



Laboratoire de Physique des Gaz et des Plasmas  
UMR 8578 du CNRS



Faculté des  
sciences  
d'Orsay

UNIVERSITÉ  
PARIS  
SUD

**« DIREBIO »**  
**Décharges Impulsionnelles, REactivité à haute pression,**  
**Interfaces plasma-BIOlogie.**

**Production scientifique 2008-2017**

- ✧ *Articles dans les revues internationales à comité de lecture*
  - ✧ *Chapitres de livre*
  - ✧ *Thèses et HDR*
- ✧ *Communications aux conférences internationales à comité de lecture (avec actes)*
  - ✧ *Communications aux conférences nationales (non exhaustif)*

[2008](#) [2009](#) [2010](#) [2011](#) [2012](#) [2013](#) [2014](#) [2015](#) [2016](#) [2017](#)

(Classement par ordre alphabétique de titre)

## 2017

### ✧ **Articles dans les revues internationales à comité de lecture**

**Analysis of conductive target influence in plasma jet experiments through helium metastable and electric field measurements**

T. Darny, J-M. Pouvesle, V. Puech, C. Douat, S. Dozias, E. Robert  
*Plasma Sources Science and Technology*, 26 (2017) 045008 (14pp).  
DOI: 10.1088/1361-6595/aa5b15

**LXCat: an open-access, web-based platform for data needed for modeling low temperature plasmas**

L. Pitchford, L. Alves, K. Bartschat, S. Biagi, M-C. Bordage, I. Bray, C. Brion, M. Brunger, L. Campbell, A. Chachereau, B. Chaudhury, L. Christophorou, E. Carbone, N. Dyatko, C. Franck, D. Fursa, R. Gangwar, V. Guerra, P. Haefliger, G. Hagelaar, A. Hoesl, Y. Itikawa, I. Kochetov, R. McEachran, W. Lowell Morgan, A. Napartovich, V. Puech, M. Rabie, L. Sharma, R. Srivastava, A. Stauffer, J. Tennyson, J. de Urquijo, J. van Dijk, L. Viehland, M. Zammit, O. Zatsarinny, S. Pancheshnyi  
*Plasma Processes and Polymers*, 14 (2017) 1600098 (17pp.).  
DOI: 10.1002/ppap.201600098

**Singlet delta oxygen production in a 2D micro-discharge array in air: effect of gas residence time and discharge power**

G. Nayak, J. Santos Sousa, P. Bruggeman  
*Journal of Physics D: Applied Physics*, 50 (2017) 105205 (7pp).  
DOI: 10.1088/1361-6463/aa5764

### ✧ **Communications aux conférences internationales à comité de lecture**

- orale     **Abel-inverted absolute density profiles of Ar(1s<sub>5</sub>) metastables in guided streamers impacting ungrounded dielectric surfaces**  
K. Gazeli, G. Bauville, M. Fleury, O. Neveu, P. Jeanney, S. Pasquiers, J. Santos Sousa  
*9<sup>th</sup> International Workshop on Microplasmas*, 6-9 juin 2017, Garmisch-Partenkirchen, Allemagne.
- affiche   **Acetone decomposition kinetics in plasmas of N<sub>2</sub>/O<sub>2</sub> mixtures**  
N. Blin-Simiand, B. Bournonville, L. Magne, S. Pasquiers  
*Workshop REACPLAS: Reactivity, Plasmas, Astrophysics* (PhOM Research Seminar), 21 novembre 2017, Orsay, France.
- affiche   **Comparison between performances of surface and volume nanosecond pulsed dielectric barrier discharges for the treatment of volatile organic compounds**  
P. Affonso Nobrega, N. Blin-Simiand, B. Bournonville, F. Jorand, B. Lacour, S. Pasquiers, V. Rohani, F. Cauneau, L. Fulcheri  
*23<sup>rd</sup> International Symposium on Plasma Chemistry*, 30 juillet-4 août 2017, Montréal, Canada.
- affiche   **Comparison of plasma and electric pulse treatments on cell membrane permeabilization**  
C. Douat, M. Breton, S. Dozias, J. Santos Sousa, J-M. Pouvesle, E. Robert, L. Mir  
*23<sup>rd</sup> International Symposium on Plasma Chemistry*, 30 juillet-4 août 2017, Montréal, Canada.
- affiche   **Dynamics of a nanosecond diffuse pin-to-plane discharge – Effects of pin material at high overvoltage**  
P. Tardiveau, A. Brisset, P. Jeanney  
*33<sup>rd</sup> International Conference on Phenomena in Ionized Gases*, 9-14 juillet 2017, Estoril, Portugal.

- affiche **Experimental study of ns pulsed microdischarges arrays reactor in nitrogen**  
S. Kasri, G. Bauville, M. Fleury, K. Gazeli, J. Santos Sousa, S. Pasquiers, X. Aubert, G. Lombardi, L. William, C. Lazzaroni  
*33<sup>rd</sup> International Conference on Phenomena in Ionized Gases*, 9-14 juillet 2017, Estoril, Portugal.
- affiche **Experimental study of plasma microjets as sources of reactive species for biomedical applications**  
L. Invernizzi, J. Vautier, M. Fleury, G. Bauville, P-M. Girard, J. Santos Sousa  
*4<sup>th</sup> International Workshop on Plasma for Cancer Treatment*, 27-28 mars 2017, Institut Curie, Paris, France.
- affiche **First approach for acetone decomposition kinetics in plasmas of atmospheric gases**  
N. Blin-Simiand, B. Bournonville, L. Magne, S. Pasquiers  
*Computational Chemistry for Pollutant Mitigation*, 13-14 mars 2017, Rueil-Malmaison, France.
- oral **He(2 <sup>3</sup>S) helium metastable monitoring through N<sub>2</sub><sup>+(B-X)</sup> emission in atmospheric pressure plasma jets**  
T. Darny, J-M. Pouvesle, C. Douat, V. Puech, S. Dozias, E. Robert  
*23<sup>rd</sup> International Symposium on Plasma Chemistry*, 30 juillet-4 août 2017, Montréal, Canada.
- affiche **Influence of water vapour on the propagation speed and mean energy of an atmospheric non-equilibrium diffuse discharge in air**  
A. Brisset, P. Tardiveau, K. Gazeli, B. Bournonville, P. Jeanney, K. Ouaras, L. Magne, S. Pasquiers  
*23<sup>rd</sup> International Symposium on Plasma Chemistry*, 30 juillet-4 août 2017, Montréal, Canada.
- invitée **Kinetics of organic molecules in pulsed plasmas. Applications for pollution control and combustion triggering.**  
S. Pasquiers, N. Blin-Simiand, L. Magne  
*Workshop REACPLAS: Reactivity, Plasmas, Astrophysics* (PhOM Research Seminar). 21 novembre 2017, Orsay, France.
- affiche **Optimization of Micro-Hollow Cathode Discharges operated in argon-water vapor mixtures for the production of H<sub>3</sub>O<sup>+</sup>**  
G. Bauville, S. Pasquiers, J. Santos Sousa  
*9<sup>th</sup> International Workshop on Microplasmas*, 6-9 juin 2017, Garmisch-Partenkirchen, Allemagne.
- affiche **Propagation of a pulsed argon plasma jet in ambient air: importance of the gas flow**  
G. Bauville, P. Jeanney, S. Pasquiers, J. Santos Sousa  
*9<sup>th</sup> International Workshop on Microplasmas*, 6-9 juin 2017, Garmisch-Partenkirchen, Allemagne.
- affiche **Radial and temporal density profiles of Ar(1s<sub>5</sub>) metastables in a nanosecond pulsed plasma jet impinging on different dielectric surfaces**  
K. Gazeli, G. Bauville, M. Fleury, O. Neveu, P. Jeanney, S. Pasquiers, J. Santos Sousa  
*33<sup>rd</sup> International Conference on Phenomena in Ionized Gases*, 9-14 juillet 2017, Estoril, Portugal.
- affiche **Spatial and temporal analysis of acetone decomposition and subsequent OH formation in nanosecond diffuse discharge**  
K. Ouaras, L. Magne, P. Tardiveau, A. Brisset, S. Pasquiers, P. Jeanney, B. Bournonville  
*33<sup>rd</sup> International Conference on Phenomena in Ionized Gases*, 9-14 juillet 2017, Estoril, Portugal.
- affiche **Study of butanoic acid removal by electro-ceramic barrier discharge (EBD)**  
M. Gueye, N. Blin-Simiand, S. Pasquiers, F. Jorand, B. Bournonville  
*23<sup>rd</sup> International Symposium on Plasma Chemistry*, 30 juillet-4 août 2017, Montréal, Canada.

## ✧ **Communications aux conférences nationales**

affiche **Cinétique de décomposition des COV dans les plasmas froids de gaz atmosphériques : acétone**  
S. Thomas, N. Blin-Simiand, B. Bournonville, M. Heninger, P. Jeanney, J. Lemaire, E. Louarn, L. Magne, S. Pasquiers  
*24<sup>ème</sup> Congrès Général de la Société Française de Physique, 3-7 juillet, Orsay, France.*

2016

✧ **Articles dans les revues internationales à comité de lecture**

**2D Positive streamers modelling in NTP air under extreme pulse front. What about runaway electrons?**

E Marode, P Dessante, P Tardiveau

*Plasma Sources Science and Technology*, 25 (2016) 064004 (15pp).

DOI: 10.1088/0963-0252/25/6/064004

**Dissociation against oxidation kinetics for the conversion of VOCs in non-thermal plasmas of atmospheric gases**

S. Pasquiers, N. Blin-Simiand, L. Magne

*The European Physical Journal: Applied Physics*, 75 (2016) 24703 (8pp).

DOI: 10.1051/epjap/2016150575

**Impact of an atmospheric argon plasma jet on a dielectric surface and desorption of organic molecules**

X. Damany, S. Pasquiers, N. Blin-Simiand, G. Bauville, B. Bournonville, M. Fleury, P. Jeanney, J. Santos Sousa

*The European Physical Journal: Applied Physics*, 75 (2016) 24713 (7pp).

DOI: 10.1051/epjap/2016150594

**Removal of formaldehyde by a pulsed dielectric barrier discharge in dry air in the 20°C to 300°C temperature range**

N. Blin-Simiand, S. Pasquiers, L. Magne

*Journal of Physics D: Applied Physics*, 49 (2016) 195202 (12pp).

DOI: 10.1088/0022-3727/49/19/19520

**Space-time resolved density of helium metastable atoms in a nanosecond pulsed plasma jet: influence of high voltage and pulse frequency**

C. Douat, I. Kacem, N. Sadeghi, G. Bauville, M. Fleury, V. Puech

*Journal of Physics D: Applied Physics*, 49 (2016) 285204 (16pp).

DOI: 10.1088/0022-3727/49/28/285204

**Sub-nanosecond time resolved light emission study for diffuse discharges in air under steep high voltage pulses**

P Tardiveau, L Magne, E Marode, K Ouaras, P Jeanney, B Bournonville

*Plasma Sources Science and Technology*, 25 (2016) 054005 (16pp).

