



*CONNAISSANCES RÉCENTES SUR LES EFFETS
DES PERTURBATEURS ENDOCRINIENS
SUR L'ENVIRONNEMENT ET LA SANTÉ*

**RECENT ADVANCES ON THE ENVIRONMENTAL
AND HEALTH EFFECTS OF ENDOCRINE
DISRUPTERS**



10 Décembre. December 10th

8H00 - *Accueil. Welcome*

9H00

Introduction au colloque international PNRPE 2012.

BATHO Delphine, *Ministre de l'écologie, du développement durable et de l'énergie. France*

MORTUREUX Marc, *Directeur général de l'agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (Anses). France*
Introduction to the PNRPE international conference.

BATHO Delphine, *Minister of the ecology, sustainable development and energy. France*

MORTUREUX Marc, *Director-General. French agency for food, environmental and occupational health & safety. Anses. France*

Session 1

Effets sanitaires et mécanismes d'action des perturbateurs endocriniens

Health effects and action mechanisms of endocrine disrupters

Modérateurs – Chairpersons: OLEA Nicolas (Espagne) ; BOURGUIGNON Jean-Pierre (Belgique)

9H30

Conférence plénière. *Perturbateurs endocriniens et Cancers hormono-dépendants : risques potentiels et mécanismes.*

Plenary conference. *Endocrine Disruptors and hormone dependant cancers – potential risks and mechanisms.*

ROCHEFORT, Henri. *Inserm, Université de Montpellier. Montpellier, France*

10H05

Communications orales. Oral communications

Biological levels of PCBs measured at diagnosis or during puberty and risk of breast cancer: a population, based study in France. **BACHELET, D.** *Inserm, U1018-CESP. Villejuif, France*

Hepatic thyroid hormone transport and thyroid hormone metabolism interplay might be involved in fipronil-induced disruption of thyroid homeostasis. **ROQUES, B.** *Inra, UMR1331-Toxalim, Centre de recherche en toxicologie alimentaire. Toulouse, France*

Is there a relationship between exposure to endocrine disruptors (EDs) and development of enamel pathologies? **JEDEON, K.** *Inserm, UMRS 872- Centre de Recherche des Cordeliers, Laboratoire de Physiopathologie Orale Moléculaire. Paris, France*

Submandibular salivary gland as an endocrine disruptor target: impact of the period of genistein/vinclozolin exposure in the Rat. *KOUIDHI, W.* Inra, UMR 1324-Centre des sciences du gout et de l'alimentation. Dijon, France

11H05 - *Pause café et visite de posters.* Coffee break and poster session

11H25 *Conférence plénière. Obésogènes, cellules souches et programmation de l'obésité durant le développement.*

Plenary conference. Obesogens, Stem Cells and the Developmental programming of obesity.

BLUMBERG, Bruce. Department of Development and Cell Biology, University of California. Irvine, USA

12H00 *Communications orales. Oral communications*

Dietary phytoestrogens and human health. *BENNETAU-PELISSERO, C.* Inserm, U862 - Equipe physiopathologie de la mémoire déclarative, Neurocentre Magendie. Université de Bordeaux. Bordeaux, France

Perinatal exposure to low doses of bisphenol A impairs oral tolerance and immune sensitization to food antigens in offspring rats at adulthood. *MENARD, S.* Inra, UMR 1331-Groupe Neuro-gastroenterologie et nutrition, Toxalim. Toulouse, France

Pregnancy urinary phenol concentrations in relation to postnatal growth of male offspring. *BOTTON, J.* Inserm, U1018, CESP, Team Epidemiology of diabetes, obesity and renal disease: lifelong approach. Villejuif, France

12H45 - *Déjeuner et visite de posters.* Lunch and poster session

Suite session 1. Session 1 next

Modérateurs - Chairpersons : FASANO Silvia (Italie), SLAMA Rémy (France)

14H00 *Conférence plénière. Exposition précoce à des mélanges de perturbateurs endocriniens et comportement de l'enfant autistique de 4-5 ans.*

Plenary conference. Gestational Exposure to Endocrine Disrupting Chemicals and Autistic Behaviors in 4-5 Year old Children.

