

Program

Beneficiation of Phosphates X

An ECI Conference Series

November 2 – 7, 2025

Hanoi, Vietnam

Chair

Dr. Patrick Zhang

**FIPR Industrial and Phosphate Research Institute
Florida Polytechnic University**

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Ardaman & Associates, USA

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Yara Suomi Oy, Finland

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Zeqiang Zhang, Wuhan Institute of Technology, China

Previous conferences in this series:

Beneficiation of Phosphates: Theory and Practice

December 5-10, 1993

Palm Coast, Florida

Conference Chairs:

Ronald Wiegel, IMCF

Hassan El-Shall, Florida Institute Phosphate Research, USA

Brij Moudgil, University of Florida, USA

Beneficiation of Phosphates II

December 6 - 11, 1998

Palm Coast, Florida

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Ronald Wiegel, University of Minnesota, USA

Hassan El-Shall, Florida Institute Phosphate Research, USA

Beneficiation of Phosphates III

December 2-7, 2001

St. Petersburg, Florida

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

P. Somasundaran, Columbia University, USA

Hassan El-Shall, Florida Institute Phosphate Research, USA

R. Stana, R. Squared S., Inc., USA

Beneficiation of Phosphates IV

December 5-10, 2004

Miami Beach, Florida

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Hassan El-Shall, Florida Institute Phosphate Research, USA

Jan Miller, University of Utah

R. Stana, R. Squared S., Inc., USA

Beneficiation of Phosphates V

February 17-22, 2008

Rio de Janeiro, Brazil

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Hassan El-Shall, Florida Institute Phosphate Research, USA

Laurindo Leal Filho, University of Sao Paulo, Brazil

Karen Swager, Mosaic Fertilizer LLC, USA

Beneficiation of Phosphates VI

March 6-11, 2011

Kunming, China

Conference Chair:

Patrick Zhang Florida Institute of Phosphate Research, USA

Beneficiation of Phosphates VII

March 29-April 3, 2015

Melbourne, Australia

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Jan Miller, University of Utah, USA

Julian Hilton, Aleff Group, United Kingdom

Laurindo Leal Filho, University of Sao Paulo/Vale, Brazil

Abdelaâli Kossir, OCP Group, Morocco

Ewan Wingate, WorleyParsons Services Pty Ltd, Australia

Beneficiation of Phosphates VIII

April 29 – May 4, 2018

Cape Town, South Africa

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Jan Miller, University of Utah, USA

Laurindo Leal Filho, University of Sao Paulo/Vale, Brazil

Ewan Wingate, WorleyParsons, Australia

Neil Snyders, Stellenbosch Univ., South Africa

Professor Guven Akdogan, Stellenbosch Univ., South Africa

Beneficiation of Phosphates IX

June 5-10, 2022

Helsinki, Finland

Conference Chairs:

Patrick Zhang Florida Institute of Phosphate Research, USA

Erika Rova, Yara, Finland

Jan Miller, University of Utah, USA

Marius Porteus, Fosko, South Africa

Laurindo Leal Filho, University of Sao Paulo, Brazil

Ewan Wingate, Bechtel Australia Pty Ltd

Andre Carlos Silva, Federal University of Goiás (UFG), Brazil

Sunday, November 2, 2025

17:30 – 18:30	Registration (Foyer outside Function Room V, 2 nd Level)
18:30 – 20:30	Welcome Reception and Dinner (Lotus Private Rooms 1 and 2, 2 nd Level)

Notes and Locations

- *Technical sessions will be in Function Room VII, 2nd Level.*
- *Breakfast and lunch buffets will be served in the hotel restaurant.*
- *Dinners on Monday and Tuesday will be in Function Room VI, 2nd Level.*
- *The conference banquet on Thursday will be in Function Room I and II, 1st Level.*
- *The ECI on site office will be in Function Room V, 2nd Level.*
- *Audio, still photo and video recording by any device (e.g., cameras, cell phones, laptops, PDAs, watches) is strictly prohibited during the technical sessions, unless the author and ECI have granted prior permission.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 3 minutes for questions and discussion.*
- *Please do not smoke at any conference functions.*
- *Turn your mobile telephones to vibrate or off during technical sessions.*
- *After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.*
- *Emergency Contact Information: Because of privacy concerns, ECI does not collect or maintain emergency contact information for conference participants. If you would like to have this information available in case of emergency, please use the reverse side of your name badge.*

