



## Welcome from the 2020 ISSR Organizing Committee

Dear Colleagues:

It is indeed a great pleasure, and an enormous privilege, for us to organize our 20<sup>th</sup> Meeting of the International Society for Serotonin Research (ISSR), in Cancun, Mexico, July 26-29, 2020 (coincidentally, our *20th ISSR Meeting in 2020!!*). Our meeting, themed **“Serotonin on the Mexican Caribbean”**, will have as its official venue the Marriott Resort in Cancun. As you will see in the coming pages, this is an enticing and excellent meeting venue consisting of a complex that includes two hotels (i.e. the Marriott Cancun and the JW Marriott Resort and Spa) along with nine restaurants and numerous amenities and activities available on site.

It goes without saying that the Mexican Caribbean (comprised of Cancun, Puerto Morelos, Riviera Maya, Grand Costa Maya and the Islands of Cozumel, Holbox and Isla Mujeres) features a myriad of fun-filled adventures and attractions, archaeological sites, delicious dining and, of course, relaxation on its stunning beaches. The turquoise blue color and transparency of its waters will leave you simply dazzled!

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Regarding hotel reservations, we have a room block with discounted rates at both the Marriott Cancun (\$185 per night) and the JW Marriott (\$285 per night). Note: rooms available at a discount are limited and we strongly encourage you to make reservations early! Also, we have contracted with International Incentive Travel, an onsite company that will handle ground transportation and all your questions about the area, as well as bookings for various activities, tours and excursions, restaurant reservations and evening entertainment.

Furthermore, we have practically formed the full meeting program; the ISSR Council has completed their selection of the 2020 honorees for our Page, Vanhoutte and Rapport plenary lectures, as well as the list of 14 accepted symposium proposals (see coming pages).

In the tradition of ISSR meetings, symposia will be held in the mornings and afternoons; whereas plenary lectures will be delivered in the late afternoons to conclude the scientific sessions of each day. We will have the participation of distinguished "serotoninologists" from all over the world. Likewise, the poster session will be conducted on Monday 27 July (16:30-19:30 hrs.; refreshments and light snacks will be served), with the posters being accessible for viewing throughout the conference.

Needless to say, that the poster session is invariably well received as it gives our students and junior researchers an opportunity to present their work and to receive constructive criticisms and suggestions from many expert scientists in attendance. You will also find a list of deadlines in this issue (e.g. registration, abstract submission, hotel reservations, etc.). Please make notes on your calendar about these important dates. Remember to check the meeting pages on our [ISSR website](https://www.serotoninclub.org/issr2020) (<https://www.serotoninclub.org/issr2020>). We will be updating the website continually as new information and details become available.

We are certain that you will enjoy our 20th ISSR Meeting, which will combine excellent science, heavenly surroundings and special people, just as our previous ISSR Meetings. We look forward to personally welcoming you to paradisiac Cancun in July 2020.

Bienvenidos a México Lindo!

Carlos M. Villalón  
 Kathryn A. Cunningham  
 Lynette C. Daws  
 Noelle C. Anastasio  
 Catherine A. Marcinkiewicz  
 Anne M. Andrews  
 Kelly A. Berg  
 Lee Gilman

# ISSR 2020 Symposia

## "Serotonin on the Mexican Caribbean"

Marriott Cancún Resort and Spa, Cancún, Mexico  
July 26-29, 2020

The 2020 International Society for Serotonin Research meeting will be held July 26-29 at the Marriott Cancún Resort and Spa in Cancún, Mexico. The meeting will include 14 symposia: 6 single session plenary symposia and 8 symposia scheduled in parallel sessions. One Young Investigator Trainee (*i.e.*, graduate student or postdoctoral fellow) will be added as a fourth speaker to each symposium. In addition, we will have two oral sessions comprised of selections from submitted abstracts, and an evening poster session. We are very pleased to announce that the honorary Irvine Page plenary lecture will be given by **Professor Lynette C. Daws** (*University of Texas Health Science Center- San Antonio*), the honorary Maurice Rapport plenary lecture will be given by **Professor Kjell Fuxe** (*Karolinska Institutet*), and the honorary Paul Vanhoutte Distinguished lecture will be given by **Professor René Hen** (*Columbia University*).

### Plenary Symposia

<p><b>The therapeutic potential of novel 5-HT<sub>2C</sub> compounds: an in depth exploration of 5-HT<sub>2C</sub> agonist mechanisms</b></p> <p><b>Chair:</b> Herbert Meltzer (Northwestern University Feinberg School of Medicine)</p> <p><b>Speakers:</b> Herbert Meltzer, Kathryn Cunningham (University of Texas Medical Branch), John McCorvy (Medical College of Wisconsin)</p>	<p><b>SERT and beyond in treatment of depression</b></p> <p><b>Chairs:</b> Harald Sitte (Medical University of Vienna) and Lynette Daws (University of Texas Health Science Center- San Antonio)</p> <p><b>Speakers:</b> Harald Sitte, Claus Juul Loland (Univ Copenhagen) and Parastoo Hashemi (Imperial College London/University of South Carolina)</p>
<p><b>Development and plasticity of serotonergic circuitry</b></p> <p><b>Chair:</b> Evan Deneris (Case Western Reserve)</p> <p><b>Speakers:</b> Evan Deneris, Patricia Gaspar (Institut du Fer à Moulin) and Massimo Pasqualetti (University of Pisa)</p>	<p><b>Serotonylation: new vistas of receptor-independent serotonin signaling</b></p> <p><b>Chairs:</b> Natalia Alenina (Max Delbrück Center for Molecular Medicine and Igor Adameyko (Medical University of Vienna)</p> <p><b>Speakers:</b> Michael Bader (Max Delbrück Center for Molecular Medicine), Ian Maze (Icahn School of Medicine), and Elena Voronezhskaya (Koltsov Institute of Developmental Biology)</p>
<p><b>Recent advances in molecular neuroimaging of the serotonin system</b></p> <p><b>Chair:</b> Hanne Demant Hansen (Massachusetts General Hospital) and Trevor Sharp (Oxford University)</p> <p><b>Speakers:</b> Ramin Parsey (Stony Brook University), David Erritzøe (Imperial College London), and Hanne Demant Hansen</p>	<p><b>Hypertension and Hypotension: the "H" in 5-HT</b> <i>A Tribute to Paul Vahoutte</i></p> <p><b>Chair:</b> Stephanie W. Watts (Michigan State University)</p> <p><b>Speakers:</b> R Clinton Webb (Augusta University), Carlos M. Villalón (Cinvestav-IPN (Unidad Sur) and Stephanie Watts</p>