BRAUN Joseph. Department of Epidemiology Center for Environmental Health and Technology, Brown University. Providence, USA

14H35 *Communications orales. Oral communications*

Genetic study of the mechanisms underlying bisphenol A (BPA) effects on the male nervous system: a behavioral, neuroanatomical and neuroendocrine characterization of perinatal *versus* adult exposure to low doses of BPA. *PICOT, M.* CNRS, UMR 7224, Université Pierre et Marie Curie. Paris, France

The free/conjugated bisphenol A ratio in feto-placental compartment: a key parameter determining Bisphenol A prenatal exposure. *CORBEL, T.* Inra, UMR1331, Toxalim, Centre de recherche en toxicologie alimentaire. Toulouse, France

Screening estrogenic activities of chemicals on brain aromatase *in vivo* using transgenic tg(cyp19a1b-GFP) zebrafish embryo. *BRION, F.* Ineris. Verneuil-en-Halatte. France

Structural and molecular basis for disruption of nuclear estrogen receptor signaling by bisphenols. *DELFOSSSE, V.* Inserm U1054, CNRS UMR 5048- Centre de Biochimie Structurale, Universités Montpellier 1&2. Montpellier, France

15H35 - *Pause café et visite de posters. Coffee break and poster session*

16H10 *Conférence plénière. L'exposition aux perturbateurs endocriniens peut-elle avoir des conséquences transgénérationnelles pour la santé ?*

Plenary conference. Could the exposure to endocrine disruptors have transgenerational consequences for human health?

PAOLONI-GIACOBINO Ariane. Department of Genetic, University of Geneva, Medical School. Geneva, Switzerland

16H45 *Communications orales. Oral communications*

Environmental levels of bisphenol A, genistein and vinclozolin feminize digit length ratios in male rats: towards a new sensitive indicator of prenatal endocrine disruption and its Impact in the progeny. *AUGER, J.* Service d'histologie-embryologie, Biologie de la reproduction, Hôpital Cochin. Paris, France

Individual and population-level responses of honeybee (*Apis mellifera*) to endocrine disruptors. *DEVILLERS, J.* CTIS. Rillieux La Pape, France

How endocrine disruptors have become objects of research and government ? A comparison between the United-States and France. *JAS, N.* Inra Unité Ritms. Ivry-sur-Seine, France

11 Décembre. December 11th

8H30 - *Accueil. Welcome*

Table Ronde. Panel discussion with stakeholders

Connaissances scientifiques récentes : de possibles évolutions de la réglementation

New scientific information on EDs: possible changes in regulation

9H00 *Introduction à la table ronde :*

RIVASI, Michèle. Députée Européenne, membre de la commission Environnement, santé publique et sécurité alimentaire du Parlement européen

KORYTAR Peter. Commission européenne, DG-environnement, Chemicals, biocides et nanomatériaux

Introduction to panel discussion:

RIVASI Michèle. MEP, member of environment, public health and food safety Committee of European Parliament.

KORYTAR Peter. European Commission, DG-environnement - Chemicals, biocides and nanomaterials

9H30 *Participants à la table ronde. Participants :* Direction Générale de la Prévention des Risques du Ministère en charge du Développement Durable (DGPR); Direction générale de la santé du Ministère en charge de la santé (DGS); KORYTAR, Peter. DG-environnement ; LASFARGUES, Gérard. Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (Anses); LEVY, Patrick. Médecin conseil de l'Union des industries chimiques (UIC); MAURER, Sylvia. Bureau européen des consommateurs (BEUC); RIVASI, Michèle. Députée européenne; RUFFINENGO, Elisabeth. Femmes en Europe pour un avenir commun (WECF); SLAMA Rémy, Président du conseil scientifique du PNRPE