DOI: 10.1088/0963-0252/25/5/054005

**Synergistic effect of H<sub>2</sub>O<sub>2</sub> and NO<sub>2</sub> in cell death induced by cold atmospheric He plasma**

P-M. Girard, A. Arbabian, M. Fleury, G. Bauville, V. Puech, M. Dutreix, J. Santos Sousa

*Scientific Reports*, 6 (2016) 29098 (17pp).

DOI: 10.1038/srep29098

✧ **HDR**

**Réactivité de systèmes complexes : de la combustion de basse température aux plasmas froids**

N. Blin-Simiand

Habilitation à Diriger des Recherches (Univ. Paris-Sud), 7 mars 2016.

## ☞ Communications aux conférences internationales à comité de lecture

- affiche **Argon metastable density in an atmospheric microplasma jet in interaction with a dielectric surface**  
Et-T. Es-Sebbar, K. Gazeli, G. Bauville, M. Fleury, O. Neveu, S. Pasquiers, V. Puech, J. Santos Sousa  
*19<sup>th</sup> International Conference on Atomic Processes in Plasmas*, 4-8 avril 2016, Paris, France.
- invitée **Characterisation of microplasma jets by infrared absorption spectroscopy**  
J. Winter, A. Schmidt-Bleker, J. Santos Sousa, A. Bösel, M. Hänel, S. Reuter, N. Sadeghi, V. Puech, K-D. Weltmann  
*23<sup>rd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 12-16 juillet 2016, Bratislava, Slovaquie.
- orale **Characterization of atmospheric nanosecond discharge under highly inhomogeneous and transient electric field in air/water mixture**  
K. Ouaras, P. Tardiveau, L. Magne, P. Jeanney, B. Bournonville  
*69<sup>th</sup> Gaseous Electronics Conference*, 10-14 octobre 2016, Bochum, Allemagne.
- affiche **Characterization of atmospheric nanosecond discharge under highly inhomogeneous and transient electric field in air/water mixture by OES and PLIF**  
K. Ouaras, P. Tardiveau, L. Magne, P. Jeanney, B. Bournonville  
*XV<sup>th</sup> High Pressure Low Temperature Plasma Chemistry Symposium*, 11-16 septembre 2016, Brno, République Tchèque.
- orale **Conductive target influence on helium metastable production in a  $\mu\text{s}$  Plasma Gun discharge**  
T. Darny, C. Douat, V. Puech, J-M. Pouvesle, S. Dozias, E. Robert  
*6<sup>th</sup> International Conference on Plasma Medicine*, 4-9 septembre 2016, Bratislava, Slovaquie.
- affiche **Development of a drift tube mass spectrometer associated with plasma microjets**  
J. Lemaire, B. Brahim, M. Heninger, E. Louarn, H. Mestdagh, G. Bauville, N. Blin-Simiand, Et-T. Es-Sebbar, M. Fleury, S. Pasquiers, J. Santos Sousa, E. Bauchard, J. Leprovost  
*64<sup>th</sup> Conference of the American Society for Mass Spectrometry*, 5-9 juin 2016, San Antonio, TX, USA.
- affiche **Dissociation kinetics of acetone in a sub-atmospheric pressure nitrogen plasma**  
N. Blin-Simiand, B. Bournonville, F. Coquery, P. Jeanney, L. Magne, S. Pasquiers, P. Tardiveau  
*23<sup>rd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 12-16 juillet 2016, Bratislava, Slovaquie.
- invitée **Electron properties in atmospheric pressure plasma jets determined by Thomson scattering**  
S. Santos Sousa, S. Hübner, A. Sobota, S. Pasquiers, V. Puech, N. Sadeghi  
*23<sup>rd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 12-16 juillet 2016, Bratislava, Slovaquie.
- affiche **Evaluation of the influence of the gas flow rate and the electrical parameters of a pulsed power supply on the optical emission of atmospheric pressure guided ionization waves**  
K. Gazeli, J. Santos Sousa, P. Svarnas, S. Pasquiers, F. Clément  
*23<sup>rd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 12-16 juillet 2016, Bratislava, Slovaquie.
- orale **Spatiotemporal evolution of  $\text{Ar}(^3\text{P}_2)$  metastable density generated in a pulsed DC atmospheric pressure micro-plasma jet impinging on a glass plate**  
K. Gazeli, G. Bauville, Et-T. Es-Sebbar, M. Fleury, O. Neveu, S. Pasquiers, J. Santos Sousa  
*69<sup>th</sup> Gaseous Electronics Conference*, 10-14 octobre 2016, Bochum, Allemagne.

- affiche **Study of a microplasma device used for boron nitride synthesis**  
S. Kasri, G. Bauville, M. Fleury, C. Lazzaroni, A. Tallaire, K. Gazeli, X. Aubert, G. Lombardi, S. Pasquiers, J. Santos Sousa, V. Mille, L. William, J. Achard  
*International School on Low Temperature Plasma Physics: Basics and Applications*, 3-6 octobre 2016, Bad Honnef, Allemagne.
- orale **Synergistic effect of H<sub>2</sub>O<sub>2</sub> and NO<sub>2</sub> in cell death induced by cold atmospheric He plasma**  
P-M. Girard, A. Arbabian, M. Fleury, G. Bauville, V. Puech, M. Dutreix, J. Santos Sousa  
*6<sup>th</sup> International Conference on Plasma Medicine*, 4-9 septembre 2016, Bratislava, Slovaquie.
- affiche **Synergistic effect of H<sub>2</sub>O<sub>2</sub> and NO<sub>2</sub> in cell death induced by cold atmospheric He plasma**  
P-M. Girard, A. Arbabian, M. Fleury, G. Bauville, V. Puech, M. Dutreix, J. Santos Sousa  
*3<sup>rd</sup> International Workshop on Plasma for Cancer Treatment*, 11-12 avril 2016, Washington DC, USA.
- orale **Visualization of a jet in open air with and without ignition of a plasma**  
M. Foletto, L.C Pitchford, V. Puech, J. Fontane, L. Joly  
*30<sup>th</sup> International Symposium on Rarefied Gas Dynamics*, 10-14 juillet 2016, Victoria, Canada.

### ✧ **Communications aux conférences nationales**

#### **Etude spectroscopique d'une décharge électrique à pression atmosphérique initiée par des champs électriques intenses et transitoires**

K. Ouaras, P. Tardiveau, L. Magne, S. Pasquiers, P. Jeanney, B. Bournonville  
*13<sup>ème</sup> journées d'échange du Réseau Plasmas Froids du CNRS*, 17-20 octobre 2016, La Rochelle, France.

## 2015

### ✧ Articles dans les revues internationales à comité de lecture

**Experimental study and kinetic modeling for ethanol treatment by air dielectric barrier discharges**

S. Lovascio, N. Blin-Simiand, L. Magne, F. Jorand, S. Pasquiers  
*Plasma Chemistry and Plasma Processing*, 35 (2015) 279-301.  
DOI: 10.1007/s11090-014-9601-x

**[Ignition of lean air / hydrocarbon mixtures at low temperature by a single corona discharge nanosecond pulse](#)**

S. Bentaleb, N. Blin-Simiand, P. Jeanney, L. Magne, N. Moreau, S. Pasquiers, P. Tardiveau  
*Aerospace Lab Journal*, numéro 10 Plasmas for Aeronautics (2015).

**Review on VUV to MIR absorption spectroscopy of atmospheric pressure plasma jets**

S. Reuter, J. Santos Sousa, G. Stancu, J-P. Hubertus van Helden  
*Plasma Sources Science and Technology*, 24 (2015) 054001 (41pp).  
DOI: 10.1088/0963-0252/24/5/054001

**The spatio-temporal distribution of He ( $2^3S_1$ ) metastable atoms in a MHz-driven helium plasma jet is influenced by the oxygen/nitrogen ratio of the surrounding atmosphere**

J. Winter, J. Santos Sousa, N. Sadeghi, A. Schmidt-Bleker, S. Reuter, V. Puech  
*Plasma Sources Science and Technology*, 24 (2015) 025015 (11pp).  
DOI: 10.1088/0963-0252/24/2/025015

**Thomson scattering on non-thermal atmospheric pressure plasma jets**

S. Hübner, J. Santos Sousa, J. van der Mullen, W. Graham  
*Plasma Sources Science and Technology*, 24 (2015) 054005 (15pp).  
DOI: 10.1088/0963-0252/24/5/054005

### ✧ Thèses

**Elimination de polluants par plasmas froids et association à la catalyse : acétaldéhyde et phénol**

Ouya KOETA  
Thèse soutenue le 21 juillet 2015 (direction S. Pasquiers, CNRS – A. Bary, Univ. Ouagadougou, Burkina Faso).

**Etude expérimentale et théorique de la fragmentation de Composés Organiques Volatils pour des applications environnementales**

Alexis CHOLLET  
Thèse soutenue le 20 mars 2015 (direction P. Tardiveau, Paris-Sud).

### ✧ Communications aux conférences internationales à comité de lecture

- affiche **A Micro-Hollow Cathode Discharge in argon-water vapour mixtures**  
G. Bauville, S. Pasquiers, J. Santos Sousa  
*8<sup>th</sup> International Workshop on Microplasmas*, 11-15 mai 2015, Newark, NJ, USA.
- affiche **An atmospheric argon plasma jet and its interaction with a dielectric surface**  
G. Bauville, S. Pasquiers, N. Blin-Simiand, B. Bournonville, Et. Es-sebbar, M. Fleury, P. Jeanney, J. Santos-Sousa  
*22<sup>nd</sup> International Symposium on Plasma Chemistry*, 5-10 juillet 2015, Anvers, Belgique.