# ISSR 2020 Symposia

## “Serotonin on the Mexican Caribbean”

Marriott Cancún Resort and Spa, Cancún, Mexico

July 26-29, 2020

### Symposia

<p><b>Lipid dynamics and serotonin signaling in the brain: from molecular interactions to behaviour</b></p> <p><b>Chairs:</b> Jana Haase (University College Dublin) and Christian Müller (University Erlangen)</p> <p><b>Speakers:</b> Steffen Sinning (Aarhus University), Jana Haase and Christian Müller</p>	<p><b>Preclinical and clinical developments in psychedelic therapy for psychiatric disorders</b></p> <p><b>Chairs:</b> Charles Nichols (LSU Health Science Center) and Mark Rasenick (University of Illinois-Chicago)</p> <p><b>Speakers:</b> Mark Rasenick, Kevin Murnane (Mercer University College of Pharmacy), and Matthew Johnson (Johns Hopkins University)</p>
<p><b>One-two punch: Impact of 5-HT and 5-HT<sub>2A</sub> receptors in neurotrauma</b></p> <p><b>Chairs:</b> Matthew Robson (University of Cincinnati College of Pharmacy)</p> <p><b>Speakers:</b> Matthew Robson, Warren Alilain (University of Kentucky College of Medicine) and David Linden (Johns Hopkins College of Medicine)</p>	<p><b>The fruit fly: an important model for the study of serotonin neurobiology</b></p> <p><b>Chair:</b> Quentin Gaudry (University of Maryland)</p> <p><b>Speakers:</b> Charles Nichols (LSU Health Science Center), Quentin Gaudry, and David Krantz (University of California-Los Angeles)</p>
<p><b>Towards a better understanding of how serotonin modulates impulsivity</b></p> <p><b>Chair:</b> Katherine M. Nautiyal (Dartmouth College)</p> <p><b>Speakers:</b> Catharine Winstanley (University British Columbia), Katherine Nautiyal, and Gerard Mueller (Virginia Commonwealth University)</p>	<p><b>Are cerebral functions of serotonin 4 receptors evolutionarily conserved?</b></p> <p><b>Chair:</b> Valérie Compan (Université de Nîmes)</p> <p><b>Speakers:</b> Gitte Knudsen (Copenhagen University Hospital), Christine Denny (NY State Psychiatric Inst/ Columbia University), and Evgeni Ponimaskin (Medical School Hannover)</p>
<p><b>Physiology and behavioral functions of dorsal raphe serotonin neurons</b></p> <p><b>Chair:</b> Jeremiah Cohen (Johns Hopkins University) and Lynn Kirby (Lewis Katz School of Medicine/ Temple University)</p> <p><b>Speakers:</b> Lynn Kirby, Jeremiah Cohen and Jean-Claude Béique (University of Ottawa)</p>	<p><b>Physiological relevance of serotonin receptor dimers</b></p> <p><b>Chairs:</b> Luc Maroteaux (Institut du Fer à Moulin) and Javier Gonzalez-Maseo (VCU School of Medicine)</p> <p><b>Speakers:</b> Noelle Anastasio (University of Texas Medical Branch), Luc Maroteaux and Javier Gonzalez-Maseo</p>

# ISSR 2020 At a Glance

## "Serotonin on the Mexican Caribbean"

	Sunday July 26, 2020	Monday July 27, 2020	Tuesday July 28, 2020	Wednesday July 29, 2020
7:00				
7:30				
8:00		<b>Parallel Symposia 1/2</b>	<b>Parallel Symposia 5/6</b>	<b>Parallel Symposia 7/8</b>
8:30		<i>Hasse/Müller</i>	<i>Nautiyal</i>	<i>Cohen/Kirby</i>
9:00		Lipid dynamics and serotonin signaling in the brain: from molecular interactions to behaviour	Towards a better understanding of how serotonin modulates impulsivity	Physiology and behavioral functions of dorsal raphe serotonin neurons
9:30		Coffee Break	Coffee Break	Coffee Break
10:00		<b>Parallel Symposia 3/4</b>	<b>Short Talks - Session 1</b>	<b>Short Talks - Session 2</b>
10:30		<i>Robson</i>		
11:00		One-two punch: impact of 5-HT and 5-HT <sub>2A</sub> receptors in neurotrauma		
11:30		<i>Gaudry</i>		
12:00		LUNCH	LUNCH	LUNCH
12:30				
1:00		<b>Plenary Symposium #1 (Meltzer)</b>	<b>Plenary Symposium #2 (Sitte/Daws)</b>	<b>Plenary Symposium #3 (Deneris)</b>
1:30		The therapeutic potential of novel 5-HT <sub>2C</sub> compounds: an in depth exploration of 5-HT <sub>2C</sub> agonist mechanisms	SERT and beyond in treatment of depression	Development and Plasticity of Serotonergic Circuitry
2:00	<b>Registration</b>	Coffee Break	Coffee Break	Coffee Break
2:30				
3:00		<b>Special Symposium: Tribute to Paul Vanhoutte (Watts)</b>	<b>Plenary Symposium #4 (Alenina/Adameyko)</b>	<b>Plenary Symposium #5 (Hansen/Sharp)</b>
3:30		Hypertension and Hypotension: the "H" in 5-HT	Serotonylation: new vistas of receptor-independent serotonin signaling	Recent advances in molecular neuroimaging of the serotonin system
4:00	<i>Welcome and Lecture Introduction</i>			
4:30	<b>Page Lecture</b>	<b>Poster Session &amp; Refreshments</b> Posters will be accessible for viewing throughout conference	Short Break	Short Break
5:00			<b>Vanhoutte Lecture</b>	<b>Rapport Lecture</b>
5:30				
6:00	<b>Opening Reception</b>			Break
6:30		<b>Networking Social</b>		
7:00				
7:30			<b>Gala Reception/ Dinner &amp; Awards</b>	
8:00				
8:30	Dinner on own	Dinner on own		
9:00				

# ISSR 2020: Serotonin on the Mexican Caribbean July 26-29, 2020

## Important Deadlines

### Travel Awards

**Submission :** NOW OPEN  
**Deadline:** Dec. 6, 2019  
**Award Notification:** by mid-Jan. 2020

### Lodging

**Reservations Opens:** Jan. 2020  
**Discounted Room Rate:**  
Deadline Apr. 20, 2020  
**Reserve your rooms early!**  
**The Marriott Cancun: \$ 185/night**  
or  
**The JW Marriott: \$285/night**

WE LOOK FORWARD TO SEEING YOU IN CANCUN!

