in a Belgian Long COVID cohort** #3  
Marta Massanella, Spain
- 18:50 **Transfer of IgG of Long-COVID patients induces subgroup-specific symptoms in mice** #4  
Hung-Jen Chen, The Netherlands
- 19:05 **Improvement of immune dysregulation and health-related quality of life in individuals with long COVID at 24 months following SARS-CoV-2 infection** #5  
Chansavath Phetsouphanh, Australia

19:20 Welcome Reception



## Friday, 8 December

Times are in Central European Time

### Session 2 Pathogenesis of Long COVID

*Chairs: Roger Paredes & Morgane Bomsel*

- 09:00 **Long COVID Pathogenesis - What Have We Learned So Far (Introduction Talk Presenting All the Current Hypotheses)**  
**Roger Paredes**  
Hospital Germans Trias & IrsiCaixa AIDS Research Institute, Spain
- 09:10 **Mitochondrial Dysfunction - COVID, Muscles and Mitochondria**  
**Brent Appelman**  
Center of Experimental and Molecular Medicine, Amsterdam Universitair Medische Centra, The Netherlands
- 09:35 **Long COVID and Vascular Dysfunction**  
**Etheresia Pretorius**  
Stellenbosch University, South Africa; University of Liverpool, United Kingdom
- 10:00 **SARS CoV-2 Adaptative Immune Responses In Long COVID**  
**Lisa Chakrabarti**  
Institut Pasteur, Université de Paris, France
- 10:25 **Neuropathogenesis**  
**Serena Spudich**  
Yale University, United States
- 10:50 **The Hamster Model for Studying the Neurological Manifestations of Long COVID**  
**Guilherme Dias de Melo**  
Institut Pasteur, France

11:15 Coffee break

11:45 **Industry Supported Symposium**  
**SARS-CoV-2 Persistence and Long COVID: What Have We Learned So Far?**

13:00 Lunch

### Session 3 Clinical Management Part I

*Chairs: Amélie Ménard & Andrea Foulkes*

- 14:00 **Current Treatment Options**  
**Dominique Salmon**  
Paris Descartes University, France
- 14:25 **Rehabilitation and Post-Exertional Malaise Management**  
**Fanny Brunet**  
Hôpitaux de Saint-Maurice, France

14:50 **Long COVID in Pediatric and Adolescent Population**

**Terry Segal (virtual)**

University College Hospital London, United Kingdom

---

**Abstract presentations**

15:15 **PBMC Immunophenotyping, Plasma Inflammatory Profile and Antibody Levels of Children with Long COVID** #6  
Jon Izquierdo-Pujol, Spain

15:30 **The relationship between self-reported persistent symptoms post-COVID-19 and employment among adults in England, UK** #7  
Chiara Di Gravio, United Kingdom

15:45 Coffee break

---

**Session 4 Clinical Management - Part II**  
*Chairs: Dominique Salmon & Jérôme Larché*

16:15 **Neurocognitive and Neurological Symptoms**  
**Mayssam Nehme, Switzerland**  
Hôpitaux University of Geneva, Switzerland

16:40 **Parasympathetic Autonomic Dysfunction Is More Often Evidenced than Sympathetic Autonomic Dysfunction in Fluctuating and Polymorphic Symptoms of “Long-COVID” Patients**  
**Nathalie Kubis (virtual)**  
Université Paris Cité, France

---

**Abstract presentations**

17:05 **Vascular Inflammation in Neuropsychiatric Post-Acute Sequelae of COVID-19** #8  
Lindsay McAlpine, United States

17:20 **Focal Cerebral Hypoperfusion in Individuals with Cognitive Impairment after COVID-19** #9  
Lindsay McAlpine, United States

17:35 **Presentation and Factors Associated with Long COVID Among Individuals Presenting to Post Acute COVID-19 Clinics in Zambia** #10  
Lloyd Mulenga, Zambia