Monday, November 3, 2025

07:00 – 09:00	Breakfast
09:00 – 09:10	<u>Welcoming Remarks</u> Dr. Nga Nguyen, Hanoi University of Mining and Geology, Vietnam
09:10 – 09:20	<u>Opening Remarks</u> Patrick Zhang, FIPR Institute, Florida Polytechnic University, USA
09:20 – 09:25	<u>ECI & Vital Conference Information</u> Kevin Korpics, ECI, USA
09:25 – 12:30	<u>Session I: Flotation I</u> Session Co-chairs: Ashma Singh and Thanh Hai Pham
09:25 – 09:55	<i>Keynote One: Synergistic effects of non-ionic reagents on direct and reverse flotation of carbonate-rich phosphate ores</i> Lev Filippov, University of Lorraine, France
09:55 – 10:25	Functionalized polystyrene-based nanoparticles as phosphorite flotation collectors: I: Adsorption isotherm Salah Althyabat, Al-Hussein Bin Talal University, Jordan
10:25 – 10:45	The silicon removal from collophane using double reverse flotation process enhanced by novel compound cationic collector Dongping Tao, Shandong University of Technology, Zibo, China
10:45 – 11:15	Coffee Break
11:15 – 11:40	Comparative assessment of wide versus discrete size fractions - the Crago Process for the upgrade of sedimentary phosphate ore Ashma Singh, Mintek, South Africa
11:40 – 12:05	Effect of change in %solids on upgrade performance of sedimentary phosphate Nichole Maistry, Mintek, South Africa
12:05 – 12:30	Development and implementation of NIUIF JSC technologies in phosphate raw material mining, beneficiation and processing Irina Kurochka, PhosAgro Group NIUIF JSC, Russia
12:30 – 14:00	Lunch
14:00 – 17:00	<u>Session II: Recovery of Critical Materials</u> Session Co-Chairs: Salah Al-Thyabat and Haijun Liang
14:00 – 14:30	Fundamentals and applications of nanobubble enhanced flotation of fine particles Dongping Tao, Shandong University of Technology, China
14:30 – 15:00	Processing of amine flotation tails for REE and P recovery Haijun Liang, FIPR, Florida Poly, USA
15:00 – 15:30	Upgrading and valuable extractions from Jordanian phosphate slime Salah Al-Thyabat, Al-Hussein Bin Talal University, Jordan
15:30 – 16:00	Coffee break
16:00 – 16:30	Selective leaching for magnesium recovery from a carbonaceous phosphate ore Ronald Sepulveda, PegasusTSI, Inc., USA
16:30 – 17:00	Processing flowsheet development for REE recovery from phosphoric acid sludge Patrick Zhang, FIPR, Florida Poly, USA
17:00 – 19:00	Free time / networking

Monday, November 3, 2025 (continued)

19:00 – 21:00 Dinner and Social Hour (Function Room VI)

Tuesday, November 4, 2025

07:00 – 09:00	Breakfast
09:00 – 12:30	<u>Session III: Phosphogypsum Management and Utilization</u> Session Co-Chairs: Julian Hilton and Phong Vo
09:00 – 09:30	<i>Keynote two: From waste to inventory - An overview of the IFA phosphogypsum working group program and successful stories</i> Julian Hilton, Aleff Group, UK
09:30 – 10:00	Case study – Phosphogypsum management - Do it smartly & avoid disaster Herbert Donica, Donica Receivership Services, LLC, USA
10:00 – 10:30	Current status of research and use of phosphogypsum (PG) in Vietnam: A preliminary case study to orient processing technology Thanh-Hai Pham, Hanoi University of Mining and Geology, Vietnam
10:30 – 11:00	Coffee break
11:00 – 11:30	Conversion of phosphogypsum into calcium carbonate Haijun Liang, Florida Industrial & Phosphate Research Institute / Florida Poly, USA
11:30 – 12:00	Foreseeing the unforeseen in management of phosphate mine & processing plant waste disposal Phong Vo, Ardaman & Associates Inc. A Tetra Tech Company, USA
12:00 – 12:30	Polymer-enhanced geotextile dewatering systems for phosphogypsum stack closure management – A case study Trong Dang-Vu, NSF Mining, Canada
12:30 – 14:00	Lunch
Afternoon	Free time
19:00 – 21:00	Dinner and Social Hour (Function Room VI)