### Meeting Registration

**Registration Opens:** Jan. 2020  
**Early Bird:** Mar. 15, 2020 (fees increase after March 15)  
**Regular Deadline:** Apr. 20, 2020 (fees increase after April 20)  
**Late Deadline:** Jul. 1, 2020  
**\*\*\*Fees cannot be refunded after April 20, 2020\*\*\***  
**See Next Page for Details**

### Abstract Submission

**Submission Opens:** Jan. 2020  
**Short Oral Presentations:** Mar. 15, 2020  
\*Accepted abstracts also programmed as a poster  
**Poster Presentations:** Apr. 20, 2020

# ISSR 2020

## Registration Tiers

	<i>All Fees are in USD</i>		
Registration Category	Early Bird by March 15	Regular Registration March 16 - April 20	Late Registration April 20- June 25
Regular delegate- ISSR member (includes postdoctoral fellows)	\$485.00	\$550.00	\$600.00
Regular delegate- Non-member (includes postdoctoral fellows)	\$750.00	\$800.00	\$850.00
Student- ISSR member	\$325.00	\$375.00	\$425.00
Student- Non-member	\$485.00	\$550.00	\$600.00
Symposium participant (chair/speaker) ISSR Member	\$350.00	\$400.00	\$450.00
Symposium participant (chair/speaker) Non- member	\$485.00	\$550.00	\$600.00
Retired - ISSR member	\$300.00	\$350.00	\$400.00
<u>Guests</u>	\$175	\$175.00	\$200.00

**Due to our venue contract, registrations fees cannot be refunded  
after April 20, 2020**

**Register [HERE](https://www.serotoninclub.org/2020registration) starting in January 2020**

<https://www.serotoninclub.org/2020registration>

# The International Society for Serotonin Research Call for Young Investigator Travel Awards

## 2020 Meeting of the ISSR, Cancun, Mexico, July 26-29. "Serotonin on the Mexican Caribbean"

Applications are invited for travel awards to attend the 2020 meeting of the ISSR. These awards will cover meeting registration and provide financial support to help defray some of the travel costs for young investigators to attend and participate in the 2020 meeting. The size of award will be contingent upon need (i.e. distance to travel). Applicants will be notified as soon as possible after the submission deadline of December 6, 2019, but no later than Jan 31, 2020.

Awardees will speak in programmed symposium and present their work as a poster. Awardees will be matched with a member of the ISSR who will serve as mentor and help with networking throughout the meeting.

*Eligibility:* Graduate students and post-doctoral fellows may apply. Individuals already taking part in a programmed symposium are not eligible. Membership in the ISSR is not a requirement to apply, however, membership is strongly encouraged/desirable (instructions for how to join the ISSR may be found at [www.serotoninclub.org](http://www.serotoninclub.org) ).

*The Application Packet* should be submitted as a single pdf that includes 1) Abstract (one page, Arial font, size 11, inclusive of Title, Authors, Affiliations, abstract body and funding sources), 2) curriculum vitae, and 3) letter of support from the applicant's Chair/Department Head.

*Selection Criterion:* Selection of Travel Awardees will be based on:

- The quality of submitted abstract: The abstract must be of high scientific rigor and present novel, previously unpublished data.
- Curriculum vitae: The applicant's curriculum vitae must demonstrate a track record of scientific excellence and productivity, commensurate with the career stage of the applicant.
- Letter of support from the Chair or Head of Department: This letter must document that the applicant is in good academic standing (for students) and comment on the applicant's potential for a career as an independent scientist.

Please submit all applications to Dr. Kelly Berg ([berg@uthscsa.edu](mailto:berg@uthscsa.edu))

*Women and minorities are encouraged to apply.*

**Deadline for submission December 6, 2019**

# ISSR 2020: Serotonin on the Mexican Caribbean

## July 26-29, 2020

### Marriott Cancún Resort

Our 2020 Meeting Venue is the Marriott Cancun Resort. This hotel is part of a complex that includes two hotels: the Marriott Cancun and the JW Marriott

Resort and Spa along with 9 restaurants and numerous activities available

on site. We have room blocks at both hotels at the following discounted rates:

-JW Marriott: \$285 USD/night

-Marriott Cancun: \$185 USD/night

Reservations will be made by attendees directly with Marriott Reservations (reservations will open at the latest in mid- January, 2020). Note: rooms available at our group discount are limited and we strongly encourage you to make reservations early!

Special perks for staying at the Marriott Cancún Resort or The JW Marriott:

- 16% VAT Exemption (copies of passport, immigration card obtained upon arrival to Mexico, and completed hotel registration card required)
- No Resort fees
- All rooms have a private balcony or patio
- Group rate is extended 3 days prior and 3 days after meeting dates
- Complimentary parking
- Complimentary access to the Fitness Center

What's special about Cancun?

- Ranked #1 destination for US citizens outside the US and one of the main destinations for citizens from North and South America, Europe and Asia.



*Left: View from a JW Marriott room balcony; Right: 5-HT molecule prepared by the pastry chef at the JW Marriott. Images courtesy of K. Cunningham.*

- Best International airport in Mexico and Latin America
- Convenient flight connections (many direct) to major cities in the US, Europe, Central and South America
- Famous ecological parks and archeological zones throughout the peninsula
- Great Family Vacation Destination!

Kathryn Cunningham  
Co-Chair, Organizing Committee

Carlos Villalón  
Co-Chair, Organizing Committee

# Discover Cancun!

We have contracted with International Incentive Travel (IIT) to provide ground transportation from the airport to the Marriot Cancun Resort. Meeting attendees should arrange transport by booking with IIT directly before arrival, the cost is ~\$30 USD per person .