- orale **Ar metastable density in a microplasma jet in interaction with a dielectric surface**  
Et. Es-Sebbar, G. Bauville, M. Fleury, O. Neveu, S. Pasquiers, V. Puech, J. Santos Sousa  
*8<sup>th</sup> International Workshop on Microplasmas*, 11-15 mai 2015, Newark, NJ, USA.
- affiche **Conversion of CH<sub>3</sub>CHO in a cylindrical DBD and role of a MnO<sub>2</sub> based catalyst**  
O. Koeta, N. Blin-Simiand, L. Magne, S. Pasquiers  
*22<sup>nd</sup> International Symposium on Plasma Chemistry*, 5-10 juillet 2015, Anvers, Belgique.
- invitée **Discharge propagation in ceramic foams and capillary tubes**  
K. Hensel M. Janda, Z. Machala, P. Le Delliou, P. Tardiveau, S. Pasquiers  
*6<sup>th</sup> Central European Symposium on Plasma Chemistry*, 6-10 septembre 2015, Bressanone, Italie.
- invitée **Discharge propagation in ceramic foams and capillary tubes**  
K. Hensel M. Janda, Z. Machala, V. Martišoviš, P. Adda, P. Le Delliou, P. Tardiveau, S. Pasquiers  
*XXXII International Conference on Phenomena in Ionized Gases*, 26-31 juillet 2015, Iasi, Roumanie.
- invitée **Dissociation against oxidation kinetic for the conversion of VOCs in non-thermal plasmas of atmospheric gases**  
S. Pasquiers, N. Blin-Simiand, L. Magne  
*6<sup>th</sup> Central European Symposium on Plasma Chemistry*, 6-10 septembre 2015, Bressanone, Italie.
- invitée **Dynamics of electrons and excited states in microplasma jets**  
V. Puech, N. Sadeghi  
*11<sup>th</sup> Frontiers in Low Temperature Plasma Diagnostics*, 24-28 mai 2015, Ile de Porquerolles, Hyères, France.
- affiche **FT-ICR analysis of toluene removal by non-thermal plasmas**  
S. Pasquiers, M. Heninger, B. Bournonville, N. Blin-Simiand, J. Lemaire, F. Jorand, H. Mestdagh  
*22<sup>nd</sup> International Symposium on Plasma Chemistry*, 5-10 juillet 2015, Anvers, Belgique.
- affiche **Impact of an atmospheric argon plasma jet on a dielectric surface**  
X. Damany, S. Pasquiers, N. Blin-Simiand, G. Bauville, B. Bournonville, M. Fleury, P. Jeanney, J. Santos Sousa  
*6<sup>th</sup> Central European Symposium on Plasma Chemistry*, 6-10 septembre 2015, Bressanone, Italie.
- orale **Influence of HV pulse repetition rate on densities of excited species in atmospheric helium plasma jet**  
N. Sadeghi, V. Puech, C. Douat  
*68<sup>th</sup> Gaseous Electronics Conference*, 12-16 octobre 2015, Honolulu, Hawaii, USA.
- affiche **Kinetics studies on acetone removal by non-equilibrium plasma**  
L. Abis, N. Blin-Simiand, L. Magne, B. Bournonville, F. Jorand, S. Pasquiers  
*6<sup>th</sup> Central European Symposium on Plasma Chemistry*, 6-10 septembre 2015, Bressanone, Italie.
- invitée **Some interesting plasmas states produced by atmospheric pressure discharges in air for oxidation technologies**  
E. Marode, P. Tardiveau  
*3<sup>rd</sup> International Conference on Photocatalytic and Advanced Oxidation Technologies for the Treatment of Water, Air, Soil and Surfaces*, 1-4 septembre 2015, Gdansk, Pologne.
- orale **Sub-nanosecond dynamics of atmospheric air discharge under highly inhomogeneous and transient electric field**  
P. Tardiveau, L. Magne, S. Pasquiers, P. Jeanney, B. Bournonville  
*68<sup>th</sup> Gaseous Electronics Conference*, 12-16 octobre 2015, Honolulu, Hawaii, USA.

- affiche **The role of H<sub>2</sub>O<sub>2</sub> in the cellular toxicity of microplasma jets**  
J. Santos Sousa, A. Arbabian, V. Puech, P.-M. Girard  
*2<sup>nd</sup> International Workshop on Plasma for Cancer Treatment*, 16-17 mars 2015, Nagoya, Japon.
- affiche **The role of RONS in the cellular toxicity of microplasma jets**  
J. Santos Sousa, A. Arbabian, V. Puech, P.-M. Girard  
*6<sup>th</sup> Central European Symposium on Plasma Chemistry*, 6-10 septembre 2015, Bressanone, Italie.
- affiche **Thomson scattering applied to non-equilibrium atmospheric pressure plasmas: potentials and limits**  
S. Hübner, J. Santos Sousa  
*22<sup>nd</sup> International Symposium on Plasma Chemistry*, 5-10 juillet 2015, Anvers, Belgique.

## 2014

### ✧ **Articles dans les revues internationales à comité de lecture**

**Electron properties in an atmospheric helium plasma jet determined by Thomson scattering**

S. Hübner, J. Santos Sousa, V. Puech, G. Kroesen, N. Sadeghi  
*Journal of Physics D: Applied Physics*, 47 (2014) 432001 (6pp).  
DOI: 10.1088/0022-3727/47/43/432001

**Evidence of the influence of plasma jets on a helium flow into open air**

M. Foletto, V. Puech, J. Fontane, L. Joly, L. Pitchford  
*IEEE Transactions on Plasma Science*, 42 (2014) 2436-2437.  
DOI: 10.1109/TPS.2014.2331393

**Large conical discharge structure of an air discharge at atmospheric pressure in a point-to-plane geometry**

F. Pechereau, P. Le Delliou, J. Jánský, P. Tardiveau, S. Pasquiers, A. Bourdon  
*IEEE Transactions on Plasma Science*, 42 (2014) 2346-2347.  
DOI: 10.1109/TPS.2014.2309981

**Nanosecond-pulsed dielectric barrier discharges in Kr/Cl<sub>2</sub> for production of ultraviolet radiation**

J. Gregorio, X. Aubert, G. Hagelaar, V. Puech, L. Pitchford  
*Plasma Sources Science and Technology*, 23 (2014) 015005 (15pp).  
DOI: 10.1088/0963-0252/23/1/015005

**On the influence of anode composition on the pattern of a nanosecond diffuse discharge at atmospheric pressure**

A. Chollet, S. Pasquiers, P. Jeanney, P. Tardiveau, P. Désesquelles  
*IEEE Transactions on Plasma Science*, 42 (2014) 2344-2345.  
DOI: 10.1109/TPS.2014.2352680

**Spatio-temporally resolved mapping of Helium metastable density in an atmospheric pressure plasma jet**

G. Cadot, C. Douat, V. Puech, N. Sadeghi  
*IEEE Transactions on Plasma Science*, 42 (2014) 2446-2447.  
DOI: 10.1109/TPS.2014.231023

### ✧ **Chapitres de livre**

**Diffuse and streamer discharges at intermediate pressures**

P. Tardiveau, S. Pasquiers  
Chapitre 9 du livre *Runaway electrons preionized diffuse discharges*. Ed. V. Tarasenko, Nova Science Publishers, Series Electrical Engineering Developments, 2014. ISBN: 978-1-63321-940-3.

### ✧ **Thèses**

**Etude des décharges électriques impulsionsnelles à pression atmosphérique dans les milieux poreux et/ou alvéolaires**

Pierre LE DELLIOU  
Thèse soutenue le 21 juillet 2014 (direction P. Tardiveau, Univ. Paris-Sud).

**Etude d'un micro jet de plasma à pression atmosphérique**

Claire DOUAT  
Thèse soutenue le 14 février 2014 (direction V. Puech, CNRS).

## ☞ Communications aux conférences internationales à comité de lecture

- orale **A new type of barrier discharge for removal of VOCs in atmospheric air**  
S. Pasquiers, B. Drazenovic, N. Blin-Simiand, B. Bournonville, P. Jeanney, F. Jorand, Y. Jorand  
*13<sup>rd</sup> High-Tech Plasma Processes Conference*, 22-27 juin 2014, Toulouse, France.
- orale **Ability of a diffuse nanosecond single discharge to generate reactive species in atmospheric air**  
A. Chollet, P. Jeanney, P. Tardiveau, S. Pasquiers  
*20<sup>th</sup> International Conference on Gas Discharges and their Applications*, 6-11 juillet 2014, Orléans, France.
- affiche **Acetone/ethanol mixture removal by non-thermal plasma coupled to catalysis in dry air**  
S. Lovascio, N. Blin-Simiand, B. Bournonville, F. Jorand, S. Pasquiers  
*Solvay Workshop on Plasmas for Environmental Applications*, 31 mars - 2 avril 2014, Bruxelles, Belgique.
- invitée **Decomposition kinetics of Volatile Organic Compounds in non-thermal plasmas of atmospheric gases**  
S. Pasquiers, N. Blin-Simiand, L. Magne  
*Solvay Workshop on Plasmas for Environmental Applications*, 31 mars - 2 avril 2014, Bruxelles, Belgique.
- orale **Degradation of DNA and proteins induced by microplasma jets**  
J. Santos Sousa, C. Douat, G. Bauville, M. Fleury, V. Puech, M. Bitu, L. Tessier, P-M. Girard  
*5<sup>th</sup> International Conference on Plasma Medicine*, 18-23 mai 2014, Nara, Japon.
- orale **DNA and protein degradation induced by atmospheric pressure microplasma jets**  
P-M Girard, M. Bitu, L. Tessier, C. Douat, J. Santos-Sousa, G. Bauville, M. Fleury, V. Puech  
*1<sup>st</sup> International Workshop on Plasma for Cancer Treatment*, 25-26 mars 2014, Washington D.C., USA.
- affiche **Formaldehyde decomposition in air using a new type of barrier discharge**  
S. Pasquiers, B. Drazenovic, N. Blin-Simiand, B. Bournonville, P. Jeanney, F. Jorand, Y. Jorand  
*22<sup>nd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 15-19 juillet 2014, Greifswald, Allemagne.
- affiche **Kinetics of propene and propane in homogeneous and non-homogeneous nitrogen plasmas**  
L. Magne, N. Blin-Simiand, P. Jeanney, S. Pasquiers  
*Solvay Workshop on Plasmas for Environmental Applications*, 31 mars - 2 avril 2014, Bruxelles, Belgique.
- affiche **Kinetic processes in the removal of acetaldehyde by atmospheric filamentary DBD plasma**  
O. Koeta, N. Blin-Simiand, L. Magne, S. Pasquiers  
*22<sup>nd</sup> Europhysics Conference on Atomic and Molecular Physics of Ionized Gases*, 15-19 juillet 2014, Greifswald, Allemagne.
- affiche **On the role of metastable argon in cold atmospheric pressure plasma jets with shielding gas device**  
A. Schmidt-Bleker, J. Winter, J. Santos Sousa, V. Puech, K-D. Weltmann, S. Reuter  
*67<sup>th</sup> Annual Gaseous Electronics Conference*, 2-7 novembre 2014, Raleigh, NC, USA.
- affiche **Spatio-temporal He( $2^3S_1$ ) metastable density distribution in a gas shielding equipped MHz driven atmospheric pressure plasma jet**  
J. Winter, J. Santos Sousa, N. Sadeghi, S. Reuter, V. Puech  
*6<sup>th</sup> International Workshop on Plasma Spectroscopy*, 15-18 juin 2014, Hoboken, NJ, USA.

affiche **VOC conversion in humid air by reactors in series: energy deposit effect**  
S. Lovascio, N. Blin-Simiand, B. Bournonville, F. Jorand, S. Pasquiers  
*13<sup>rd</sup> High-Tech Plasma Processes Conference, 22-27 juin 2014, Toulouse, France.*

2013

☞ **Articles dans les revues internationales à comité de lecture**

**Arrays of microplasmas for the controlled production of tunable high fluxes of reactive oxygen species at atmospheric pressure**

J. Santos Sousa, G. Bauville, V. Puech

*Plasma Sources Science and Technology*, 22 (2013) 035012 (12pp).