Session visite des posters. Poster Session

11H00 *Discussion avec les membres du Comité scientifique*

Poster discussion with members of scientific committee

Session 2

Outils, approches et incertitudes **Tools, approaches and uncertainties**

Modérateurs - Chairpersons: GARRIC Jeanne (France), JÉGOU Bernard (France)

12H00 *Conférence plénière. Les perturbateurs endocriniens : controverses et incertitudes en matière de caractérisation du danger et d'évaluation du risque pour la santé humaine.*

Plenary conference. Endocrine-disrupting chemicals (EDCs): controversial issues and uncertainties in terms of hazard characterization and risk assessment for human health.

CRAVEDI, Jean-Pierre. Inra. Toulouse, France

12H35 *Communication orale. Oral communications*

Concerns about the use of rodent models for evaluation of human risk assessment of the endocrine disruptors. **HABER, R.** Laboratoire de Développement des Gonades, Inserm U967-CEA&Université Paris Diderot. Paris, France

12H50 - Déjeuner, Session Posters. Lunch and poster session.

14H00 *Conférence plénière. Des outils moléculaires pour avancer dans la compréhension des impacts des perturbateurs endocriniens chez le poisson.*

Plenary conference. Application of molecular tools for advancing understanding on the impacts of endocrine disruptors chemicals in fish.

TYLER, Charles. University of Exeter. Exeter, UK

14H35 *Communications orales. Oral communications*

Generation of stable transgenic medaka lines to study endocrine-disruption of corticosteroid signaling pathway. **TERRIEN, X.** Inra-LPGP, Campus Universitaire de Beaulieu. Rennes, France

Mammalian-like metabolism of xenobiotics in developing *Xenopus Laevis*. **FINI, JB.** UMR CNRS 7221, Museum national d'histoire naturelle. Paris, France

Endocrine-disruptive compounds mixture have persistent reprotoxic effects on gastropod snails at environmentally relevant concentrations. **GUST, M.** IRSTEA, UR MAEP, Laboratoire d'écotoxicologie. Lyon, France

Effects of tributyltin (TBT) and triphenyltin (TPT) on the reproduction of the freshwater snail *Lymnaea stagnalis*. **LAGADIC, L.** Inra, Ecotoxicologie et qualité des milieux aquatiques, UMR985 Ecologie et sante des écosystèmes, Agrocampus Ouest. Rennes, France

15H35 – Pause café. Coffee Break

Session 3

Expositions aux perturbateurs endocriniens

Exposure to endocrine disrupters

Modérateurs - Chairperson: *CORDIER Sylvaine*(France), *VAIMAN Daniel* (France)

- 16H00** **Conférence plénière.** *Attention au décalage - peut-on expliquer les effets anti-androgéniques sur la base d'expositions à des produits chimiques connus ?*
Plenary conference. Mind the gap – can we explain antiandrogenic effects on the basis of exposures to known chemicals?
KORTENKAMP, Andreas. Institute for the Environment, Brunel University. Uxbridge, UK
- 16H35** **Communications orales.** **Oral communications**
 EDC mixtures consisting of individual chemical doses at NOAEL cause adverse effects: Is a new paradigm for risk assessment needed? *HASS, U.* National food institute, Technical university of Denmark, Division of toxicology and risk assessment. Søborg, Denmark
 Cumulative exposures to indoor semi-volatile organic compounds: grouping chemicals for the derivation of “multi-pollutants” toxicity reference values. *FOURNIER, K.* EHESP-School of public health. Rennes, France
 Première caractérisation des perturbateurs endocriniens dans l'air intérieur et extérieur en France. *CHEVREUIL, M.* EPHE-UMR 7619 Sisyphe, Université Pierre et Marie Curie. Paris. France
- 17H20** **Conclusions**
Ministère de l'Ecologie du Développement Durable et de l'Energie/Anses.
French Ministry of sustainable development/Anses