Cancun is the perfect location to mix work and play! We also contracted with International Incentive Travel (IIT) to provide to our group tourism information and reservation assistance for various day excursions (preferably booked either before or after our meeting....) as well as evening entertainment. Full or half day trips can be booked in advance as well as on site during our meeting.



*International Incentive Travel (IIT) services include airport pickup, transport to Marriott Cancun Resort, and Hospitality Desk at JW Marriott. IIT will serve as a "private concierge" for our group and handle any tour and/or restaurant reservations (and more!). When you are ready to depart Cancun, IIT will arrange for your transport to the airport.*

IIT will maintain a hospitality desk in the JW Marriott exclusively for our group's convenience for booking excursions, restaurant reservations etc. Some activities available to be booked via IIT are shown below (please see the ISSR website for a full brochure of all available activities with pricing). You will be able to book activities up to three days before and three days after our meeting dates.

## Leisure in Cancun

Snorkeling



XOXIMILCO



Sailing



CHICHEN ITZA



Deep sea Fishing

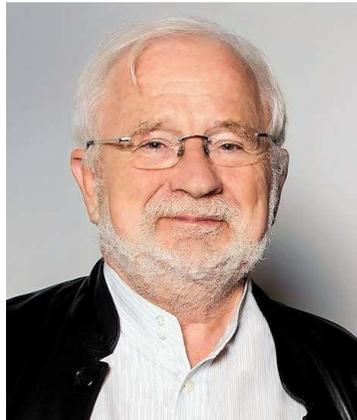


Golf



# A Tribute to Our Great Serotoninologists

## PAUL VANHOUTTE



Paul M Vanhoutte passed away in Paris, France, on August 23, 2019. Paul will be remembered as a leading figure in cardiovascular physiology and pharmacology, as a great friend and mentor by those who were lucky enough to work with him, either in his lab or throughout his multiple activities. The 5-HT club will remember Paul for the creation of the Club in 1986/1987 (now ISSR), the numerous meetings that the club could organize following an initial number of special 5-HT meetings (1984 Zurich; 1986 Florence; 1988 Amsterdam & Munich; 1989, New York and Maui/ Hawaii; 1990 Cambridge; 1991, Birmingham & Houston, etc...) and satellite meetings to IUPHAR (1987 Heron Island; 1990 Basel, the latter was the basis for our financial stability), and then every subsequent IUPHAR meeting; the creation of the IUPHAR nomenclature committee as well as subcommittees (5-HT joined the club in 1990 when we met in Basel with Pat Humphrey, Paul Hartig, Terry Branchek, Graeme Martin, Manfred Goethert, Pramod Saxena, Ewan Mylecharane, John Fozard, Michel Hamon, Steve Peroutka and many others), and made very significant contributions to a new approach to receptor nomenclature which was by and large adopted by the other nomenclature committees; this and much more is now updated every year in the BJP Guide to Pharmacology.

- Alexander SP and CGTP Collaborators: (2017) The Concise Guide to Pharmacology 2017/18: G protein coupled receptors. *Br. J. Pharmacol.* 174 Suppl 1: S17-S117. PMID: 29055037
- Hoyer D, Martin GR. (1997) Classification and nomenclature of 5-HT receptors: Towards a harmonisation with the human genome. *Neuropharmacology*, 36: 419-428. PMID: 9225265, [432 cites](#)
- Hoyer D, Martin GR. (1996) Classification and nomenclature of 5-HT receptors: a comment on current issues. *Behav. Brain Res.* 73: 263-268. PMID: 8788515. [170 cites](#)
- Hartig et al (1996) Alignment of receptor nomenclature with the human genome. Effects on classification of 5-HT<sub>1D</sub>/5-HT<sub>1B</sub> receptor subtypes, *TiPS*, 17: 103-105. PMID: 8936345. [299 cites](#)
- Hoyer et al (1994). International Union of Pharmacology classification of receptors for 5-hydroxytryptamine (Serotonin). *Pharmacol Rev*, 46: 157-203. PMID: 7813563 [3462 cites](#)
- Humphrey et al (1993). A new nomenclature for 5-HT receptors. *Trends Pharmacol Sci*, 14: 233-236. [653 cites](#)

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# A Tribute to Our Great Serotoninologists

## PAUL VANHOUTTE

DH met Paul Vanhoutte in Zurich in 1984 at a cardiovascular meeting and since then, we have always been in touch. We had dinner in Melbourne only a few months ago (Paul was a regular visitor and was also here to celebrate the 90<sup>th</sup> Anniversary of Geoff Burnstock, another legend earlier this year). Paul was very optimistic about his disease and kept travelling with great enthusiasm and energy. Everyone remembers with emotion the standing ovation, when Paul was made a honorary member of the club in 2012 in Montpellier, or when he attended the inaugural Paul Vanhoutte lecture in Seattle in 2016. Paul was also instrumental in helping with financial support for our more recent satellite meetings.

Paul was born and trained in Belgium (BS, MS, MD). He received postdoctoral training at the Mayo Clinic (Rochester, MN, USA), which was the start of a long-term association with John Shepherd and the Clinic. Paul's subsequent career spanned academia, industry and three continents. He held professorial positions at the University of Antwerp, The Mayo Clinic, and Baylor College of Medicine, where he was also Director of the Centre for Experimental Therapeutics. Paul moved to industry as Vice-President R&D, and Director of Discovery Research at the Institut de Recherches Internationales Servier, in France (1992 – 2002). From 2003 until his death (he never retired), he returned to academia at the Faculty of Medicine, University of Hong Kong as Distinguished Visiting Professor, Director/ Founder of the Biopharmaceutical Development Centre and Head of Department.

Paul made many major contributions to Pharmacology and was awarded honorary fellowship of the British Pharmacological Society in 2006. He gave a number of prize lectures during his career including the BPS JR Vane Medal prize lecture in 2004. Named lectures in his honour have been created by the American Society for Experimental Pharmacology and Therapeutics and the ISSR. Paul had major roles in IUPHAR (International Union of Basic and Clinical Pharmacology), chairing the Committee for Receptor Nomenclature (1989 – 1998), was Secretary General (1998 – 2002), and President of the Union (2002 – 2006). He received honorary doctorates from 9 universities, was a member of many learned societies and an honorary member of the Physiological Society.