DOI: 10.1088/0963-0252/22/3/035012

**Bacterial decontamination of the inner wall of narrow tubes by a nitrogen afterglow at atmospheric pressure and its relation to local atomic nitrogen concentration**

S. Limam, E. Odic, M. Kirkpatrick, A-M. Pointu

*Plasma Processes and Polymers*, 10 (2013) 679-685.

DOI: 10.1002/ppap.201200170

**Comparisons of sets of electron-neutral scattering cross sections and swarm parameters in noble gases: I. Argon**

L. Pitchford, L. Alves, K. Bartschat, S. Biagi, M-C. Bordage, A. Phelps, C-M. Ferreira, G. Hagelaar, W. Morgan, S. Pancheshnyi, V. Puech, A. Stauffer, O. Zatsarinny

*Journal of Physics D : Applied Physics*, 46 (2013) 334001 (19pp).

DOI: 10.1088/0022-3727/46/33/334001

**Comparisons of sets of electron-neutral scattering cross sections and swarm parameters in noble gases: II. Helium and neon**

L. Alves, K. Bartschat, S. Biagi, M-C. Bordage, L. Pitchford, C-M. Ferreira, G. Hagelaar, W. Morgan, S. Pancheshnyi, A. Phelps, V. Puech, O. Zatsarinny

*Journal of Physics D : Applied Physics*, 46 (2013) 334002 (22pp).

DOI: 10.1088/0022-3727/46/33/334002

**Comparisons of sets of electron-neutral scattering cross sections and swarm parameters in noble gases: III. Krypton and xenon**

M-C. Bordage, S. Biagi, L. Alves, K. Bartschat, S. Chowdhury, L. Pitchford, G. Hagelaar, W. Morgan, V. Puech, O. Zatsarinny

*Journal of Physics D : Applied Physics*, 46 (2013) 334003 (16pp).

DOI: 10.1088/0022-3727/46/33/334003

**Effect of oxygen on the conversion of acetaldehyde in homogeneous plasmas of N<sub>2</sub>/O<sub>2</sub>/CH<sub>3</sub>CHO mixtures**

W. Faider, S. Pasquiers, N. Blin-Simiand, L. Magne

*Plasma Sources Science and Technology*, 22 (2013) 065010 (14pp).

DOI: 10.1088/0963-0252/22/6/065010

**Kinetics of organic molecules in pulsed plasmas of nitrogen or N<sub>2</sub>/O<sub>2</sub> mixtures at near atmospheric pressure**

S. Pasquiers, N. Blin-Simiand, L. Magne

*Plasma Physics and Controlled Fusion*, 55 (2013) 124023 (10pp).

DOI: 10.1088/0741-3335/55/12/124023

**Role of quenching of metastable states in acetaldehyde decomposition by a non-equilibrium nitrogen plasma at sub-atmospheric pressure**

W. Faider, S. Pasquiers, N. Blin-Simiand, L. Magne

*Journal of Physics D : Applied Physics*, 46 (2013) 105202 (16pp).

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**[Towards a kinetic understanding of the ignition of air-propane mixture by a non-equilibrium discharge: the decomposition mechanisms of propane](#)**

S. Pasquiers, S. Bentaleb, P. Jeanney, N. Blin-Simiand, P. Tardiveau, L. Magne,

K. Gadonna, N. Moreau, F. Jorand

*International Journal of Aerodynamics*, 2 (2013) 135-158.

## ☞ Thèses

### **Traitement de l'acétaldéhyde par décharges impulsives dans des mélanges de gaz atmosphériques : cinétique et efficacité énergétique**

Wilfrid FAIDER

Thèse soutenue le 14 février 2013 (direction S. Pasquiers, CNRS).

## ☞ Communications aux conférences internationales à comité de lecture

- affiche **Acetaldehyde decomposition in atmospheric gases by spatially homogeneous and DBD filamentary plasmas: a comparative study**  
S. Pasquiers, W. Faider, O. Koeta, N. Blin-Simiand, P. Jeanney, L. Magne  
*International Conference on Plasma Processes (CIP2013)*, 9-13 septembre 2013, Paris, France.
- affiche **Acetone and acetone/ethanol removal by air Dielectric Barrier Discharges coupled to catalysis**  
S. Lovascio, N. Blin-Simiand, B. Bournonville, S. Pasquiers  
*International Conference on Plasma Processes (CIP2013)*, 9-13 septembre 2013, Paris, France.
- affiche **Controlled application of atmospheric pressure plasma jets interacting with biological liquids**  
S. Reuter, M. Hammer, J. Winter, H. Tresp, S. Iseni, A. Schmidt-Bleker, J. S. Sousa, M. Duennbier, K. Masur, V. Puech, K.D. Weltmann  
*International Conference on Plasma Processes (CIP2013)*, 9-13 septembre 2013, Paris, France.
- affiche **Dynamics of a wire-to-cylinder air atmospheric discharge generated under a very high and non-uniform electric field**  
A. Chollet, S. Pasquiers, P. Jeanney, P. Tardiveau, P. Désesquelles  
*31<sup>st</sup> International Conference on Phenomena in Ionized Gases*, 14-19 juillet 2013, Grenade, Espagne.
- affiche **Influence of a plasma jet on the hydrodynamics of a helium jet**  
M. Foletto, C. Douat, J. Fontane, L. Joly, L. Pitchford, V. Puech  
*31<sup>st</sup> International Conference on Phenomena in Ionized Gases*, 14-19 juillet 2013, Grenade, Espagne.
- affiche **Influence of the generation of a plasma jet on the hydrodynamics of a helium jet**  
M. Foletto, JP Boeuf, J. Fontane, L. Joly, L. Pitchford, V. Puech  
*7<sup>th</sup> International Workshop on Micro-plasmas*, 19-24 mai 2013, Pékin, Chine.
- invitée **Molecular kinetics in pulsed plasmas at near atmospheric pressure**  
S. Pasquiers, N. Blin-Simiand, L. Magne  
*40<sup>th</sup> European Physical Society Conference on Plasma Physics*, 1-5 Juillet 2013, Espoo, Finlande.
- orale **Nanosecond pulsed arrays of microdischarges as sources of intense UV-C radiation**  
J. Santos Sousa, V. Martin, G. Bauville, V. Puech  
*7<sup>th</sup> International Workshop on Micro-plasmas*, 19-24 mai 2013, Pékin, Chine.
- affiche **Nanosecond pulsed DBDs in Kr/Cl<sub>2</sub> for UV production**  
J. Gregório, X. Aubert, V. Martin, G. J. M. Hagelaar, V. Puech, L. C. Pitchford  
*31<sup>st</sup> International Conference on Phenomena in Ionized Gases*, 14-19 juillet 2013, Grenade, Espagne.
- affiche **On the effects of porosity on the development of a single nanosecond pulsed discharge across dielectric membranes**  
P. Le Delliou, P. Tardiveau, P. Jeanney, S. Pasquiers  
*31<sup>st</sup> International Conference on Phenomena in Ionized Gases*, 14-19 juillet 2013, Grenade, Espagne.

- affiche **Propene and propane decomposition in atmospheric pressure nitrogen plasmas**  
L. Magne, N Blin-Simiand, P. Jeanney, S. Pasquiers  
*40<sup>th</sup> European Physical Society Conference on Plasma Physics*, 1-5 Juillet 2013, Espoo, Finlande.
- orale **Plasmid DNA degradation induced by atmospheric pressure microplasma jets**  
C. Douat, J.S. Sousa, L. Tessier, G. Bauville, M. Fleury, P.M. Girard, V. Puech  
*International Conference on Plasma Processes (CIP2013)*, 9-13 septembre 2013, Paris, France.
- orale **Spatio-temporal distribution of helium metastable atoms in a micro-plasma jet propagating in ambient air**  
C. Douat, N. Sadeghi, G. Bauville, M. Fleury, V. Puech  
*7<sup>th</sup> International Workshop on Micro-plasmas*, 19-24 mai 2013, Pékin, Chine.
- affiche **Singlet delta oxygen absolute density measurements in the effluent of cold atmospheric pressure microplasma jets**  
J. Santos Sousa, C. Douat, G. Bauville, M. Fleury, V. Puech  
*31<sup>st</sup> International Conference on Phenomena in Ionized Gases*, 14-19 juillet 2013, Grenade, Espagne.
- orale **Spatio-temporal resolved density measurements of helium metastable atoms by absorption spectroscopy in an atmospheric micro-plasma jet propagating in ambient air**  
C. Douat, N. Sadeghi, G. Bauville, M. Fleury, V. Puech  
*X<sup>th</sup> Frontiers on Low Temperature Plasma Diagnostics*, 28 avril-2mai 2013, Kerkrade, Pays-Bas.
- orale **Study of the spatio-temporal distribution of the density of helium metastable atoms**  
C. Douat, G. Cadot, N. Sadeghi, G. Bauville, M. Fleury, V. Puech  
*16<sup>th</sup> Workshop on the Exploration of Low Temperature Plasma Physics*, 21-22 novembre 2013, Kerkrade, Pays-Bas.



2012

✧ **Articles dans les revues internationales à comité de lecture**

**Comparative study of air-propane and air-heptane mixtures ignition by nanosecond pulsed discharges**

P. Tardiveau, S. Bentaleb, P. Jeanney, F. Jorand, S. Pasquiers  
*International Journal of Plasma, Environmental Science and Technology*, 6 (2012) 130-134.

**Decomposition of acetaldehyde in atmospheric pressure filamentary nitrogen plasma**

O. Koeta, N. Blin-Simiand, W. Faider, S. Pasquiers, A. Bary, F. Jorand  
*Plasma Chemistry and Plasma Processing*, 32 (2012) 991–1023.  
DOI: 10.1007/s11090-012-9388-6

**Dynamics of colliding microplasma jets**

C. Douat, G. Bauville, M. Fleury, M. Laroussi, V. Puech  
*Plasma Sources Science and Technology*, 21 (2012) 034010 (8pp).  
DOI: 10.1088/0963-0252/21/3/034010

**Effect of oxygen percentage on the removal of acetaldehyde by dielectric barrier discharge**

O. Koeta, N. Blin-Simiand, S. Pasquiers, F. Jorand, A. Bary  
*International Journal of Plasma, Environmental Science and Technology*, 6 (2012) 227-232.

**Ethanol/Acetone mixtures conversion in air Dielectric Barrier Discharges**

S. Lovascio, N. Blin-Simiand, F. Jorand, P. Jeanney, S. Pasquiers  
*International Journal of Plasma, Environmental Science and Technology*, 6 (2012) 111-118.