Posters

Session P1

Effets sanitaires et mécanismes d'action des perturbateurs endocriniens

Health effects and mechanisms of action of endocrine disruptors

- PS1-1 Opposing dose related effects of neonatal DES and BPA exposure on the timing of female sexual maturation through neuroendocrine disruption. *FRANSSEN, D.* Development neuroendocrinology unit, GIGA Neurosciences, University of Liege, CHU Sart-Tilman. Liège, Belgium
- PS1-2 Une exposition prénatale par un mélange environnemental d'organochlorés diminue la fertilité mâle et modifie le développement embryonnaire chez le rat. *MAURICE, C.* Centre de recherche en biologie de la reproduction, Université Laval. Québec, Canada
- PS1-3 Bisphenol A, genistein and vinclozolin: three endocrine disruptors which differentially affect the mammary gland in rats; critical window of exposure. *EL SHEIKH SH.* Inserm U965, UFR Médecine, Hôpital Lariboisière; Université Paris 7. Paris, France
- PS1-4 International geographic correlation study of the prevalence of disorders of the male reproductive health. *SERRANO T.* Inserm, U1085, Institut de recherche sante environnement&travail, Université de Rennes 1. Rennes, France
- PS1-5 Endocrine disruptors target chondrogenesis *in vivo*. *AUXIETRE, TA.* Inserm UMR-S 747, Université Paris Descartes. Paris, France
- PS1-6 Endocrine disruptors target Collagen type 2 maturation in chondrocytes *in vitro*. *AUXIETRE, TA.* Inserm UMR-S 747, Université Paris Descartes. Paris, France
- PS1-7 Antiproliferative and proapoptotic effects of bisphenol A on human trophoblastic JEG-3 cells. *DIEUDONNE, MN.* UPRES-EA 2493, Service de biochimie et biologie Moléculaire, Université de Versailles-St-Quentin. St-Quentin-en-Yvelines, France

- PS1-8 Estrogens and alkylphenols promote proliferation of the seminoma-like TCam-2 cell line through ER α 36-dependent pathways. *AJJ, H.* EA4421, Signalisation, Génomique et recherche translationnelle en oncologie, Faculté des Sciences et Technologies, Université Lorraine. Vandoeuvre-lès-Nancy, France
- PS1-9 Induction of Intracellular Calcium Concentration by Environmental Benzo(a)pyrene Involves a β_2 -Adrenergic Receptor/Adenylyl Cyclase/Epac-1/Inositol 1,4,5-Trisphosphate Pathway in Endothelial Cells. *MAYATI, A.* Inserm, U1085/Irset, IFR140, Université de Rennes 1. Rennes, France
- PS1-10 Genomic analyses of the effects of PCB-DL and PCB-non DL short term exposures in mice. *MESNIER, A.* IMBE-UMR, CNRS 7263&IRD 237. Agroparc. Avignon, France
- PS1-11 Phorbol ester-modulation of estrogenic genomic effects triggered by the environmental contaminant benzantracene. *KOLASA, E.* Institut de recherches en santé, environnement et travail (Irset), UMR Inserm U1085, Université de Rennes 1, Faculté de Pharmacie. Rennes, France
- PS1-12 Structural and mechanistic insights into the activation of PPAR γ by environmental ligands. *BALAGUER, P.* Institut de recherche en cancérologie de Montpellier. Montpellier, France
- PS1-13 Evaluation des mécanismes d'action toxiques et des perturbations hormonales induits par le di(2-ethylhexyl)phtalate (DEHP) et le monoethylhexylphtalate (MEHP) sur un modèle de cellules placentaires humaines. *WAKX, A.* Chimie-Toxicologie Analytique et Cellulaire (EA 4463), Université Paris Descartes, Faculté de Pharmacie. Paris, France
- PS1-14 Effect of three endocrine disruptors, bisphenol A, vinclozolin and genistein, on Kallikrein 4 expression. *MARCIANO, C.* Inserm UMRS 872, Laboratoire de physiopathologie orale moléculaire, Centre de recherche des Cordeliers. Paris, France
- PS1-15 Toxicological impact of imidacloprid on rat thyroid hormones. *SAADI, L.* Biology department, Faculty of agro-veterinary and biology sciences, SAAD DAHLAB University. Blida, Algeria
- PS1-16 Effets à long terme de la mycotoxine zearalenone sur le développement pathologique de tissus hormono-dépendants : testicule, prostate, glande mammaire. *BENAHMED, M.* Inserm, U1065, Centre méditerranéen de médecine moléculaire (C3M), Team 5. Nice, France
- PS1-17 Effects of prenatal and lactational exposure to polychlorinated biphenyls on neurogenesis and neurotrophin expression in mouse dentate gyrus. *PINSON, A.* Developmental neuroendocrinology unit, GIGA Neurosciences, University of Liège, CHU. Liège, Belgium