17:50 Networking Reception & Poster Viewing



## Saturday, 9 December

Times are in Central European Time

### Session 5 Panel Discussion - Coordination and Challenges in the Care Pathway

*Chair: Monica Ghandi*

08:30 **Patient Perspective**

**Chantal Britt**

Long COVID Europe, Belgium

**Pauline Oustric**

#ApresJ20 Association Covid Long France, INSERM/Centre Léon Bérard, France

**Perspective from a Family Doctor**

**Gemma Torrell**

CAP Les Indianes, Spain

**A Two-Sided Coin: A Clinician and a Patient Perspective**

**Annemarie Wensing (virtual)**

University Medical Center Utrecht, The Netherlands

**A Perspective from an Infectious Diseases Doctor**

**Giovanni Guaraldi**

University of Modena and Reggio Emilia, Italy

09:30 **Industry Supported Symposium**

**Long COVID: Uncovering the Clues After 3 Years of Research**

10:30 Coffee break

### Session 6 Treatment and Prevention of Long COVID: What is on the Horizon?

*Chairs: Serena Spudich & Giovanni Guaraldi*

11:00 **COVID-OUT Study**

**Carolyn Bramante**

University of Minnesota Medical School, United States

11:25 **Nirmatrelvir/ritonavir for Treatment of Long COVID: What Does the Clinical Data Show**

**Upinder Singh**

Stanford University School of Medicine, United States

11:50 **Discussion: What is on the Horizon?**

12:05 Closing of the Conference

## Friday, 8 December

Times are in Central European Time

**Industry Supported Symposium - Shionogi**  
**SARS-CoV-2 Persistence and Long COVID: What Have We Learned So Far?**  
*Chairs: Monica Gandhi & Roger Paredes*

11:45 **Symposium Opening**

**Monica Gandhi & Roger Paredes**

11:50 **Long-Term Evolution of Long COVID**

**Roger Paredes**

Hospital Germans; Trias & IrsiCaixa AIDS Research Institute, Spain

12:15 **101 Virology - Retroviruses vs RNA viruses vs DNA viruses - What We Know About the Persistence of Each and Virus-Induces Inflammation**

**Raul Andino,**

University of California, United States

12:40 **Panel Discussion**

13:00 End of the symposium

## Speakers

- **Monica Gandhi, MD, MPH**  
University of California San Francisco, United States
- **Roger Paredes, MD, PhD**  
Hospital Germans, Trias & IrsiCaixa AIDS Research Institute, Spain
- **Raul Andino, PhD**  
University of California, San Francisco, United States

The “**Industry Supported Symposium - Shionogi SARS-CoV-2 Persistence and Long COVID: What Have We Learned So Far?**” is supported by an independent educational grant from Shionogi. Shionogi was not involved in the development of content or selection of faculty for this educational activity.



## Saturday, 9 December

Times are in Central European Time

09:30 - 10:30 **Industry Supported Symposium - Pfizer**  
**Long COVID: Uncovering the Clues After 3 Years of Research**

### Speakers

- **Monica Gandhi, MD, MPH**  
University of California San Francisco, United States
- **Roger Paredes, MD, PhD**  
Hospital Germans , Trias & IrsiCaixa AIDS Research Institute, Spain
- **Romina P. Quercia, MD, PhD, MGH**  
Global COVID-19 Medical Affairs, Pfizer

More information on the symposium program can be found on page 22.

The “**Industry Supported Symposium - Pfizer Long COVID: Uncovering the Clues After 3 Years of Research?**” is initiated, funded and organized by Pfizer.

# Potential Conflict of Interest

**Brent Appelman**

No potential conflict of interest to disclose

**Otavio Berwanger**

Conflict of interest not disclosed

**Carolyn Bramante**

No potential conflict of interest to disclose

**Chantal Britt**

No potential conflict of interest to disclose

**Fanny Brunet**

No potential conflict of interest to disclose

**Lisa Chakrabarti**

Potential conflicts of interest: Emulate

**Guilherme Dias de Melo**

No potential conflict of interest to disclose

**Andrea Foulkes**

Potential conflicts of interest: NIH/NHLBI, RoundTable Inc

**Giovanni Guaraldi**

Potential conflicts of interest: ViiV, Gilead, Merck, Janssen

**Nathalie Kubis**

No potential conflict of interest to disclose

**Mayssam Nehme**

No potential conflict of interest to disclose

**Pauline Oustric**

No potential conflict of interest to disclose

**Roger Paredes**

Potential conflicts of interest: Gilead, ViiV, MSD, Pfizer, GSK, Lilly, Roche, Astra Zeneca, Atea, Theratechnologies

**Anton Pozniak**

Potential conflicts of interest: Janssen, Merck, Viiv and Gilead,

**Etheresia Pretorius**

Potential conflicts of interest: Biocode Technologies

**Dominique Salmon**

No potential conflict of interest to disclose

**Jonathan Schapiro**

Potential conflicts of interest: Pfizer, Moderna, Merck, Gilead Sciences, GlaxoSmithKline, Tibotec-Janssen, Teva, Virology Education, ViiV Healthcare. He has received travel support and stipends for advisory work for the World Health Organization.

