



Abstract Book

The 2nd International Symposium of Primo-vascular System

May 27-29, 2021

**Organized by
the Korean Society of Primo Vascular System (KSPVS)
and College of Veterinary Medicine (CVM),
Seoul National University (SNU), Seoul, Korea**

Contents

ISPS 2021 General Information.....	1
- Program at a glance.....	1
- Organizing Committees.....	2
Conference Program.....	3
Keynote and Invited Talks.....	8
Oral Presentations.....	17
MEMO.....	29

ISPS2021 Program at a Glance

Presentation time including discussion: 40 min (keynote/invited talk); 20 min (oral presentation)

Online link: <https://snu-ac-kr.zoom.us/j/4129135434>

Approximate Korea time	May 27, 2021 Thursday Session A (Primo-I)	May 28, 2021 Friday Session B (Primo-II)	May 29, 2021 Saturday Session C (Primo-III)
09:50-10:00		Zoom opens	
10:00-10:10		Opening remarks	
10:10-10:20			
10:20-10:30		Keynote talk (Chair: P. D. Ryu)	V. Vodyanoy (Auburn U. GMT-5; 20:10)
10:30-10:40			
10:40-10:50			
10:50-11:00		Oral presentation	M. S. Kim (Seoul National U.)
11:00-11:10			
11:10-11:20		Oral presentation	S. Yeo (Sangji University)
11:20-11:30			
11:30-11:40		Oral presentation	S. S. Lee (Sangji University)
11:40-11:50			
11:50-12:00		Lunch time	
12:00-13:00	Zoom opens		Zoom opens
13:00-13:10	Opening Ceremony (MC: S. J. Kim, Greeting: Prof. P. D. Ryu, Welcoming address: H. J. Han, Dean of CVM, SNU)	Opening remarks	Opening remarks
13:10-13:20			
13:20-13:30	Opening lecture (Chair: K. Y. Baik)	Invited talk (Chair: S. W. Oh)	Keynote talk (Chair: S. S. Lee)
13:30-13:40	H. G. Kim (Hongik University GMT+9, 13:20)		P. D. Ryu (Seoul National University GMT+9, 13:10)
13:40-13:50			
13:50-14:00		Oral presentation	
14:00-14:10	Invited talk	S. I. In (DGIST)	Invited talk
14:10-14:20	M. Stefanov (Trakia University GMT+3; 8:00)		P. Roberts (Somatic Therapy Center GMT+8; 12:50)
14:20-14:30		Oral presentation	
14:30-14:40		Linlin Zhang (Jinan University GMT+8; 12:10)	
14:40-14:50	Break time	Break time	Break time
14:50-15:00			
15:00-15:10	Oral presentation (Chair: H. Y. Kim)	Oral presentation (Chair: S. Yeo)	Oral presentation (Chair: C. S. Na Special topic)
15:10-15:20		C. S. Na (Dongshin U.)	S. C. Kim (Wonkwang U.) Rare and Incurable Diseases
15:20-15:30		Oral presentation	
15:30-15:40	Invited talk	S. H. Kim (KIOM)	
15:40-15:50	F. Mustafa (Assiut University GMT+2; 8:20)		Invited talk
15:50-16:00		Oral presentation	F. Scholkmann (University Hospital Zurich GMT+2; 8:30)
16:00-16:10	Closing remarks	Oral presentation	
16:10-16:20		Y. S. Hong (Sangji University)	
16:20-16:30		Closing remarks	Closing ceremony (MC: S. J. Kim, General review: Dr. F. Scholkmann Closing speech: Prof. P. D. Ryu)
16:30-16:40			
16:40-16:50			

ISPS 2021 Organizing Committees

❖ ISPS 2021 PRESIDENT

- Pan-Dong Ryu

❖ ISPS 2021 SENIOR ADVISORS

- Kwang-Sup Soh

❖ ISPS 2021 ORGANIZING COMMITTEE

- Pan-Dong Ryu
- Chang-Su Na
- Sung Chul Kim
- Hee-Young Kim
- Sang-Suk Lee
- Sang Wook Oh
- Su Ho Park
- Min-Su Kim
- Ku-Yeon Baik
- Min-Seob Shin
- Sujung Yeo
- You-Sik Hong
- Hoon Gi Kim
- Jiyeon Lee