Wednesday, November 5, 2022

07:00 – 09:00	Breakfast
09:00 – 12:00	<u>Session IV: Hydrometallurgical Processing</u> Session Co-Chairs: Trong Dang-Vu and Nichole Maistry
09:00 – 09:30	Experience and prospects of joint processing of Phosphogypsum and Fluorosilicic Acid to obtain Ammonium Sulfate and Synthetic Calcium Fluoride Maksim Tsikin, PhosAgro Group NIUIF JSC, Russia
09:30 – 10:00	Enhancing belt filter performance with advanced polymer solutions: A case study from a Middle Eastern phosphate plant Trong Dang-Vu, SNF, Canada
10:00 – 10:45	Coffee break
10:45 – 11:15	Overview of mining, processing and using Apatite ore in Vietnam Thi Kim Dung Nhu, Hanoi University of Mining and Geology, Vietnam
11:15 – 11:45	Brazil's National Fertilizer Plan: Aspects of the technology used in apatite concentration and potential projects to increase phosphate rock production Elves Matiolo, Centro de Tecnologia Mineral (CETEM/MCTI), Brazil
12:00 – 13:30	Lunch
13:45	Meet in lobby for bus departure
14:00 – 20:30	Conference Cultural Excursion with dinner included <i>Hanoi City Tour (visiting Temple of Literature, Thang Long Imperial Citadel, Museum of Ethnology)</i> <i>Dinner at local restaurant</i> <i>Return to hotel after dinner</i>

Thursday, November 6, 2025

07:00 – 09:00	Breakfast
09:00 – 10:30	<u>Session V: Waste Treatment and Sustainable Development</u> Session Co-Chairs: Said Mansouri and Irina Kurochka
09:00 – 9:30	Double flotation and purification of phosphogypsum Wending Xiao, Hubei Bonan Technology Co., Ltd, China
09:30 – 10:00	A high efficiency P-fertilizer made from low grade ore without acid Zongwen Liao, South China Agricultural University, China
10:00 – 10:30	Addressing the economic and regulatory issues with REE recovery from Florida phosphogypsum Patrick Zhang, Florida Poly. USA
10:30 – 11:00	Coffee break
11:00 – 12:30	<u>Session VI: Flotation II</u> Session Co-Chairs: Lev Filippov and Daniel Tao
11:00 – 11:30	Overview of Apatite-carbonate ore beneficiation studies in Lao Cai, Vietnam Thanh-Hai Pham, Hanoi University of Mining and Geology, Vietnam
11:30 – 12:00	Processing of the Refractory Phosphate Deposits from Uzbekistan Umarbek Alimov, Academy of Sciences of the Republic of Uzbekistan, Uzbekistan
12:30 – 12:30	Studying the mechanical floating process in floating apatite ores type III Lao Cai, Vietnam Van Duoc Tran, Hanoi University of Mining and Geology, Vietnam
12:30 – 14:00	Lunch
14:00 – 17:00	<u>Ad hoc topical discussions</u> Phosphogypsum - Facilitators: Phong Vo and Julian Hilton Critical elements - Facilitators: Said Mansouri and Patrick Zhang
19:00 – 21:00	Conference Banquet (Function Rooms I & II, 1 st Level)

Friday, November 7, 2025

06:00 – 10:00	Breakfast
	Departures