

WILLY MASSCHELEIN PRIZE 2009
report of the jury (July 20th 2009 in Paris, 10 am – 12 am)

Context and reminder

The Willy Masschelein prize is delivered at every IOA World Congress by the regional group IOA-EA3G for the best PhD thesis that has been issued within the past 4 years. The 2009 prize will be given at the 19th IOA International Congress & Exhibition in Tokyo from 31st August to 4th September 2009.

The two major criteria for the selection of the best PhD thesis were

- Original research
- Unprecedented knowledge in the field of generation of ozone and other oxidants and applications

The process of selection of candidates has been launched on April 3rd 2009 through a specific call for candidates and application form send by email addressed to all the members of IOA-EA3G and to the executive presidents of the two other regional groups (PAG and NIJ). The deadline for receiving proposals for candidates was fixed at June 1st 2009.

Process of examination

The jury for the examination of the candidates was composed of Joop Kruithof, Michel Roustan, Rein Munter, Andrei Bin, Zdravka Do Quang.

9 candidates applied for the 2009 edition of the Willy Masschelein prize. The names of the candidates and the respective information on their focus of research work (PhD thesis, publications, etc.) are given in the table attached herebelow.

Decisions

The jury met on July 20th 2009 at the IOA EA3G office in Paris from 10 am to 12 am.

Present : Michel ROUSTAN, Andrej BIN, Zdravka DO QUANG

Absent : Rein MUNTER, Joop KRUIHOF

Prof. Rein Munter was unable to attend the meeting but had previously given his choice by and results of evaluation and had had a conference call with Prof. A. Bin and discussed the ranking of the candidates.

Joop Kruithof was not able to attend the meeting and had no availability to examine the candidates applications.

Results from the evaluation process:

- Compared to the previous years the number of candidates was higher (in the past the number of candidates was between 5 and 7 and in 2009 this number was 9)
- The privileged criterium for this year selection was the innovation
- Out of the 9 thesis presented as candidates only 1 thesis concerned the generation of ozone
- A big majority of the PhD works dealt with the same issues: determination of kinetics of oxidation of emerging parameters (EDC, PPCP), same type of reactors
- The final classification was the following :
 - Prize winner: Dr Rashmi Chand
 - The second place was attributed to Dr Renato Dantas
 - The third place was given to Dr Bo Ning

No.	Civ	NOM - prénom	sité de soutè	ThesisTitle	DefenseDate	Novelty	Quality	Remarks	Publications	
1	Mr.	DODD Michael	Swiss Federal Institute of Technology, Zürich	Characterization of ozone-based oxidative treatment as a means of eliminating the target-specific biological activities of municipal wastewater-borne antibacterial compounds	31 July 2008	High; provides experimentally determined kinetic constants	Very high	Farmaceutical products belonging to different structural classes and present in municipal wastewater	5 + 3 sub./acc.	Env. Sci. Techn., Wat. Res.
2	Mr.	KAINDL Nikolaus	Vienna University of Technology, Wien	Advanced purification of mechanical and biological pre-treated paper mill effluent by ozonation and subsequent biofiltration	13 February 2009	Perhaps not very great but contains large experimental material collected from full-scale plant; first part too extensive	Relatively high though in some aspects dull	Very practical implementation of combined paper mill wastewater treatment technology	3 + many conf. papers & unpublished reports	Water Sci. Techn., OSE
3	Ms.	DEBORDE Marie	Ecole Supérieure d'Ingénieurs de Poitiers	Chlorination and ozonation of some organic endocrine disruptors	19 January 2006	High degree of novel experimentally determined kinetic data and mechanism	High in terms of experimental studies	Removal (oxidation) of endocrine disruptors with chlorine and ozone; determination of reaction products with ozone	5	Env. Sci. Techn., Wat. Res., Techn. Sci. Met.
4	Mr.	DANTAS Renato	University of Barcelona	Ozonation of Emergent Contaminants	05 juillet 2007	Rather typical exper. study though apart of biodegrad. toxicity is also included	Good quality	Ozonation of emerging contaminants; 2 pharmac. and 2 Quaternary Ammonium Compounds (surf.)	3 + 3 subm. + 9 conf. papers or posters	J. Haz.Mat., Wat. Res., Wat. Env. Res., OSE, monographic book
5	Mr.	WANG Yun Hai	Hong Kong University	Electrochemical Generation of Ozone on Antimony and Nickel Doped Tin Oxide	25 septembre 2006	Novel electrode materials	Good; main emphasis put on electrochemical aspects of O3 generat.	Electrochemical ozone generation on tin oxide doped Sb and Ni electrodes; study of EC degrad. of 4-chlorophenol	1	Indian J. Chem.
6	Mr.	NING Bu	Imperial College, London	Degradation of alkylphenols and iodinated contrast media compounds by ozone and ultrasound based oxidation processes	04 mai 2007	Relatively novel in terms of combining AO and ultrasonic action		Ozonation and US oxidation of alkylphenols and iodinated contrast media	3 + 3 acc. or subm.	J. Haz.Mat., OSE, Chemosphere, Wat. Res., J. Env. Eng., Water Env. Res.
7	Mrs.	CHELME-AYALA Pamela	University of Alberta	Effectiveness of Two Advanced Oxidation Processes and Ozonation for the Degradation of Two Pesticides in Different Water Matrices	16 décembre 2008	Not very great though the thesis is well organised and contains wide range of data (kinetics, mechanisms of direct and indirect oxidation, product identification, toxicity)	Good quality	Two pesticides (bromoxynil & trifluralin) used as target compounds. Suitability of AOPs investigated in ultrapure water, river water, return flow water, & membrane concentrates. O3, O3+H2O2, direct photolysis and UV + H2O2	none	none
8	Ms.	CARBAJO SÁNCHEZ Maria	University of Extremadura, Badajoz	Catalytic and photocatalytic ozonation of water's contaminant	12 juillet 2007	Extension of the earlier studies in the same laboratory	Good, quite extensive study including intermediates and treatment cost assessment, basic kinetic data and approx. modelling	Catalytic and photocatalytic ozonation of model recalcitrant phenolic contaminants present in wastewater; catalyst: perovskite & TiO2; systems studied: O3, UV irradiation, O3/UV, cat. ozon., photocat. ozon., O3/UV/catal., UV/H2O2, UV/H2O2/catal.	13	J. Haz.Mat., Ind. Eng.Chem. Res. OSE, Appl. Catal. B, J. Chem.Techn.Biotech., Chemosphere, Wat. Res., J. Agr. & Food Chem., J. Env. Sci. Health A
9	Dr.	CHAND Rashmi	University of Abertay Dundee	Advanced oxidative wastewater treatment using cavitation reactors	13 juin 2008	Relatively novel in terms of combining AO and ultrasonic action		AO in ultrasound reactors (in particular Advanced Fenton Process); phenol as model contaminant + bacterial inactivation of Escherichia coli; ozone used as one of the options	2 + 5 conf. papers	Biochem. Eng. J., Ultrasonics Sonochem.