**Serena Spudich**

No potential conflict of interest to disclose

**Terry Segal**

No potential conflict of interest to disclose

**Upinder Singh**

Potential conflicts of interest: Pfizer, Gilead

**Gemma Torrell**

No potential conflict of interest to disclose

**Helen Ward**

No potential conflict of interest to disclose

**Annemarie Wensing**

Potential conflicts of interest: Gilead, ViiV/ GSK, Drug level kits by ARK





## Corporate Support

### FOUNDING SPONSOR



Since 1953 Shionogi has been a leader in infectious disease discovery and commercialization. Our R&D story extends beyond antibiotics to include novel medications for HIV and influenza. Today, our global pipeline includes investigational agents developed to address global health challenges including antimicrobial resistance, COVID-19, influenza, rare fungal diseases and respiratory syncytial virus.

### TITANIUM LEVEL SPONSOR



### ENDORSERS











Join the Pfizer-sponsored symposium

Saturday, 9 December 2023

9:30–10:30 CET

# Long COVID: Uncovering the Clues After 3 Years of Research

We are delighted to invite you to our symposium titled “**Long COVID: Uncovering the Clues After 3 Years of Research**,” taking place at the Demystifying Long COVID International Conference on 7-9 December 2023 in Madrid, Spain.

Attendees can expect a comprehensive review of the burden and pathophysiology, clinical aspects, and cellular and molecular biomarkers of long COVID.

Following the presentations, there will be an audience Q&A and faculty panel discussion on supporting/designing further research and studies for long COVID.

## Meet our panelists:



**Monica Gandhi, MD, MPH**  
University of California San Francisco  
United States

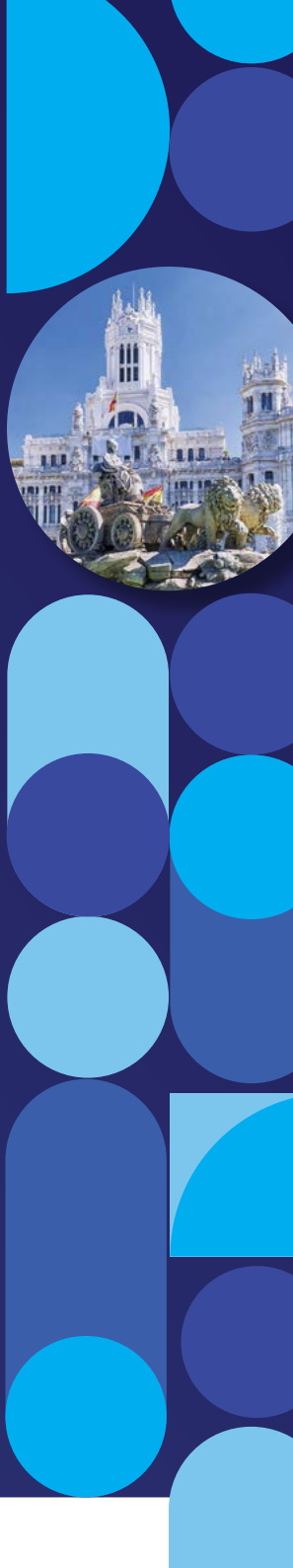


**Roger Paredes, MD, PhD**  
Hospital Germans Trias & IrsiCaixa AIDS Research Institute  
Spain



**Romina P. Quercia, MD, PhD, MGH**  
Global COVID-19 Medical Affairs  
Pfizer

This symposium is initiated, organized, and funded by Pfizer Inc.  
©2023 Pfizer Inc. All rights reserved.





**Since 1953, Shionogi has been  
a leader in infectious disease  
discovery and commercialisation.**

Our R&D story extends beyond antibiotics to include novel medications for HIV and influenza. Today, our global pipeline includes investigational agents developed to address global health challenges, including antimicrobial resistance, COVID-19, influenza, respiratory syncytial virus and rare fungal diseases.

As part of our commitment to addressing unmet medical needs, Shionogi is partnering with several non-governmental organisations to increase equitable access to our medications worldwide.

**ve**  
virology  
education

**ame**  
academic  
medical education

[AcademicMedicalEducation.com](http://AcademicMedicalEducation.com)