- PS1-18 Perinatal exposure to Low doses PBDE targets adrenal gland in developing rat. *BENACHOUR N.* Department of pediatry, Faculty of medicine and health sciences, University of Sherbrooke. Quebec, Canada
- PS1-19 Food contaminants worsened metabolic disorders in the progeny of obese mice - evidence for gender differences. *NAVILLE, D.* Inserm U1060-Inra USC 1235 (CarMeN), Faculté de médecine Lyon-Sud. Lyon, France
- PS1-20 Exposure to low doses mixtures of endocrine disruptors modifies adipocyte differentiation. *COSTANZO C.* Inra-Toxalim, UMR1331. Toulouse, France
- PS1-21 Bisphenol A and obesity: urinary levels in obese children. *NICOLUCCI, C.* Seconda università di Napoli, Dipartimento di medicina sperimentale. Napoli, Italia
- PS1-22 Environmental chemicals induce lipid accumulation in adipocytes. *TAXVIG, C.* National food institute, Technical university of Denmark, Division of Toxicology and Risk Assessment. Søborg, Denmark
- PS1-23 Cocktail effect of environmental pollutants on the energetic metabolism of colon cancer cells. *PERRIERE C.* Inserm UMR-S747, Université Paris Descartes. Paris, France
- PS1-24 Study of the effect of persistent organic pollutant mixtures on energetic metabolism in human hepatic cells. *LEBLANC A.* Inserm UMR-S747, Université Paris Descartes, Pres- Sorbonne Paris Cité. Paris, France
- PS1-25 CIME. An integrative and multidisciplinary PNRPE project on chronic impact of ED mixture exposure at environmental low doses on reproduction, development and behavior. *CANIVENC-LAVIER, MC.* Inra UMR 1324, Centre des sciences du Gout et de l'Alimentation. Dijon, France
- PS1-26 Effects of genistein, vinclozolin and BPA on the proliferation and differentiation of a human salivary cell line – CIME project. *DAHBI, L.* Agrosup, Inserm UMR 866. Dijon, France
- PS1-27 Differential effects of perinatal, prepubertal or conception to adulthood exposures to a low dose mixture of genistein and vinclozolin on the genital tract and fertility of male rats and their unexposed progeny. *EUSTACHE, F.* Service d'Histologie-Embryologie-Cytogénétique, Biologie de la reproduction, Hôpital Jean Verdier. Bondy, France
- PS1-28 Effects of BPA and endocrine disruptor mixtures on development and taste preferences in the non-exposed F2 offspring Wistar rats. *BOUDALIA, S.* Université de Bourgogne, UMR 1324, Centre des sciences du Goût et de l'Alimentation. Dijon, France
- PS1-29 Effets d'une exposition orale en bisphenol A sur la préférence au salé et la structure de la glande sous-mandibulaire chez le rat mâle adulte. *FOLIA, M.* CHU de Dijon, Hôpital Général. Dijon, France