Paul had a prodigious scientific output having co-authored or edited 36 books, published 669 original research papers, and 574 editorials, reviews or chapters in books. He was a Highly Cited Researcher (ISI) in three categories: Biology & Chemistry, Pharmacology, and Clinical Medicine with an *h*-index of 128. Paul has been Editor-in-Chief of the *Journal of Cardiovascular Pharmacology*, Associate Editor of the *American Journal of Physiology (Heart and Circulatory Physiology)*, and was on the editorial board of numerous physiology and pharmacology journals (e.g. *Circulation*, *Circulation Research*, *Cardiovascular Research*, *Hypertension*, *Journal of Hypertension*, *American Journal of Physiology*, *Acta Sinica Pharmacologica*, *Journal of Pharmacology and Experimental Therapeutics*) and the *British Journal of Pharmacology*.

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# A Tribute to Our Great Serotoninologists

## PAUL VANHOUTTE

Paul's early research evolved from the control of veins to understanding why acetylcholine is a vasodilator. This led to investigations of the control of sympathetic neuro-effector junction and of the interaction of vasodilator and vasoconstrictor substances with the vascular endothelium. His major scientific contribution was to analyse the importance of endothelial cells in the control of the underlying vascular smooth muscle in health and disease. Paul had a world-wide reputation for his research in cardiovascular disease, vascular neuro-effector mechanisms, calcium-antagonists, and the interactions of endothelium, EDRF, EDHF and nitric oxide.

However, this impressive list of achievements and honours, underestimates the contribution to pharmacology Paul made through the great number of students and postdoctoral fellows that he trained and influenced. Those of us who had the privilege to work with Paul will always remember his charismatic scientific leadership and guidance. We will also remember him as a great friend and mentor. He had unbounded energy and enthusiasm for science, for people and for life. He travelled prodigiously, meeting all the leading scientists in cardiovascular pharmacology and inviting them back to his lab to present their work and to talk to his pre- and post-doctoral associates. He took a keen interest in the careers of the many young scientists that he mentored and inspired, helping them to work with other leading vascular biology groups. Paul's care and interest in the success of his trainees inspired a genuine warm loyalty from all who ever spent time with him. At every major scientific conference, there would be an impromptu Paul Vanhoutte dinner attended by all the ex- trainees attending the conference. If one had a conflict with another event, it was the other event that would be missed because of the loyalty and respect Paul had earned. Similarly, something was usually organized for major award events or milestones in Paul's life. For example, for his 60th birthday a surprise gathering was held in Paris where over 100 former mentees from around the world paid their way to celebrate Paul's birthday.

He was great fun to work with and also to relax with after work. He enjoyed good company, good food, good wine and good jokes (and the occasional cigar). He had many memorable sayings such as "I feel a paper coming on" and "There are three kinds of people, those who make things happen, those who watch what happens and those who wondered what happened". He was in the first category and made good things happen for the young scientists he trained during his career and for his co-workers. His lunch/dinner invites whether in Paris, Hong Kong or any other place in the world, will be remembered as the quintessence of culinary, social, scientific and cultural events.

Paul will be greatly missed by all who knew him. We will remember his scientific insight and influence, his 'art-de-vivre', the seemingly impossible travel schedules, his quick wit and infectious laugh.

Our thoughts are with his wife Jacqueline, his four children and seven grandchildren.

Respectfully Written by: Danny Hoyer, Michael Collis, Richard Bond, and Michael Spedding



# A Tribute to Our Great Serotoninologists

## MANFRED GÖTHERT

### **Obituary for Prof. Prof. Dr. med. Dr. h.c. mult. Manfred Göthert**

Our friend and colleague, Manfred Göthert, who was head of the Institute of Pharmacology and Toxicology of the University of Bonn from 1985 to 2006, passed away on June 28, 2019. I (DH) met Manfred in 1980 or 1981 at the annual meeting of the German Pharmacological Society in Mainz, and since then, have always been in touch through the Society, later the 5-HT club, at editorial board meetings of Naunyn-Schmiedeberg's Archives of Pharmacology (of which I am a board member since 1986) and many meetings.

Manfred Göthert was born in 1939 in Braunschweig and attended schools in Lindau, Rognac (near Marseille in France), Hildesheim and Braunschweig. He studied medicine at the universities of Hamburg, Freiburg, Innsbruck, Vienna and Göttingen where Manfred graduated and completed his thesis (Dr. med.) in 1965.

From 1967 to 1978, Manfred was at the Institute of Pharmacology and Toxicology of the University of Hamburg. At the beginning, he dealt with a toxicological topic (carbon monoxide intoxication), but very soon switched to pharmacology. He was interested in the effects of ethanol, local and general anesthetics on noradrenaline release from peripheral sympathetic neurons and on catecholamine release from the adrenal medulla. The latter two topics were the basis of his habilitation thesis (1971). In 1976, Manfred became a full professor. Using different methods to induce noradrenaline release e.g. electrical pulses, high KCl, tyramine, nicotinic or 5-HT<sub>3</sub> receptors agonists, he demonstrated that noradrenaline release elicited by ligand-gated cation channels modulation can be inhibited by ethanol, halothane or pentobarbitone in pharmacologically relevant concentrations. Manfred Göthert appears to be the first that has understood that ligand-gated ion channels are essential targets of general anaesthetics.

In 1978, Manfred became Professor of Biochemical Pharmacology in Essen. His interest in serotonin (5-HT) had already been kindled in Hamburg by Hans-Georg Baumgarten. In Essen and later in Bonn, he examined the modulation of 5-HT release by presynaptic auto- and heteroreceptors. This was a very fascinating scientific area, which had been started a little earlier by the pioneering work of Erich Muscholl, Sol Langer and Klaus Starke on noradrenergic neurons. The group of Manfred Göthert was much engaged in the identification of presynaptic 5-HT autoreceptors in the brain and of 5-HT heteroreceptors on peripheral noradrenergic neurons. We (DH, ES) published several papers together on 5-HT<sub>1B/1D</sub> receptor in rodent and human brain, one of which was cited over 700 times.

