

Flotation 2016

7th International IWA Conference on Flotation for Water and Wastewater Systems



INSA

Amphithéâtre Fourier
Institut National des
Sciences Appliquées
135 Avenue de Rangueil
31077 TOULOUSE
France

Conference Information and Programme

26 – 30 September, 2016

Toulouse, France

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Organizers

**Pascal Guiraud
Institut National des Sciences
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**Ian Crossley
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Conference Program

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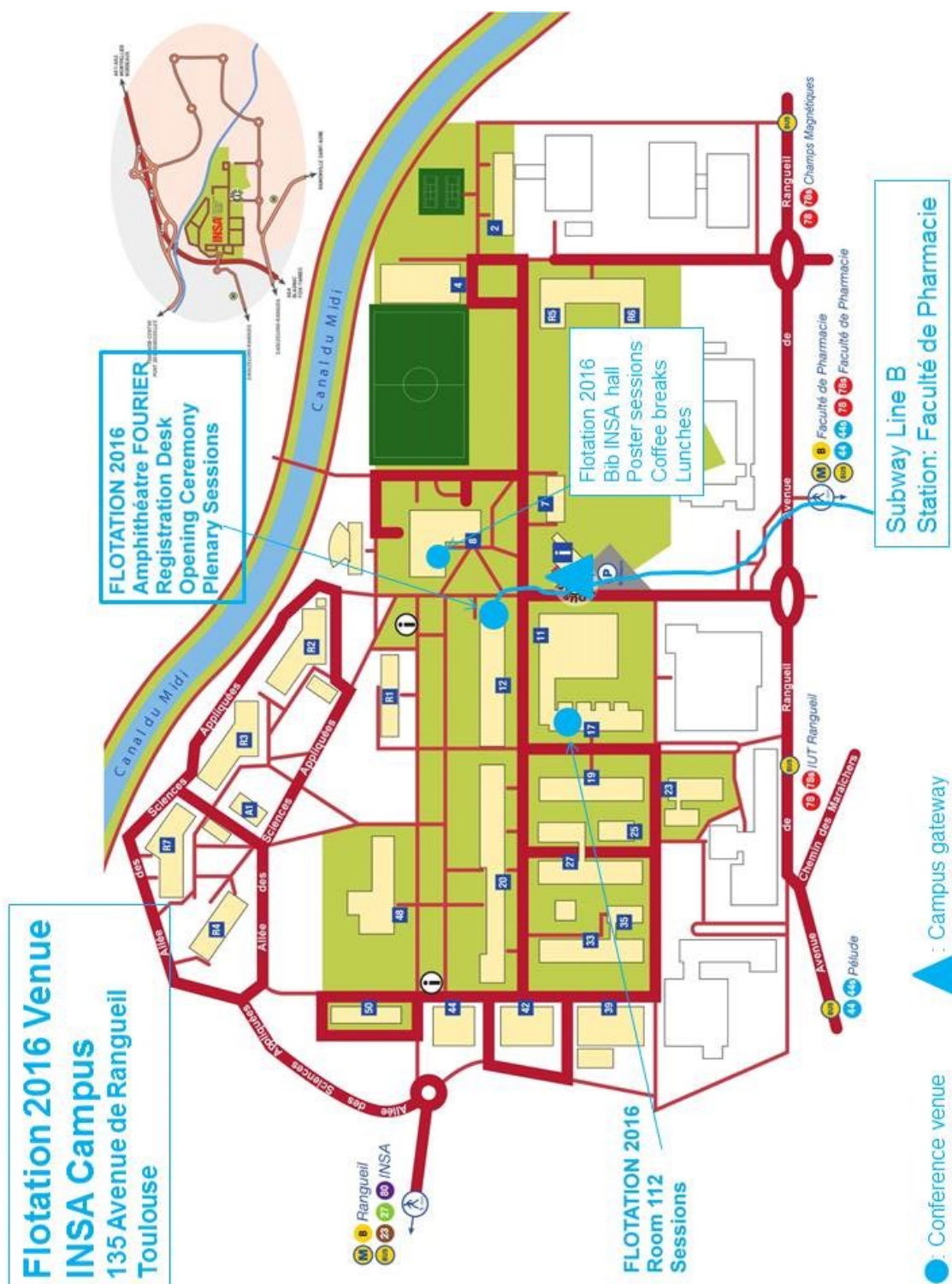
Conference Program

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Conference Venue



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Monday, 26 September 2016

17:00 - 19:30 **Registration (Hotel Crowne Plaza, Place du Capitole, Toulouse)**

19:30 - 21:00 **Welcoming Wine and Snacks at Hotel Crowne Plaza, Place du Capitole, Toulouse**