**Exciplex emission induced by nanosecond-pulsed microdischarge arrays operating at high repetition rate frequency**

V. Martin, G. Bauville, M. Fleury, V. Puech  
*Plasma Sources Science and Technology*, 21 (2012) 065001 (9pp).  
DOI: 10.1088/0963-0252/21/6/065001

**On atmospheric-pressure non-equilibrium plasma jets and plasma bullets**

X. Lu, M. Laroussi, V. Puech  
*Plasma Sources Science and Technology*, 21 (2012) 034005 (17pp).  
DOI: 10.1088/0963-0252/21/3/034005

**Relevant factors affecting microbial surface decontamination by pulsed light**

C. Levy, X. Aubert, B. Lacour, F. Carlin  
*International Journal of Food Microbiology*, 152 (2012) 168–174.  
DOI: 10.1016/j.ijfoodmicro.2011.08.022

**Role of nitrogen metastable states in non-thermal plasma conversion of Volatile Organic Compounds**

S. Pasquiers, W. Faider, N. Blin-Simiand, L. Magne, P. Jeanney, F. Jorand  
*International Journal of Plasma, Environmental Science and Technology*, 6 (2012) 149-155.

✧ **Chapitres de livre**

**Décharges hors-équilibre à pression atmosphérique dans les milieux confinés ou alvéolaires**

P. Tardiveau, S. Pasquiers  
Chapitre II-1 du livre « Plasma et son environnement », p.115-136.  
Collection *Intégrations des savoirs et des savoir-faire* éditée par Publications MRCT-CNRS (2012). ISBN : 978-2-918701-09-5.

[DNA oxidation by reactive oxygen species produced at atmospheric pressure by microplasmas](#)

J. Santos Sousa, G. Bauville, B. Lacour, P-M. Girard, E. Sage, V. Puech, J-L. Ravanat *NATO Science for Peace and Security Series – A: Chemistry and Biology*. 2012. Machala Z., Hensel K., Akishev Y. (Eds.), Springer (ISBN 978-94-007-2909-4), chapitre 9, pages 107-119.

**Les Micro-décharges**

R. Dussart, A. Rousseau, P. Chabert, V. Puech, L. Pitchford, N. Sadeghi, T. Belmonte, C. Boisse-Laporte, E. Robert., dans « Plasma et son environnement ».

Collection *Intégrations des savoirs et des savoir-faire* éditée par Publications MRCT-CNRS (2012). ISBN : 978-2-918701-09-5.

✧ **Thèses**

**Etude du déclenchement de combustion de mélanges air-propane et air-heptane par décharge mono-impulsionnelle nanoseconde**

S. Bentaleb

Thèse soutenue le 6 juillet 2012 (direction P. Tardiveau, Univ. Paris-Sud).

✧ **Communications aux conférences internationales à comité de lecture**

- invitée **Cold atmospheric pressure plasma jets as sources of reactive oxygen species for biomedical applications**  
J. Santos-Sousa  
*21<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases*, 10-14 Juillet 2012, Viana do Castelo, Portugal.
- orale **Comparative study of air-propane and air-heptane mixtures ignition by nanosecond pulsed discharges**  
P. Tardiveau, S. Bentaleb, P. Jeanney, F. Jorand, S. Pasquiers  
*8<sup>th</sup> International Symposium on Non-Thermal/Thermal Plasma Pollution Control Technology and Sustainable Energy*, 25-29 juin 2012, Camaret, France.
- affiche **Effect of oxygen percentage on the removal of acetaldehyde by dielectric barrier discharge**  
O. Koeta, N. Blin-Simiand, S. Pasquiers, F. Jorand, A. Bary  
*8<sup>th</sup> International Symposium on Non-Thermal/Thermal Plasma Pollution Control Technology and Sustainable Energy*, 25-29 juin 2012, Camaret, France.
- orale **Ethanol/Acetone mixtures conversion in air Dielectric Barrier Discharges**  
S. Lovascio, N. Blin-Simiand, F. Jorand, P. Jeanney, S. Pasquiers  
*8<sup>th</sup> International Symposium on Non-Thermal/Thermal Plasma Pollution Control Technology and Sustainable Energy*, 25-29 juin 2012, Camaret, France.
- affiche **Ethanol decomposition in air dielectric barrier discharges : experimental study and kinetic modeling**  
S. Lovascio, N. Blin-Simiand, L. Magne, F. Jorand, P. Jeanney, S. Pasquiers  
*XXI<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases*, 10-14 juillet 2012, Viano do Castelo, Portugal.
- affiche **Influence of electrode positions and gas flow on the onset and propagation of an atmospheric pressure plasma**  
C. Douat, G. Bauville, M. Fleury, V. Puech  
*65<sup>th</sup> Gaseous Electronics Conference*, 22-26 octobre 2012, Austin, USA.
- affiche **Microdischarge arrays as sources of intense ultraviolet radiation**  
V. Martin, G. Bauville, V. Puech  
*39<sup>th</sup> IEEE International Conference on Plasma Science*, 8-12 Juillet 2012, Édimbourg, GB.

- orale **Nanosecond pulsed arrays of microdischarges as sources of UV-C emission at 222 nm**  
V. Martin, G. Bauville, V. Puech  
*XIX<sup>th</sup> International Conference on Gas Discharges and Their Applications*, 2-7 septembre 2012, Pékin, Chine.
- affiche **Plasmid DNA degradation induced by a plasma microjet**  
C. Douat, P-M. Girard, M. Fleury, G. Beauville, V. Puech  
*4<sup>th</sup> International Conference on Plasma Medicine*, 17-21 juin 2012, Orléans, France.
- orale **Plasma-generated reactive oxygen species for biomedical applications**  
J. Santos Sousa, H. Tresp, M. Dünnbier, S. Iséni, M. U. Hammer, J. Winter, V. Martin, V. Puech, K-D. Weltmann, S. Reuter  
*4<sup>th</sup> International Conference on Plasma Medicine*, 17-21 juin 2012, Orléans, France.
- orale **Plasma-generated reactive oxygen species for biomedical applications**  
J. Santos Sousa, M. Hammer, J. Winter, H. Tresp, M. Duennbier, S. Iseni, V. Martin, V. Puech, K. Weltmann, S. Reuter  
*65<sup>th</sup> Gaseous Electronics Conference*, 22-26 octobre 2012, Austin, USA.
- affiche **Production of methyl nitrate and PAN following the decomposition of acetaldehyde in atmospheric gases**  
O. Koeta, S. Pasquiers, N. Blin-Simiand, A. Bary, F. Jorand  
*XXI<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases*, 10-14 juillet 2012, Viano do Castelo, Portugal.
- orale **Propagation of point-to-plane nanosecond discharges across thin dielectric membranes**  
P. Le Delliou, P. Tardiveau, P. Jeanney, S. Pasquiers  
*XIX<sup>th</sup> International Conference on Gas Discharges and Their Applications*, 2-7 septembre, Pékin 2012, Chine.
- affiche **Real-time analysis of acetaldehyde conversion by dielectric barrier discharge**  
H. Latappy, O. Koeta, N. Blin-Simiand, M. Heninger, H. Mestdagh, S. Pasquiers  
*XXI<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases*, 10-14 juillet 2012, Viano do Castelo, Portugal.
- affiche **Role of nitrogen metastable states in non-thermal plasma conversion of organic compounds (HC, VOC)**  
S. Pasquiers, W. Faider, N. Blin-Simiand, L. Magne, P. Jeanney, F. Jorand  
*8<sup>th</sup> International Symposium on Non-Thermal/Thermal Plasma Pollution Control Technology and Sustainable Energy*, 25-29 juin 2012, Camaret, France.
- orale **The effects of a helium based RF microplasma with small additions of O<sub>2</sub>, Ar and N<sub>2</sub> on plasmid DNA**  
L. Cox, W. Graham, J. Santos-Sousa, D. O'Connell, T. Gans  
*39<sup>th</sup> IEEE International Conference on Plasma Science*, 8-12 Juillet 2012, Édimbourg, GB.
- invitée **Ultra-short pulsed corona discharges under strong overvoltage for ignition and air treatment**  
P. Tardiveau  
*39<sup>th</sup> IEEE International Conference on Plasma Science*, 8-12 Juillet 2012, Édimbourg, GB.

## ✦ Communications aux conférences nationales

- invitée **Cinétique de dissociation d'hydrocarbures en plasma de gaz atmosphériques**  
N. Blin-Simiand, S. Pasquiers  
*Journée thématique du GFC : Procédés d'allumage*, 5 avril 2012, IFP Energies Nouvelles, Rueil-Malmaison, France.

2011

✧ **Articles dans les revues internationales à comité de lecture**

**Experimental and numerical study of the propagation of a discharge in a capillary tube in air at atmospheric pressure**

J. Jansky, P. Le Delliou, F. Tholin, P. Tardiveau, A. Bourdon, S. Pasquiers  
*Journal of Physics D : Applied physics*, 44 (2011) 335201 (12pp).  
DOI: 10.1088/0022-3727/44/33/335201

**Filamentation of a nanosecond pulse corona discharge in air-propane mixtures at atmospheric pressure**

S. Bentaleb, P. Tardiveau, N. Moreau, P. Jeanney, F. Jorand, S. Pasquiers  
*IEEE Transactions on Plasma Science*, 39 (2011) 2236-2237.  
DOI: 10.1109/TPS.2011.2159401

**Interaction between two counter-propagating plasma bullets**

C. Douat, M. Fleury, M. Laroussi, V. Puech  
*IEEE Transactions on Plasma Science*, 39 (2011) 2298-2299.  
DOI: 10.1109/TPS.2011.2109740

**Microplasmas as vacuum ultraviolet source for Cl-atom density measurements by resonance absorption spectroscopy**

V. Martin, G. Bauville, N. Sadeghi, V. Puech  
*Journal of Physics D : Applied Physics* 44 (2011) 435203 (7pp).  
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**Nanosecond pulsed discharges phenomenology in micrometer sized radially confined air gap**

P. Le Delliou, P. Tardiveau, P. Jeanney, G. Bauville, S. Pasquiers  
*IEEE Transactions on Plasma Science*, 39 (2011) 2686-2687.  
DOI: 10.1109/TPS.2011.2147335

**Nanosecond pulsed arrays of microdischarges in argon**

V. Martin, G. Bauville, V. Puech  
*IEEE Transactions on Plasma Science*, 39 (2011) 2678-2679.  
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**N<sub>2</sub>(A) as the source of excited species of N<sub>2</sub>, N and O in a flowing afterglow of N<sub>2</sub>/NO mixture at atmospheric pressure**

A. Pointu, G. Stancu  
*Plasma Sources Science and Technology*, 20 (2011) 025005 (11pp).  
DOI: 10.1088/0963-0252/20/2/025005

**Pressure effects in the spatial development of Micro-Cathode Sustained Discharges in rare-gas oxygen mixtures**

J. Santos Sousa, V. Puech  
*IEEE Transactions on Plasma Science*, 39 (2011) 2680-2681.  
DOI: 10.1109/TPS.2011.2157838

**Point-to-plane discharge on an anisotropic ceramic-matrix composite layer at atmospheric pressure**

H. Nizard, P. Jeanney, S. Bentaleb, B. Drazenovic, P. Tardiveau, S. Pasquiers  
*IEEE Transactions on Plasma Science*, 39 (2011) 2188-2189.  
DOI: 10.1109/TPS.2011.2145393

**Propagation of an air discharge at atmospheric pressure in a capillary glass tube : influence of the tube radius on the discharge structure**

J. Jansky, P. Le Delliou, F. Tholin, Z. Bonaventura, P. Tardiveau, A. Bourdon, S. Pasquiers  
*IEEE Transactions on Plasma Science*, 39 (2011) 2106-2107.  
DOI: 10.1109/TPS.2011.2160561

## ▣ Thèses

### **Décharge nanoseconde dans l'air et en mélange air/propane, Application au déclenchement de combustion**

N. Moreau

Thèse soutenue le 1er juillet 2011 (direction S. Pasquiers, CNRS).