# A Tribute to Our Great Serotoninologists

## MANFRED GÖTHERT

In 1985, Manfred took the Chair of Pharmacology and Toxicology of the Medical Faculty in Bonn. Modulation of 5-HT and noradrenaline release still was one of his major scientific interests and a huge number of papers was written by his group. In addition, publications about the identification and characterization of neuronal calcium channels and of imidazoline and glutamate receptors appeared. Methods like cell culture and molecular biological techniques were established by one of the authors of this obituary (H.B.) and his coworkers (in particular Michael Brüß) which paved the way for Manfred Göthert's interest in molecular biology. Molecular properties of naturally occurring variants of human 5-HT<sub>1A</sub>, 5-HT<sub>1B</sub>, 5-HT<sub>2C</sub>, 5-HT<sub>3A</sub> und 5-HT<sub>7A</sub> receptors were studied in a collaborative research centre (SFB 400, DFG), with the Psychiatric Clinic and the Institute of Human Genetics. Variants of these receptors might be involved in neuropsychiatric diseases. Further, new subtypes of 5-HT<sub>3</sub> receptors (5-HT<sub>3C</sub>, 5-HT<sub>3D</sub> and 5-HT<sub>3E</sub>) were discovered (jointly with Beate Niesler and Jutta Walstab). Manfred was a very successful dean of the Medical Faculty in Bonn (1998 to 2002), which resulted in a greater emphasis on research within that faculty. Medical students appreciated Manfred Göthert as a brilliant academic teacher. Manfred was highly estimated as head of the Institute due to his straightforwardness and friendliness.

Manfred has been president of the Federation of European Pharmacological Societies (EPHAR) from 2004 to 2006, of the German Pharmacological Society (1997 - 1999) and vice president of the 5-HT Club (1994 - 1998). He was Managing Editor of Naunyn-Schmiedeberg's Archives of Pharmacology (1995 - 2002). Manfred Göthert organized a series of international conferences dedicated to 5-HT and cardiovascular research, including the 2004 EPHAR meeting in Porto, with a very successful 5-HT satellite symposium. His last contribution as an invited speaker, was in 2010 at the 9<sup>th</sup> meeting of the 5-HT Club in Montreal. His Honorary Rapport Lecture received much applause.

Manfred was a member of German National Academy of Sciences, of the Polish Academy of Arts and Sciences and was made a honorary member of the International Society of Serotonin Research, the German Society of Experimental and Clinical Pharmacology and Toxicology (DGPT) and the Polish Pharmacological Society.

Manfred Göthert will be remembered as a great colleague and friend with a distinguished career, very gentle manners and a great sense of service.

Sincerely Written by: Danny Hoyer (Melbourne, Australia), Heinz Bönisch (Bonn, Germany), and Eberhard Schlicker (Bonn, Germany)



## A Piece of History: ISSR Archives

**Historical Material from the Serotonin Club and the International Society for Serotonin Research now deposited with the Wellcome Trust as a permanent digital store.**

For many years a substantial collection of historical documents relating to the Serotonin Club was 'securely' stored in a garage at the residence of one of our three former Secretary/Treasurers (1996-2003) in the East Midlands, UK. The owner (Richard Green) was both keen to use his garage for other purposes and to find a safe and lasting repository for this material. The Wellcome Trust Historical Museum seemed an ideal solution and, with approval of Council, I sought permission to give them the historic holdall and contents. A list of documents was collated, example photographs provided, and numerous emails sent to the Collections Archivist at the Wellcome Trust. As a result, I am delighted to say that The Collections Development Team finally approved our request earlier this year and I took the holdall and contents to the Trust when I attended a Council meeting of another Society.

The collection includes original letters associated with the foundation of the Serotonin Club, the first 64 Newsletters and all the Serotonin Notes (short articles written by eminent serotoninologists of the time) that are all only available in print. Both abstract and meetings books produced from all of our meetings up to 2008 were also included. Copies of historical membership list and financial accounts did not meet the criteria for inclusion in the Wellcome collection, so were not accepted. Of particular note and poignancy, given the recent sad loss of Paul Vanhoutte, the collection contains a letter from our first President (see photographs) where Paul records the establishment of the Society in 1987, including the appointment of a very impressive list of the officers.

The Trust has produced a catalogue entry for the International Society for Serotonin Research which is now live on the Wellcome website at this link:

[http://archives.wellcomelibrary.org/Dserve/dserve.exe?dsqIni=Dserve.ini&dsqApp=Archive&dsqCmd=Show.tcl&dsqDb=Catalog&dsqSearch=\(\(\(text\)='International'\)AND\(\(text\)='Society'\)AND\(\(text\)='for'\)AND\(\(text\)='Serotonin'\)AND\(\(text\)='Research'\)\)&dsqPos=1](http://archives.wellcomelibrary.org/Dserve/dserve.exe?dsqIni=Dserve.ini&dsqApp=Archive&dsqCmd=Show.tcl&dsqDb=Catalog&dsqSearch=(((text)='International')AND((text)='Society')AND((text)='for')AND((text)='Serotonin')AND((text)='Research'))&dsqPos=1)

The original material has gone to deepstore in Cheshire as a secure repository until a decision is made on when it is to be catalogued. However, if people were interested in viewing the archive prior to cataloguing, this box can be ordered back from deepstore. The Wellcome has also requested digital copies of all our electronic Newsletters posted on our website and in due course I will also arrange for copies to be given to them so that a permanent record of our Society is available. The Trust has many other interesting historical documents that are free to view in the Wellcome Museum, situated on Euston Road opposite Euston Station (183 Euston Road, London NW1 2BE). I understand this transfer of material was quite timely as the garage is now up for sale! Thank you, Richard for keeping these documents safe for so long.

Kevin Fone  
*ISSR Immediate Past President*

# A Piece of ISSR History

September 3, 1987

Dear Members:

I am pleased to report that the Serotonin Club is officially born and functioning. Indeed, we had our first plenary session in Sydney on August 28. Dr. Jim Angus gave a very nice presentation of the Australian look on blood vessel function and serotonin. Dr. Ewan Mylecharane, in his usual thoughtful manner, had organized a superb dinner and provided us with some of the finest Australian wines. Many of us (including myself!) left the meeting in high spirits.