❖ ISPS 2021 SCIENTIFIC COMMITTEE

- Pan-Dong Ryu
- Sung Chul Kim
- Hee-Young Kim
- Sang-Suk Lee
- Sang Wook Oh
- Ku-Yeon Baik

Conference Program

(Status : May 27, 2021)

[Online link: https://snu-ac-kr.zoom.us/j/4129135434](https://snu-ac-kr.zoom.us/j/4129135434)

Thursday May 27th

12:00 – 13:00 (GMT+9) Registration, Zoom opens
Online main desk: Kiminyoung's room #307, Building #85, CVM, SNU

13:00 – 13:20 Opening ceremony

MC: **S. J. Kim**, Chichester University, England

Opening greeting:

Prof. P. D. Ryu, Seoul National University, Korea

Welcoming address:

Prof. H. J. Han, Dean, College of Veterinary Medicine, SNU

Chair: **K. Y. Baik**

13:20 – 14:00 **Prof. H. G. Kim**, Hongik University, Korea

Keynote talk:

I.01 Achievements of PVS Research from the Perspective of STS

14:00 – 14:40 **Prof. M. Stefanov**, Trakia University, Bulgaria

Invited talk:

I.02 PVS: before the past, bizarre present and peek after the future!

14:40 – 15:00 Coffee break

Chair: **H. Y. Kim**

15:00 – 15:20 **Prof. S. Chang**, Daegu Haany University, Korea

Oral presentation:

P.01 Acupuncture reduces cocaine psychomotor responses by activating the rostromedial tegmental nucleus

15:20 – 16:00 **Prof. F. Mustafa**, Assiut University, Egypt

Invited talk:

I.03 Cellular Architecture of the Primo Vascular System

16:00 – 16:10 Closing remarks

Conference Program

(Status : May 28, 2021)

[Online link: https://snu-ac-kr.zoom.us/j/4129135434](https://snu-ac-kr.zoom.us/j/4129135434)

Friday May 28th

09:50 – 10:00 (GMT+9) Registration, Zoom opens
Online main desk: Kiminyoung's room #307, Building #85, CVM, SNU

10:00 – 10:10 Opening remarks

Chair: **P. D. Ryu**

10:10 – 10:50 **Prof. V. Vodyanoy**, Aburn University, USA

Keynote talk:

I.04 Primo Vascular Node in Rat Bone Marrow

10:50 – 11:10 **Prof. M. S. Kim**, Seoul National University, Korea

Oral presentation:

P.02 New Education Course opening with “Acupuncture, Acupressure and Exercise” at Auburn University

11:10 – 11:30 **Prof. S. Yeo**, Sangji University, Korea

Oral presentation:

P.03 Increased Slc6a4 expression associated with decreased dopaminergic neurons in MPTP induced parkinsonism mouse model

11:30 – 11:50 **Prof. S. S. Lee**, Sangji University, Korea

Oral presentation:

P.04 Genes Expression of *Agtr-1* and *Agtr-2* in Primo Vessels inside Lymph Vessels of the Rabbit

11:50 – 13:00 Lunch time

13:00 – 13:10 Opening remarks

Chair: **S. W. Oh**

13:10 – 13:50 **Prof. Oxana. S.**,

Saratov State University, Russia

Invited talk:

I.05 Lymphatic Window from and into the Brain: New Concept of Lymphatic/Primo-vascular Pathways of Drug Brain Delivery

Conference Program

(Status : May 28, 2021)

[Online link: https://snu-ac-kr.zoom.us/j/4129135434](https://snu-ac-kr.zoom.us/j/4129135434)