### **Etude de microdécharges comme source de rayonnement ultraviolet intense**

V. Martin

Thèse soutenue le 8 décembre 2011 (direction V. Puech, CNRS).

## ▣ Communications aux conférences internationales à comité de lecture

- affiche **Decomposition of acetaldehyde in atmospheric pressure filamentary nitrogen plasma**  
O. Koeta, W. Faider, N. Blin-Simiand, S. Pasquiers, A. Bary, F. Jorand  
*XXX<sup>th</sup> International Conference on Phenomena in Ionized Gases*, 28 août-2 septembre 2011, Belfast, GB.
- invitée **DNA oxidation by reactive oxygen species produced at atmospheric pressure by microplasmas**  
J. Santos-Sousa, G. Bauville, B. Lacour, P-M. Girard, E. Sage, V. Puech, J-L. Ravanat  
*NATO Advanced Research Workshop*, 15-18 mars 2011, Demänovska Dolina, Slovaquie.
- affiche **Development of pulsed discharges inside narrow cavities and their interaction with dielectric surfaces**  
P. Le Delliou, P. Tardiveau, P. Jeanney, G. Bauville, S. Pasquiers  
*XXX<sup>th</sup> International Conference on Phenomena in Ionized Gases*, 28 août-2 septembre 2011, Belfast, GB.
- affiche **Development stages of plasma bullets**  
E. Karakas, C. Douat, M. A. Akman, V. Puech, M. Laroussi  
*20<sup>th</sup> International Symposium on Plasma Chemistry*, 24-29 juillet 2011, Philadelphie, USA.
- affiche **DNA oxidation by reactive oxygen species produced at atmospheric pressure by microplasmas**  
P-M. Girard, J. Santos Sousa, G. Bauville, V. Puech, J-L. Ravanat, E. Sage  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.
- affiche **Dynamics of the plasma development in microdischarge arrays excited by DC or nanosecond high voltage pulses**  
V. Martin, G. Bauville, V. Puech  
*XXX<sup>th</sup> International Conference on Phenomena in Ionized Gases*, 28 août-2 septembre 2011, Belfast, GB.
- affiche **Generation of reactive oxygen species in kHz-driven atmospheric pressure plasma jets for biomedical applications**  
J. Santos Sousa, Q. Algwari, K. Niemi, V. Puech, T. Gans, D. O'Connell  
*NATO Advanced Research Workshop*, 15-18 mars 2011, Demänovska Dolina, Slovaquie.
- affiche **Ignition of N<sub>2</sub>/O<sub>2</sub>/C<sub>3</sub>H<sub>8</sub> mixtures by a single nanosecond pulsed discharge at atmospheric pressure**  
S. Bentaleb, P. Tardiveau, N. Moreau, F. Jorand, S. Pasquiers  
*20<sup>th</sup> International Symposium on Plasma Chemistry*, 24-29 juillet 2011, Philadelphie, USA.
- affiche **Influence of molecular additives on the propagation of plasma bullets generated by a microjet**  
C. Douat, M. Fleury, V. Puech  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.
- affiche **Interaction between two counter-propagating plasma bullets**  
C. Douat, M. Fleury, M. Laroussi, V. Puech  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.

- orale **Kinetics analysis of acetaldehyde removal by non-thermal plasmas of atmospheric gases**  
W. Faider, S. Pasquiers, N. Blin-Simiand, P. Jeanney, F. Jorand, L. Magne  
*20<sup>th</sup> International Symposium on Plasma Chemistry*, 24-29 juillet 2011, Philadelphie, USA.
- affiche **KrCl emission generated by microplasma arrays**  
V. Martin, G. Bauville, V. Puech  
*64<sup>th</sup> Gaseous Electronics Conference*, 14-18 novembre 2011, Salt Lake City, USA.
- affiche **Micro Hollow Cathode Discharge in Ar/Cl<sub>2</sub> mixture as a VUV source for Cl-atom density measurements by resonance absorption**  
V. Martin, G. Bauville, N. Sadeghi, V. Puech  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.
- orale **Microplasma generation of high fluxes of singlet delta oxygen at atmospheric pressure**  
J. Santos-Sousa, G. Bauville, B. Lacour, V. Puech  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.
- orale **Physical properties of colliding microplasma bullets**  
C. Douat, G. Bauville, M. Fleury, M. Laroussi, V. Puech  
*64<sup>th</sup> Gaseous Electronics Conference*, 14-18 novembre 2011, Salt Lake City, USA.
- invitée **Single pulsed corona discharges for ignition at high pressure and low temperature - Discharge physics and plasma kinetics**  
P Tardiveau, S. Pasquiers  
*Aerospace Thematic Workshop Fundamentals of Aerodynamic Flow and Combustion Control by Plasmas*, 27 mars–1er avril 2011, Les Houches, France.
- affiche **Study of the interaction between two counter-propagating plasma bullets**  
C. Douat, M. Fleury, M. Laroussi, V. Puech  
*XXX<sup>th</sup> International Conference on Phenomena in Ionized Gases*, 28 août-2 septembre 2011, Belfast, GB.
- affiche **TALIF measurements of atomic oxygen in an atmospheric pressure microplasma optimized for singlet delta oxygen production**  
L. Magne, J. Santos-Sousa, G. Bauville, P. Jeanney  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.
- orale **Velocity and structure of an air corona discharge propagating in micrometer size tubes**  
P. Tardiveau, P. Le Delliou, P. Jeanney, G. Bauville, F. Jorand, S. Pasquiers  
*VI<sup>th</sup> International Workshop on Microplasmas (IWM6)*, 3-6 avril 2011, Paris, France.

## ✧ Communications aux conférences nationales

- affiche **Conversion de l'éthanol par DBD dans l'air**  
S. Lovascio, N. Blin-Simiand, L. Magne, S. Pasquiers, N. Mericam-Bourdet, M.. Kirkpatrick, E. Odic, F. Tuvache, D. Frochot  
*12<sup>ème</sup> congrès de la Division Plasmas de la Société Française de Physique*, 22-24 mai 2012, Orléans.



2010

✧ **Articles dans les revues internationales à comité de lecture**

**Detailed Characterization of 2-Heptanone Conversion by Dielectric Barrier Discharge in N<sub>2</sub> and N<sub>2</sub>/O<sub>2</sub> Mixtures**

A. Chipier, N. Blin-Simiand, M. Heninger, H. Mestdagh, P. Boissel, F. Jorand, J. Lemaire, J. Leprovost, S. Pasquiers, G. Popa, C. Postel  
*Journal of Physical Chemistry A*, 114 (2010) 397-407.  
DOI: 10.1021/jp907295d

**DNA oxidation by singlet delta oxygen produced by atmospheric pressure microdischarges**

J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J-L. Ravanat  
*Applied Physics Letters*, 97 (2010) 141502 (3pp).  
DOI: 10.1063/1.3499362

**Electron impact ionization cross-sections of n-heptane**

J-R. Vacher, F. Jorand, N. Blin-Simiand, S. Pasquiers  
*International Journal of Mass Spectrometry*, 295 (2010) 78-84.  
DOI:

**Heating effects of a non equilibrium RF corona discharge in atmospheric air**

F. Auzas, P. Tardiveau, V. Puech, M. Makarov, A. Agneray  
*Journal of Physics D : Applied Physics*, 43 (2010) 495204 (7pp).  
DOI: 10.1016/j.ijms.2010.07.013

**Propane dissociation in a non-thermal high pressure nitrogen plasma**

N. Moreau, S. Pasquiers, N. Blin-Simiand, L. Magne, F. Jorand, C. Postel, J-R. Vacher  
*Journal of Physics D : Applied Physics*, 43 (2010) 285201 (14pp).  
DOI: 10.1088/0022-3727/43/28/285201

**Study of an atmospheric pressure flowing afterglow in N<sub>2</sub>/NO mixture and its application to the measurement of N<sub>2</sub>(A) concentration**

A-M. Pointu, E. Mintusov, P. Fromy  
*Plasma Sources Science and Technology*, 19 (2010) 015018 (10pp).  
DOI: 10.1088/0963-0252/19/1/015018

✧ **Thèses**

**Microplasma generation of high fluxes of singlet delta oxygen at atmospheric pressure for biomedical applications**

J. Santos Sousa  
Thèse soutenue le 15 décembre 2010 (direction V. Puech, CNRS).

✧ **Communications aux conférences internationales à comité de lecture**

- affiche **Cylindrical flame kernel and flame propagation induced in air-propane mixtures by a single corona discharge**  
S. Bentaleb, P. Tardiveau, N. Moreau, F. Jorand, S. Pasquiers  
*6<sup>th</sup> International Workshop and Exhibition on Plasma Assisted Combustion (IWE PAC)*, 13-15 septembre 2010, Heilbronn am Neckar, Allemagne.
- affiche **Energy release of a nanosecond pulse corona discharge in atmospheric air-propane mixtures for ignition purposes**  
S. Bentaleb, P. Tardiveau, N. Moreau, F. Jorand, S. Pasquiers  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.