The business meeting (which preceded the wine tasting!) covered the following points:

(a) the bylaws, as amended after the London meeting, were unanimously approved, thus setting the official life of the Club in motion;

(b) a message of welcome and blessing from Dr. Irvine Page was read;

(c) elections were held to complete the appointment of officers and councilors. The following composition, for this first term was voted unanimously:

President:	P. Vanhoutte (USA)
Secretary-Treasurer:	E. Mylecharane (Australia)
Vice-President, North America:	R. Fuller (USA)
Vice-President, Europe:	P. Saxena (The Netherlands)

Councilors: Drs. J. Fozard (Switzerland); A.R. Green (United Kingdom), P. Humphrey (United Kingdom), J. van Nueten (Belgium), E. Azmitia (USA), M. Cohen (USA), D. Nelson (USA), E. Sanders-Bush (USA), I. de la Lande (Australia), and N. Toda (Japan).

I am extremely satisfied, not only because I was very kindly voted in as first President of the Club, but also because we have achieved a very balanced international representation to lead it. The whole election process went very smoothly, and was a great exercise in democracy;

Who was voted  
as the Serotonin  
Club's first  
President?

Professor  
Vanhoutte in 1987

Serotonin Membership

-2-

September 3, 1987

- (d) Nomenclature Committee. Following the outcome of the earlier mail vote, and after discussion with the councilors, the officers proposed the following composition for the nomenclature committee:

Chairman: Dr. P. Humphrey

Vice-Chairman: Dr. Jack Green

Liaison with the IUPHAR Committee on Receptors: Dr. P. Bradley

Members: Drs. S. Peroutka, P. Saxena, J. Fozard, B. Richardson, M. Cohen, G. Aghajanian, J. Leysen and E. Mylecharane

The proposal was approved unanimously. Dr. Humphrey will contact the members, coordinate their activity, and consult with other members of the Club with special expertise;

- (e) Serotonin Meeting 1988: An unexpected problem arised as an apparent conflict/overlap may exist with a meeting devoted to the cardiovascular effects of serotonin. The officers will try to resolve the conflict as soon as possible, and communicate the final date of the meeting to the membership, as soon as possible.

With best wishes,

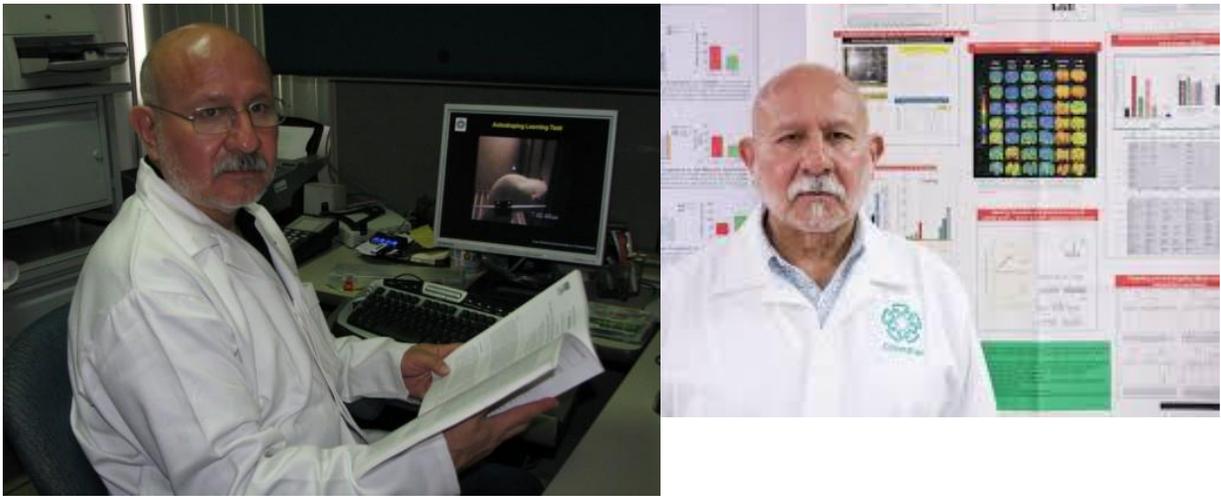
Sincerely yours,

Paul M. Vanhoutte, M.D.  
Professor of Physiology  
and Pharmacology

PHV:cc

# Special Announcement: Dr. Alfredo Meneses

***A stellar scientist, colleague and friend.***



It is with great sadness that we announce the passing of Dr. Alfredo Meneses on September 19th, 2019.

Dr. Meneses was a Professor in the Department of Pharmacobiology of CINVESTAV (Center of Research and Advance Studies). He was a contributing ISSR member and served as a Councilor for the Rest of World region of the ISSR from 2012 to 2016.

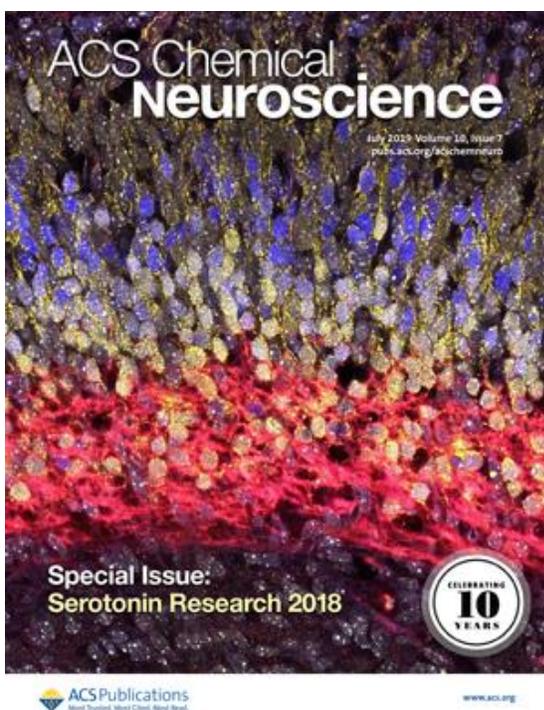
Dr. Meneses received a Ph. D. in Physiological Sciences (1996) from UNAM (National Autonomous University of Mexico) followed by a postdoctoral fellowship at the NIH-National Institute on Aging from 1997 to 1998.