Friday May 28th

- 13:50 – 14:10 **Prof. S. I. In**, Daegu-Kyungbuk Institute and Technology (DGIST), Korea
Oral presentation:
P.05 Hierarchical Micro/Nano-Porous Acupuncture Needles Offering Enhanced Therapeutic Effects
- 14:10 – 14:30 **Dr. Linlin Zhang**, Jinan University, China
Oral presentation :
P.06 Characterization of Monoclonal Antibody to Primo Vascular System of Rat and Ultrastructure of Primo Vascular System by X-ray tomography
- 14:30 – 14:50 Coffee break
- Chair: **S. Yeo**
- 14:50 – 15:10 **Prof. C. S. Na**, Dongshin University, Korea
Oral presentation:
P.07 Effects of acupuncture and herbal medication on changes in metabolites of colitis
- 15:10 – 15:30 **Dr. S. H. Kim**, Korea Institute of Oriental Medicine, Korea
Oral presentation:
P.08 A Method for the Observation of the Primo Vascular System in the Thoracic Duct of a Rat
- 15:30 – 15:50 **Dr. Tingting Wang**, Wonkwang University, Korea
Oral presentation:
P.09 Study of Gene Expression and Acupuncture Needle Movement of Skin Primo Nodes During Acupuncture in Rats
- 15:50 – 16:10 **Prof. Y. S. Hong**, Sangji University, Korea
Oral presentation:
P.10 Implementation of Smart Electronic Acupuncture Systems and Herbal Recommendation Systems
- 16:10 – 16:20 Closing remarks

Conference Program

(Status : May 29, 2021)

[Online link: https://snu-ac-kr.zoom.us/j/4129135434](https://snu-ac-kr.zoom.us/j/4129135434)

Saturday May 29th

12:50 – 13:00 (GMT+9) Registration, Zoom opens

Online main desk: Kiminyoung's room #307, Building #85, CVM, SNU

13:00 – 13:10 Opening remarks

Chair: **S. S. Lee**

13:10 – 13:50 **Prof. P. D. Ryu**, Seoul National University, Korea

Keynote talk:

I.06 Adrenergic Modulation of Primo Vascular System

13:50 – 14:30 **Dr. P. Roberts**, Somatic Educator SOSA Osteopathy & Somatic Therapy Center

Invited talk:

I.07 Primo-vascular System: from Science Research to Therapeutic Application

14:30 – 14:50 Coffee break

Chair: **C. S. Na**

14:50 – 15:30 **Prof. S. C. Kim**, Wonkwang University, Korea

Oral presentation (**Special topic**):

P.11 Hope for Rare Incurable Diseases: A Scientific Approach to Treatment of Amyotrophic Lateral Sclerosis(ALS) Using Primo Vascular Systems

15:30 – 16:10 **Dr. F. Scholkmann**, University Hospital Zurich, University of Zurich, Switzerland

Invited talk:

I.08 An update on my journey investigating the primo vascular system: From a research stay in South Korea to own research in rats and on human placentas

16:15 – 16:40 Closing ceremony

MC: **S. J. Kim**

Organizing committee of ISPS 2021

General review: **Dr. F. Scholkmann**

Closing speech: **Prof. P. D. Ryu**

Keynote and Invited Talks

Presentation time: 40 min including discussion

❖ Keynote talks

1. Achievements of PVS Research from the Perspective of Science & Technology Studies

Prof. Hoon Gi Kim, Hongik University, Republic of Korea

2. Primo Vascular Node in Rat Bone Marrow

Prof. Vitaly Vodyanoy, Aburn University, USA

3. Adrenergic Modulation of Primo Vascular System

Prof. Pan-Dong Ryu, Seoul National University, Republic of Korea

❖ Invited talks

1. Lymphatic Window from and into the Brain: New Concept of Lymphatic/Primo-vascular Pathways of Drug Brain Delivery

Prof. Oxana Semyachkina-Glushkovskaya, Saratov State University, Russia

2. Cellular Architecture of the Primo Vascular System

Prof. Fatma El-Zahraa A. Mustafa, Assiut University, Egypt

3. An update on my journey investigating the primo vascular system: From a research stay in South Korea to own research in rats and on human placentas

Dr. Felix Scholkmann, University Hospital Zurich, University of Zurich, Switzerland

4. PVS: before the past, bizarre present and peek after the future!

Prof. Miroslav Stefanov, Trakia University, Bulgaria

5. Primo-vascular System: from Science Research to Therapeutic Application

Dr Paul Roberts, Somatic Educator SOSA Osteopathy & Somatic Therapy Center, Hong Kong