- affiche **Influence of molecular additives on the propagation of plasma bullets generated by microjets**  
C. Douat, M. Fleury, V. Puech  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- affiche **Investigation of the development of a pulsed positive discharge in micrometer size confined dielectric geometries**  
P. Le Delliou, P. Tardiveau, P. Jeanney, F. Jorand, S. Pasquiers  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- affiche **Kinetic of propane in homogeneous high pressure low temperature plasmas of atmospheric gases**  
S. Pasquiers, N. Blin-Simiand, L. Magne, P. Jeanney, F. Jorand  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- affiche **Measure of N<sub>2</sub>O density in a high pressure homogeneous air plasma using laser absorption spectroscopy in the infrared**  
W. Faider, P. Jeanney, L. Magne, S. Pasquiers  
*20<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases (ESCAMPIG)*, 13-17 juillet 2010, Novi Sad, Serbie.
- invitée **Microplasma generation of reactive oxygen species for biological applications**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.-L. Ravanat  
*37<sup>th</sup> IEEE International Conference on Plasma Science*, 20-24 juin 2010, Norfolk, VA, USA.
- affiche **Microplasma generation of reactive oxygen species for DNA oxidation**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.-L. Ravanat  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- invitée **Microplasma sources of singlet oxygen for biomedical applications**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.-L. Ravanat  
*3<sup>rd</sup> International Conference on Plasma Medicine (ICPM-3)*, 19-24 septembre 2010, Greifswald, Allemagne.
- affiche **Nitrous oxide production-loss balance in non-thermal high pressure N<sub>2</sub>/O<sub>2</sub> plasmas and correlation with acetaldehyde removal**  
W. Faider, S. Pasquiers, P. Jeanney, L. Magne, N. Blin-Simiand, F. Jorand  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- affiche **Numerical modeling of the KrCl\* kinetics in pulsed discharges**  
V. Martin, L.-C. Pitchford, V. Puech  
*20<sup>th</sup> European Sectional Conference on Atomic and Molecular Physics of Ionized Gases (ESCAMPIG)*, 13-17 juillet 2010, Novi Sad, Serbie.
- affiche **Optical measurements of reactive oxygen species in atmospheric pressure plasma jets**  
J. Santos Sousa, V. Puech, Q. Algwari, L.J. Cox, K. Niemi, T. Gans, D. O'Connell  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- orale **Plasma kinetic involved in the removal of formaldehyde by a DBD discharge in mixtures of atmospheric gases**  
N. Blin-Simiand, S. Pasquiers, F. Jorand, L. Magne, C. Postel  
*7<sup>th</sup> International Symposium of Non-Thermal Plasma Technology for Pollution Control and Sustainable Development (ISNTPT-7)*, 21-25 juin 2010, St. Jones, Newfoundland, Canada .
- affiche **Removal of acetaldehyde by a dielectric barrier discharge: effect of temperature and oxygen percentage**  
O. Koeta, N. Blin-Simiand, S. Pasquiers, A. Bary, F. Jorand, C. Postel  
*12<sup>th</sup> International Symposium on High Pressure Low Temperature Plasma Chemistry (Hakone12)*, 12-17 septembre 2010, Trenčianske Teplice, Slovaquie.



- affiche **Removal of carbon based deposits using microplasma jets**  
S. Boyn, R. Clergereaux, F. Gaboriau, L. Pitchford, C. Douat, V. Puech  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- affiche **Role of nitrogen metastable states in the removal of formaldehyde by non-thermal high pressure N<sub>2</sub> and N<sub>2</sub>/O<sub>2</sub> mixture plasmas**  
N. Blin-Simiand, F. Jorand, L. Magne, S. Pasquiers  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- orale **Spectroscopic investigations of an atmospheric pressure microplasma source of singlet delta oxygen**  
J. Santos Sousa, G. Bauville, B. Lacour, P. Jeanney, L. Magne, V. Puech  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.
- orale **Time resolved propagation of a positive capillary discharge In air at atmospheric pressure**  
P.Le Delliou, P.Tardiveau, P.Jeanney, G.Bauville, F.Jorand, S.Pasquiers  
*18<sup>th</sup> International Conference on Gas Discharges and Applications*, 5-10 septembre 2010, Greifswald, Allemagne.
- orale **VUV light source based on Cl-atom emission produced by a microdischarge**  
V. Martin, G. Bauville, V. Puech  
*63<sup>th</sup> Gaseous Electronics Conference*, 4-8 octobre 2010, Paris, France.

## 2009

### ✧ **Articles dans les revues internationales à comité de lecture**

#### **Atmospheric pressure generation of singlet delta oxygen by microplasmas**

J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau  
*European Physical Journal : Applied Physics*, 47 (2009) 22807 (7pp).  
DOI: 10.1051/epjap/2009103

#### **Capillary microplasmas for ozone generation**

K. Hensel, Z. Machala, P. Tardiveau  
*European Physical Journal : Applied Physics*, 47 (2009) 22813 (5pp).  
DOI: 10.1051/epjap/2009077

#### **Diffuse mode and diffuse-to-filamentary transition in a high pressure nanosecond scale corona discharge under high voltage**

P. Tardiveau, N. Moreau, S. Bentaleb, C. Postel, S. Pasquiers  
*Journal of Physics D : Applied Physics*, 42 (2009) 175202 (11pp).  
DOI: 10.1088/0022-3727/42/17/175202

#### **Electron impact ionization of formaldehyde**

J.R. Vacher, F. Jorand, N. Blin-Simiand, S. Pasquiers  
*Chemical Physics Letters*, 476 (2009) p.178-181.  
DOI: 10.1016/j.cplett.2009.06.040

#### **OH kinetic in high-pressure plasmas of atmospheric gases containing C<sub>2</sub>H<sub>6</sub> studied by absolute measurement of the radical density in a pulsed homogeneous discharge**

L. Magne, S. Pasquiers, K. Gadonna, P. Jeanney, N. Blin-Simiand, F. Jorand, C. Postel  
*Journal of Physics D : Applied Physics*, 42 (2009) 165203 (17pp).  
DOI: 10.1088/0022-3727/42/16/165203

#### **OH kinetics in photo-triggered discharges used for VOCs conversion**

L. Magne, N. Blin-Simiand, K. Gadonna, P. Jeanney, F. Jorand, S. Pasquiers, C. Postel  
*European Physical Journal : Applied Physics*, 47 (2009) 22816 (9pp).  
DOI: 10.1051/epjap/2009093

#### **Oxidation of acetylene in atmospheric pressure pulsed corona discharge cell working in the nanosecond regime**

M. Redolfi, N. Aggadi, X. Duten, S. Touchard, S. Pasquiers, K. Hassouni  
*Plasma Chemistry and Plasma Processes*, 29 (2009) 173-195.  
DOI: 10.1007/s11090-009-9169-z

#### **Removal of formaldehyde in nitrogen and in dry air by a DBD : importance of temperature and role of nitrogen metastable states**

N. Blin-Simiand, S. Pasquiers, F. Jorand, C. Postel, J-R. Vacher  
*Journal of Physics D : Applied Physics*, 42 (2009) 122003 (5pp).  
DOI: 10.1088/0022-3727/42/12/122003

### ✧ **Thèses et HDR**

#### **Etude de la synthèse chimique de films minces de SiO<sub>2</sub> sur surface métallique par décharge à barrière diélectrique à pression atmosphérique**

V. Rohani  
Thèse soutenue le 20 janvier 2009 (direction V. Puech, CNRS).

#### **Caractérisation de décharges pulsées en milieu dense et inhomogène. Application au traitement de gaz et au déclenchement de combustion**

P. Tardiveau  
Habilitation à Diriger des Recherches (Univ. Paris-Sud), 13 novembre 2009.

## ☞ Communications aux conférences internationales à comité de lecture

- orale **Atmospheric pressure generation of singlet oxygen by arrays of microplasmas for DNA oxidation**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.-L. Ravanat  
*62<sup>nd</sup> Gaseous Electronics Conference*, 20-23 octobre 2009, Saratoga Springs, NY, USA.
- invitée **Microbiological efficiencies of excilamps and flash-lamps : comparison and perspectives**  
B. Lacour, X. Aubert, G. Bauville, F. Carlin, C. Levy, V. Martin, V. Puech, J. Santos Sousa  
*9<sup>th</sup> Atomic and Molecular Pulsed Laser*, 14-18 septembre 2009, Tomsk, Russie.
- affiche **Control of the energy deposited in a high voltage nanosecond discharge and combustion triggering in N<sub>2</sub>/O<sub>2</sub>/C<sub>3</sub>H<sub>8</sub> mixtures at atmospheric pressure**  
N. Moreau, S. Bentaleb, P. Tardiveau, C. Postel, S. Pasquiers  
*Aerospace Thematic Workshop "Fundamentals of Aerodynamic Flow and Combustion Control by Plasmas"*, 11-16 octobre 2009, Les Houches, France.
- affiche **Control of the energy deposited in a high voltage nanosecond discharge and combustion triggering in N<sub>2</sub>/O<sub>2</sub>/C<sub>3</sub>H<sub>8</sub> mixtures at atmospheric pressure**  
N. Moreau, S. Bentaleb, P. Tardiveau, C. Postel, S. Pasquiers  
*62<sup>nd</sup> Gaseous Electronics Conference*, 20-23 octobre 2009, Saratoga Springs, NY, USA.
- affiche **Diagnostic of N<sub>2</sub>(A) concentration in high velocity nitrogen afterglow at atmospheric pressure**  
A.-M. Pointu, E. Mintusov  
*62<sup>nd</sup> Gaseous Electronics Conference*, 20-23 octobre 2009, Saratoga Springs, NY, USA.
- affiche **Effect of temperature on the removal of formaldehyde and ethane by a dielectric barrier discharge in air**  
N. Blin-Simiand, O. Koeta, S. Pasquiers, A. Bary, F. Jorand, L. Magne, C. Postel  
*XIX<sup>th</sup> International Symposium on Plasma Chemistry*, 26-31 juillet 2009, Bochum, Allemagne.
- affiche **Hydrocarbon dissociation and OH radical production in high pressure plasmas of atmospheric gases with ethane or propane**  
N. Blin-Simiand, K. Gadonna, P. Jeanney, F. Jorand, L. Magne, N. Moreau, S. Pasquiers, C. Postel  
*Aerospace Thematic Workshop "Fundamentals of Aerodynamic Flow and Combustion Control by Plasmas"*, 11-16 octobre 2009, Les Houches, France.
- affiche **Microplasmas production of singlet oxygen at atmospheric pressure for DNA oxidation**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.-L. Ravanat  
*5<sup>th</sup> International Workshop on Fundamentals and Applications of Microplasmas*, mars 2009, San Diego, California, USA.
- orale **Observation of antibacterial effects obtained at atmospheric and reduced pressures in afterglow conditions**  
J. P. Sarrette, S. Cousty, N. Merbahi, A. Nègre-Salvayre, F. Clément, J. Santos Sousa, V. Puech  
*17<sup>th</sup> International Colloquium on Plasma Processes*, juin 2009, Marseille, France.
- affiche **Spectroscopic investigations of an atmospheric pressure singlet oxygen plasma source**  
J. Santos Sousa, G. Bauville, B. Lacour, P. Jeanney, L. Magne, V. Puech  
*62<sup>nd</sup> Gaseous Electronics Conference*, 20-23 octobre 2009, Saratoga Springs, NY, USA.
- affiche **Study of the 222 nm KrCl emission produced by nanosecond pulsed arrays of microdischarges**  
V. Martin, G. Bauville, B. Lacour, V. Puech  
*62<sup>nd</sup> Gaseous Electronics Conference*, 20-23 octobre 2009, Saratoga Springs, NY, USA.

## ✧ **Communications aux conférences nationales**

- invitée **Conversion des COV par plasmas froids et association à la catalyse**  
S. Pasquiers  
*Les composés organiques volatils : réduction, traitement, dispersion et mesure dans l'air.*  
Journée thématique transdisciplinaire du Pôle Climat Energie Environnement, Campus du Plateau de Saclay. Supelec, Gif-sur-Yvette, 29 mars 2010.
- invitée **Diagnostics lasers de la réactivité des plasmas froids : gaz atmosphériques à « haute » pression**  
L. Magne, S. Pasquiers  
*28<sup>ème</sup> journée thématique de l'Association Francophone de Vélocimétrie Laser.*  
CNRS Bellevue, Meudon, 18 novembre 2010.