Tuesday, 27 September 2016

8:00 – 9:00 **Registration at Amphitheatre Fourier, INSA Campus**

9:00 – 9:30 **Opening Ceremony and Welcoming Remarks:**
Bertrand Raquet, Head of INSA Toulouse
Ian Crossley, Chairman of the Technical Committee
Pascal Guiraud, Chairman of the Organizing Committee

9:30 – 10:15 **Keynote Address:**
Matthew Valade, et al.
New York City's Croton Water Filtration Plant: A 100-year journey
culminating in the startup of world's largest DAF treatment plant

10:15 – 10:50 **Coffee Break**

Session 1: Leading Papers (Combined Session, Amph. Fourier)

10:50 – 11:30 **Leading Paper 1**
Mooyoung Han
Bubble Technology: A New Horizon beyond Flotation

11:30 – 12:10 **Leading Paper 2**
Ligia Tiruta-Barna
Environmental assessment and eco-design of water treatment processes

12:10 – 14:00 **Lunch (provided)**

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Amphitheatre Fourier

Room 112

Session 2: Wastewater Treatment		Session 3: Industrial Water Treatment	
14:00 – 14:30	<i>Oscar Sanchez, et al.</i> Recovery of particulate matter from a high-rate moving bed biofilm reactor by rapid dissolved air flotation		<i>Jessica Younker, Margaret Walsh</i> Clarification of hybrid adsorbent-coagulated floc particles by DAF for enhanced treatment of petroleum industry wastewater
14:30 – 15:00	<i>Petri Jokela, et al.</i> Tertiary treatment of municipal wastewaters by high-rate dissolved air flotation		<i>Laura Turri, et al.</i> Separation of chromite particles from silicate minerals by flotation
15:00 – 15:30	<i>Passkorn Khanthongthip, John Novak</i> The roles of temperature surfactant and pH on the performance of dissolved air flotation in wastewater treatment		<i>Ginisty Pascal, et al.</i> Pre-treatment of suspensions before flotation and post-treatment of phases separated by flotation in a liquid-solid separation process
15:30 – 16:00	Coffee Break		
Session 4: Drinking Water		Session 5: Research	
16:00 – 16:30	<i>Francisco Gross</i> Two decades of experience of a large DWTP upgrade with DAF in South America		<i>Ming Zhang, Pascal Guiraud</i> Dispersion features and nanoparticle flotation performance of colloidal gas aphron
16:30 – 17:00	<i>David Taylor, Andrew Elphinston</i> Back to Basics - A case study of DAF Plants in North Wales		<i>Nattawin Chawaloesponsiya, Pisut Painmanakul, Pascal Guiraud</i> Development of Single Bubble Experiment for Observing Bubble-Oil Aggregate Interaction
17:00 – 19:30	Poster Session and Wine and Cheese Reception		

Free time for attendees

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Wednesday, 28 September 2016

8:00 AM

Departure by bus from INSA Toulouse

Visit of the Carcassonne Medieval City

10:00



12:30

Lunch on the Canal du Midi (provided)

14:30

Departure to Fontfroide Abbey

Visit of the Fontfroide Abbey

16:00



18:00

Wine Tasting

19:30

Conference Dinner within the Abbey

22:30

Return by bus to Toulouse Centre

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Thursday, 29 September 2016

Amphitheatre Fourier

Room 112

Session 6: Drinking Water

Session 7: Algae Harvesting

8:30 – 9:00	<i>Urs Arnold, et al.</i> New Design Process for Drinking Water Production with Flotation Unit "DAFFI"	<i>Xuezhi Zhang, Lan Wang, Qiang Hu</i> Harvesting Microalgal Biomass using High pH Pretreatment - Dissolved Air Flotation
9:00 – 9:30	<i>Liesbeth Verdict, Jan Cromphout</i> Optimization of the hydraulics of a full scale flotation plant by means of lamellae separators	<i>Dries Vandamme, et al.</i> Floc size dynamics in flotation-based separation for marine microalgae biomass production
9:30 – 10:00		<i>Narasinga Rao, et al.</i> Algae flotation using PosiDAF: A comparison of polymers as bubble surface modifiers

10:00 – 10:50 **Coffee Break and Poster Session**

Session 8: Pilot Test Simulation

Session 9: Oil Removal

10:50 – 11:20	<i>Tony Amato</i> Seawater Pretreatment Using Dissolved Air Flotation Pilot Plant To World Scale	
11:20 – 11:50	<i>Antje Langbein, et al.</i> Process combination of powdered activated carbon adsorption with flotation for removal of micropollutants from waste waters - pilot scale results	<i>Aguiar Janaina, et al.</i> Evaluation of the effect of anionic surfactants in oil in water emulsions separation by flotation
11:50 – 12:20	<i>Minsoo Maeng, et al.</i> Removal of phosphorus and organic matters by DAF pilot plant combined with hydrocyclone at WWTP	<i>Nattawin Chawaloessphonsiya, et al.</i> Study of lubricating oily-emulsion treatment by induced air flotation (IAF) with coagulation: experimental results and modeling