On September 13<sup>th</sup>, Dr. Meneses suffered from a sudden brain stem hemorrhage and was rushed to the hospital. He, unfortunately was unable to recover. He passed on peacefully, surrounded by his family.

We will miss him dearly and extend our sincere condolences to his family, friends, and colleagues.

# Special Serotonin Issue in ACS CN

The American Chemical Society – Chemical Neuroscience special issue on serotonin was released in July 2019 and includes papers from the ISSR 2018 meeting.



ACS CN will sponsor and have a future special issue on serotonin for the 2020 meetings. Get ready to submit your research presented at ISSR 2020!

Stay tuned for more information about submission to the ACS CN Serotonin Special Issue for 2020.

# Congratulations Dr. Gilman

**Dr. T. Lee Gilman, ISSR 2020 Organizing Committee Member and ISSR webmaster, is the Journal of Pharmacology And Experimental Therapeutics Highlighted Trainee Author for the November 2019 issue.**



JPET began a monthly highlight of a trainee author starting with their October 2019 issue to be featured on the journal's homepage and ASPET website. You can view Dr. Gilman's profile here: <https://bit.ly/33TINxy>.

Dr. Gilman was selected for her research article entitled "Age- and Sex-Specific Plasticity in Dopamine Transporter Function Revealed by Food Restriction and Exercise in a Rat Activity-Based Anorexia Paradigm". It is available at <http://jpet.aspetjournals.org/content/371/2/268>. She is currently a postdoctoral fellow with Dr. Lynette Daws at the University of Texas Health Science Center at San Antonio. Dr. Gilman will start a tenure-track Assistant Professor position at Kent State University in January 2020.

## An Upcoming Meeting of Interest



4 **PLENARY SPEAKERS**

12 **SYMPOSIA** **POSTER SESSIONS** **EXHIBITION AREA**

**CALL FOR SYMPOSIA DEADLINE: OCTOBER 31<sup>ST</sup>**

**ABSTRACT SUBMISSION OPENING: JANUARY 2020**

MMIN provides an excellent forum for presentation of the latest developments in methods for time-resolved detection of chemicals in the living brain, and their application to current topics in neuroscience, psychology, neurology and psychiatry.

Methodologies covered include microdialysis, voltammetry, electro-enzymatic biosensors, electrophysiology, functional imaging, optogenetic/chemogenetic manipulations of neural networks and the latest optical sensing approaches, applied to studies ranging from those conducted in single cells to those in living humans.



More information on:

<http://mmin2020.univ-lyon1.fr>

[mmin2020@univ-lyon1.fr](mailto:mmin2020@univ-lyon1.fr)

# Scenes from Serotonin in Chicago

The annual ISSR Mixer at the Society for Neuroscience was a success! ISSR members and friends gathered in Chicago, IL at the Highline Bar & Lounge, on October 21, 2019. This was a great time to catch up over games, food & drinks and to get ready for the ISSR 2020 meeting in Cancun!!



**ISSR Mixer at SfN 2019**

# Call for Nominations

- Councilor – Rest of World
- Associate Councilor - Europe

**An Associate Councilor position will be open for Europe and two Councilor positions will be open for Rest of World beginning in January, 2020.** Councilors/Associate Councilors serve 4-year terms and are elected by the membership of the region they will represent. Typically, Councilors are mid-career/senior investigators. Associate Councilors are early career investigators with less than 10 years of experience after obtaining their advance degree, i.e. PhD, MD, and include Postdoctoral fellows and Assistant Professors.

If nominating someone, please provide confirmation that the member is willing to serve. Self-nominations are very welcome. The nominee must be a member (i.e., current in payment of 2019-2020 dues) of the Society.

General duties of a Councilor/Associate Councilor include:

1. Engage in Society business including organization of biennial meetings, selection of symposia and travel awardees for biennial meetings, organizing yearly events (e.g., annual SfN mixer, British Pharmacological Society symposia, FENS mixer), Participate in preparation of newsletters (provide information for upcoming/ past events and general information of interest to the Society), other Society business and events as they arise.
2. Chair or participate in committees formed to oversee various functions of the Society, examples include: increasing the visibility of the Society, membership, securing sponsorship for biennial meetings/yearly social events, planning of Society events, advertising Society events.
3. Of most importance: participate in membership recruitment and raising the visibility of the Society.

Please send nominations to Dr. Kelly Berg ([berg@uthscsa.edu](mailto:berg@uthscsa.edu)).

**Deadline for nominations is December 1, 2019.**

# ISSR Membership Information

Anyone with an interest in any aspect of serotonin research is welcome to become a member.

## Benefits of ISSR Membership:

- Networking opportunities to form collaborations with other serotonin researchers
- Opportunity for professional development and leadership in the Society
- Opportunity to submit proposals and chair a symposium at our international biennial meetings
- Discounted registration fees to attend our international biennial meetings
- Information/invitations to ISSR sponsored events (e.g., FENS, SFN socials)
- Delivery of our Society newsletters directly to your email "in-box"

## Dues rates (2019-2020 cycle):

Regular Member (e.g., faculty or equivalent): \$100 USD

Trainee (Students/Post-docs): \$60 USD

Retired Member: \$60 USD

*Note: we require email confirmation of student or post-doc status from the mentor*

## Payment instructions:

Payment by credit card can be made at our ISSR website (<http://serotoninclub.org/>). In some cases, we are able to accept bank wire transfers, please arrange payments with Dr. Kelly Berg ([berg@uthscsa.edu](mailto:berg@uthscsa.edu)).

Alternatively, you may send a check payable to the "International Society for Serotonin Research" to Kelly at the address below.

Kelly A. Berg, Ph.D.  
Department of Pharmacology-mc 7764  
UT Health San Antonio  
7703 Floyd Curl Drive  
San Antonio, TX 78229-3900  
Email: [berg@uthscsa.edu](mailto:berg@uthscsa.edu)

Membership dues are the only source of revenue for the ISSR and provide the support needed to maintain viability of our Society.

**Thank you for your support!!!!**

520  
followers  
can't be  
wrong



@5HT\_Society