## 2008

### ✧ **Articles dans les revues internationales à comité de lecture**

#### **Electrostatic instability of an AC driven discharge in dense air**

F. Auzas, M. Makarov, V. Puech, P. Tardiveau  
*IEEE Transactions on Plasma Science*, 36 (2008) 944-945.  
DOI: 10.1109/TPS.2008.924454

#### **ICCD Camera Imaging of Discharges in Porous Ceramics**

K. Hensel, P. Tardiveau  
*IEEE Transactions on Plasma Science*, 36 (2008) 980-981.  
DOI: 10.1109/TPS.2008.920887

#### **Microplasmas: physics and application to the production of singlet oxygen $O_2(a^1\Delta_g)$**

V. Puech  
*European Physical Journal: Applied Physics*, 42 (2008) 17-23.  
DOI: 10.1051/epjap:2007154

#### **Microplasmas as efficient generators of singlet delta oxygen** V. Puech, G. Bauville,

B. Lacour, J. Santos Sousa, L.C. Pitchford  
*Proceedings SPIE*, 7005 (2008) 527 (10pp).  
DOI: 10.1117/12.781830

#### **Nanosecond scale discharge dynamics in high pressure air**

P. Tardiveau, N. Moreau, F. Jorand, C. Postel, S. Pasquiers, P. Vervisch  
*IEEE Transactions on Plasma Science*, 36 (2008) 894-895.  
DOI: 10.1109/TPS.2008.917770

#### **Nitrogen atmospheric pressure post discharges for surface biological decontamination inside small diameter tubes**A-M. Pointu, A. Ricard, E. Odic, M.

Ganciu  
*Plasma Processes and Polymers*, 5 (2008) 559-568.  
DOI: 10.1002/ppap.200800016

#### **$O_2(a^1\Delta_g)$ production at atmospheric pressure by microdischarge**

J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, L.C. Pitchford  
*Applied Physics Letters*, 93 (2008) 011502 (3pp).  
DOI: 10.1016/j.ijms.2008.03.011

#### **Partial ionisation cross-sections of acetone and 2-butanone**

J-R. Vacher, F. Jorand, N. Blin-Simiand, S. Pasquiers  
*International Journal of Mass Spectrometry*, 273 (2008) 117-125.  
DOI: 10.1063/1.2957032

#### **Plasma reactivity and plasma-surface interactions during treatment of toluene by a dielectric barrier discharge**

N. Blin-Simiand, F. Jorand, L. Magne, S. Pasquiers, C. Postel, J-R. Vacher  
*Plasma Chemistry and Plasma Processes*, 28 (2008) 429-466.  
DOI: 10.1007/s11090-008-9135-1

#### **Study of the treatment's homogeneity in plasma assisted chemical vapour deposition by atmospheric pressure dielectric barrier discharge**V. Rohani, G.

Bauville, B. Lacour, V. Puech, F. D. Duminica, E. Silberberg  
*Surface Coatings Technology*, 203 (2008) 862-867.  
DOI: 10.1016/j.surfcoat.2008.06.135

## ☞ Chapitres de livre

### **Traitement de tôles d'acier au défilé par Décharge à Barrière Diélectrique (DBD) impulsionnelle**

V. Puech

dans *Plasmas Froids : Systèmes et procédés*, ed. T. Belmonte, Publications de l'Université de St-Etienne, (2008) pp.317-326. ISBN : 978-286272-477-5.

## ☞ Thèses

### **Caractérisation d'une décharge radiofréquence produite dans les gaz à pression élevée pour le déclenchement de combustion**

F. Auzas

Thèse soutenue le 10 décembre 2008 (direction V. Puech, CNRS).

## ☞ Communications aux conférences internationales à comité de lecture

- orale **Atmospheric pressure generation of high fluxes of singlet oxygen for biological application**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau, J.L. Ravanat  
*61<sup>st</sup> Gaseous Electronics Conference*, 13-17 octobre 2008, Dallas, TX, USA.
- orale **Atmospheric pressure generation of  $O_2(a^1\Delta_g)$  by microplasmas**  
J. Santos-Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau  
*11<sup>th</sup> International Symposium on High Pressure Low Temperature Plasma Chemistry (Hakone11)*, 7-12 septembre 2008, St.Pierre d'Oléron, France.
- affiche **By products issued from 2 heptanone conversion by DBD**  
S. Savy, N.Blin Simiand, F. Jorand, S. Pasquiers, C. Postel, A. Chipper, G. Popa, C. Dehon, M. Heninger, P. Boissel, J. Lemaire, H. Mestdagh  
*19<sup>th</sup> Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (ESCAMPIG)*, 15-19 juillet 2008, Granade, Espagne.
- affiche **Capillary microplasmas for ozone generation**  
K. Hensel, Z. Machala, P. Tardiveau  
*11<sup>th</sup> International Symposium on High Pressure Low Temperature Plasma Chemistry (Hakone11)*, 7-12 septembre 2008, St.Pierre d'Oléron, France.
- affiche **Experimental and theoretical investigations of singlet oxygen production by high pressure microdischarges**  
J. Santos Sousa, B. Eismann, S. Pancheshnyi, L.C. Pitchford, V. Puech  
*61<sup>st</sup> Gaseous Electronics Conference*, 13-17 octobre 2008, Dallas, TX, USA.
- affiche **Influence of the oxygen percentage on 2-heptanone removal efficiency by DBD**  
A. Chiper, N. Blin-Simiand, H. Mestdagh, M. Heninger, F. Jorand, S. Pasquiers, G. Popa  
*19<sup>th</sup> Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (ESCAMPIG)*, 15-19 juillet 2008, Granade, Espagne.
- affiche **Kinetic of the hydroxyl radical and propane conversion in  $N_2/O_2/(H_2O)$  high pressure plasmas**  
N. Moreau, N. Blin-Simiand, K. Gadonna, P. Jeanney, L. Magne, S. Pasquiers, C. Postel, P. Tardiveau  
*19<sup>th</sup> Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases (ESCAMPIG)*, 15-19 juillet 2008, Granade, Espagne.
- orale **Microplasmas as efficient generators of singlet delta oxygen**  
V. Puech, G. Bauville, B. Lacour, J. Santos-Sousa, L. C. Pitchford  
*7<sup>th</sup> High Power Laser Ablation*, 20-24 avril 2008, Taos, NM, USA.
- affiche **OH kinetics in photo-triggered discharges used for VOCs conversion**  
L. Magne, N. Blin-Simiand, K. Gadonna, P. Jeanney, F. Jorand, S. Pasquiers, C. Postel  
*11<sup>th</sup> International Symposium on High Pressure Low Temperature Plasma Chemistry (Hakone11)*, 7-12 septembre 2008, St.Pierre d'Oléron, France.

- orale **Plasma properties of microcathode sustained discharges in rare gases and in rare gas/O<sub>2</sub> mixtures**  
K. Makasheva, G. Hagelaar, J-P. Bœuf, J. Santos-Sousa, V. Puech, E. Munoz-Serrano, L. C. Pitchford  
*11<sup>th</sup> International Symposium on High Pressure Low Temperature Plasma Chemistry (Hakone11)*, 7-12 septembre 2008, St.Pierre d'Oléron, France.
- affiche **Plasma surface treatment with an atmospheric pressure dielectric barrier discharge**  
V. Rohani, G. Bauville, B. Lacour, V. Puech, D. Duminica, E. Silberberg  
*35<sup>th</sup> International Conference on Metallurgical Coating and Thin Film*, 28 avril-2 mai 2008, San Diego, CA, USA.
- orale **Pressure scaling effects on a nanosecond range diffuse discharge in air**  
P. Tardiveau, N. Moreau, C. Postel, S. Pasquiers  
*17<sup>th</sup> International Conference on Gas Discharges and their Applications*, 7-12 septembre 2008, Cardiff, GB.
- affiche **Removal of formaldehyde in air by homogeneous and filamentary pulsed discharges**  
N. Blin-Simiand, F. Jorand, L. Magne, S. Pasquiers, C. Postel  
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- affiche **Singlet oxygen production at atmospheric pressure by microplasmas**  
J. Santos Sousa, G. Bauville, B. Lacour, V. Puech, M. Touzeau  
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- orale **Steel surface treatment with an atmospheric pressure dielectric barrier discharge**  
V. Rohani, G. Bauville, B. Lacour, V. Puech, D. Duminica, E. Silberberg  
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- affiche **Steel surface coating with dielectric barrier discharge at atmospheric pressure**  
G. Bauville, V. Rohani, B. Lacour, V. Puech  
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## ✧ Communications aux conférences nationales

- affiche **Caractérisation des décharges nanosecondes à haute pression dans l'air**  
N.Moreau, P.Tardiveau, C.Postel, F.Jorand, S.Pasquiers  
*10<sup>ème</sup> congrès de la Division Plasmas de la Société Française de Physique*, 19-21 mai 2008, Paris.
- affiche **Conversion du toluène par Décharge à Barrière Diélectrique dans les mélanges N<sub>2</sub>/O<sub>2</sub> : sous-produits et mécanisme réactionnel**  
N.Blin-Simiand, F.Jorand, S.Pasquiers, C.Postel, J-R.Vacher  
*Cinétique des Plasmas : Recherches et Applications 3 (CiPRA3)*, 2-4 avril 2008, Le Havre.
- affiche **Conversion du toluène par Décharge à Barrière Diélectrique dans les mélanges N<sub>2</sub>/O<sub>2</sub> : rôles de la température et du radical hydroxyle**  
N.Blin-Simiand, F.Jorand, S.Pasquiers, C.Postel, J-R.Vacher  
*10<sup>ème</sup> congrès de la Division Plasmas de la Société Française de Physique*, 19-21 mai 2008, Paris.
- affiche **Décharge homogène et diagnostics spectroscopiques pour la validation de schémas cinétiques à haute pression**  
L.Magne, N.Blin-Simiand, K.Gadonna, P.Jeanney, F.Jorand, S.Pasquiers, C.Postel  
*Cinétique des Plasmas : Recherches et Applications 3 (CiPRA3)*, 2-4 avril 2008, Le Havre.

invitée **Production et réactivité du radical OH dans les mélanges N<sub>2</sub>/O<sub>2</sub>/(H<sub>2</sub>O)/HC - COV**  
S.Pasquiers, N.Blin-Simiand, K.Gadonna, P.Jeanney, F.Jorand, L.Magne, C.Postel  
*Cinétique des Plasmas : Recherches et Applications 3 (CiPRA3)*, 2-4 avril 2008, Le Havre.

affiche **Production et réactivité du radical hydroxyle dans les plasmas de mélanges N<sub>2</sub>/O<sub>2</sub>/Hydrocarbures ou Composés Organiques Volatils**  
L.Magne, N.Blin-Simiand, K.Gadonna, P.Jeanney, F.Jorand, S.Pasquiers, C.Postel  
*10<sup>ème</sup> congrès de la Division Plasmas de la Société Française de Physique*, 19-21 mai 2008, Paris.