12:20 – 14:00 **Lunch (provided)**

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Session 10: Design Developments		Session 11: Contaminant Removal	
14:00 – 14:30	<i>Temesgen Tatek, et al.</i> Intensification of gas-liquid mass transfer by reduction of bubble size using new approach of Micro bubble splitting to nanobubbles		<i>Ming Zhang, et al.</i> Humic-acid-enhanced dissolved air flotation process for the removal of TiO ₂ nanoparticles
14:30 – 15:00	<i>Liesbeth Verdickt, Jan Cromphout</i> Characterization of a pneumatically adjustable saturation nozzle		<i>J.C. Liu</i> Flotation Separation of Strontium via Phosphate Precipitation
15:00 – 15:30	<i>Nathalie Vigneron-Larosa, et al.</i> Spidflow™ for wastewater treatment: high rate clarification without chemicals		<i>Julie Chapelain, et al.</i> Soil remediation after radioactive contamination: Study of illite clay extraction by dispersed air flotation in a new instrumented column

15:30 – 16:00 Coffee Break and Poster Session

Session 12: New Ideas		Session 13: Contaminant Removal – continued and Modelling	
16:00 – 16:30	<i>William Becker, et al.</i> Non-conventional DAF Application: Pretreatment for Iron Removal		<i>Yulong Shi, et al.</i> Dissolved Air Flotation as Pretreatment to Ultrafiltration Membrane Systems in River Water Purification
16:30 – 17:00	<i>Franciso Gross</i> Integrated CEPT and biofilm nitrogen removal processes with DAF clarification for compact WWTP solutions - TRICKDAF® process		<i>Tian Hai, Shi Yucheng, Ma Jun</i> Simulation and design of a high rate dissolved air flotation tank for drinking water treatment
17:00 – 17:30	<i>Tian Hai, Shi Yucheng, Ma Jun</i> Application of a compact high rate dissolved air flotation system on a drinking water plant upgrading		<i>Lucie Vialaret-Enrico, et al.</i> Experimental determination and modelling of nanoparticle flotation efficiency

Free time for attendees

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Friday, 30 September 2016

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Session 14: Closing Papers

9:00 – 9:30 AM	Ramiro Etchepare, André Azevedo, Jorge Rubio Nanobubbles: their role in dissolved air flotation
9:30 – 10:00	<i>Kristen Barrett, Matthew Valade</i> Progression of Dissolved Air Flotation Applications in North America
10:00 – 10:30	Summary of Conference – key issues – Ian Crossley and Pascal Guiraud
10:30 – 11:30	Coffee Break and Poster Session
11:30 – 12:00	Session 15: Discussion and Closing Remarks
12:00	Disperse

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Poster Program

Title	Authors	Organization
Application of sub-micro bubble for aeration of wastewater treatment	Intae Shim Tschung-II Kim Mooyoung Han	Dept. of Civil and Environmental engineering, Seoul National University, Seoul, (South Korea)
Novel hollow-fiber membrane module for water and wastewater treatment	Nigam K.D.P. Singh Jogender	Indian Institute of Technology, Delhi (India)
Development of water treatment process and strategy for shale gas produced water in Jiangning, China.	Lee Yonghyeon ¹ Khim Jeehyeong ¹ Cui Mingcan ¹ Kim Dongkwan ² Kim Jeongwon ¹	1 - Korea University (South Korea), 2 - Mine Reclamation Corporation (South Korea)
Coagulative colloidal gas aphrons in flotation for decoloration of fermented industrial wastewaters	Zhang Ming Xie Li Zhou Qi	College of Environmental Science and Engineering, Tongji University (China)
Changing the surface characteristics of themicrobubbles in DAF systems by the addition of cationic polymers in recirculating pressurized and its effect on the overall efficiency of the process	Migliato Marega Gabrielle Penalva Realí Marco Antonio Soraia Meca Karen	Escola de Engenharia de São Carlos (Brazil)
Efficiency evaluation of polyethyleneimine on oil removal from produced water by Dissolved Air Flotation System	Santos Allan Mansur Claudia Oliveira Luis Fernando Magalhães Jeniffer Aguiar Janaina	Instituto de Macromoléculas Eloisa Mano (Brazil)
Development of supersaturated nano bubble with low energy using advanced air saturator of DAF	Maeng Minsoo Seok Dockko Tschungil Kim Mooyoung Han Hosoo Kim	Dept. of Civil and Environmental engineering, Seoul National University, Seoul (South Korea)
Onsite algae harvesting using micro and nano(sub-micron) bubbles	Tschung-il Kim Hyunju Park Minju Lee Mooyoung Han	Dept. of Civil and Environmental engineering, Seoul National University, Seoul (South Korea)

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