- PS1-30 Effects of bisphenol A and its substitutes on the proliferation and differentiation in Caco-2 intestine cell model: MELBA project. *IVRY-DEL MORAL, L.* Nutox laboratory, Inserm, UMR866, Agrosup Dijon. Dijon France
- PS1-31 Is BPS, a good alternative to BPA? Metabolic effects of BPA and BPS in hepatocytes and adipocytes - Projet MELBA. *COSTANZO, C.* Inra-Toxalim, UMR1331. Toulouse, France
- PS1-32 Perinatal exposure to low doses of bisphenol A impairs immune homeostasis and promotes intestinal parasite infection in young rats. *MENARD S.* Team 04, Neuro-gastroenterology and Nutrition Group, UMR 1331 INRA Toxalim. Toulouse, France

Session P2

Outils, approches et incertitudes

Tools approaches and uncertainties

- PS2-1 Non-monotonic-dose-response relationships: plausibility and consequences for risk assessment. *LAGARDE, F.* Risk assessment department, French Agency for food, environmental and occupational health & safety (Anses). Maisons-Alfort, France
- PS2-2 An *in vivo* screen for monitoring genotoxicity of emerging pollutants. *VIVIEN C.* UMR 7221 – CNRS. Évolution des régulations endocriniennes, Département régulations développement et diversité moléculaire, Muséum national d'histoire naturelle. Paris, France
- PS2-3 Development of a physiologically based pharmacokinetic model for bisphenol A: prediction of equivalent doses from various routes of exposure in mouse. *EMOND, C.* University of Montreal, Department of Environmental and Occupational Health. Quebec, Canada
- PS2-4 Mapping geographical environmental databases with past residence of patients, a first step to track endocrine disruptors in childhood type 1 diabetes. *BAKER, D.* Epidémiologie, systèmes d'information, modélisation, UMR 707, UPMC & Inserm. Paris, France
- PS2-5 Bio-monitor *Xenopus* for metabolically relevant, physiological screening of thyroid disruption. *FINI, JB.* UMR 7221 – CNRS. Evolution des régulations endocriniennes, Département RDDM, Muséum national d'histoire naturelle. Paris, France

- PS2-6 Low doses of bisphenol A are anti-androgenic for the fetal testis in human but not in rat and mouse. *N'TUMBA-BYN, T.* Laboratoire de développement des gonades, Inserm U967-CEA-Université Diderot-Paris 7. Fontenay-aux-roses, France
- PS2-7 New OECD guidelines for mollusc reproductive toxicity tests: results of the pre-validation study with *Lymnaea stagnalis*. *DUCROT, V.* Inra, Ecotoxicologie et qualité des milieux aquatiques, UMR985 Ecologie et Sante des Ecosystèmes, Agrocampus Ouest. Rennes, France
- PS2-8 Qualitative uncertainty analysis in chemical risk assessment. *MAXIM, L.* Institut des sciences de la communication, CNR, UPS 3088. Paris, France
- PS2-9 Metrological controverses and endocrine disruptors. Low doses as a boundary object. *CHATEAURAYNAUD, F.* GSPR – EHESS. Paris, France
- PS2-10 Perturbateurs endocriniens et politiques publiques : entre incertitudes, critique épistémologique et dispositifs de production d'ignorance. *VANDELAC, L.* Institut des sciences de l'environnement. Université du Québec. Montréal, Canada

Session P3

Expositions aux perturbateurs endocriniens

Exposure to endocrine disruptors

- PS3-1 Lack of national policy on endocrine disrupters and environmental exposure, making entire population vulnerable for dreaded diseases. *GUPTA, AK.* Department of Biotechnology, Maharishi Markandeshwar University. Mullana (Ambala), India
- PS3-2 Risk assessment of suspected endocrine disrupting chemicals in consumer products. *DURAND, E.* Risk assessment department, French agency for food, environmental and occupational health & safety (Anses). Maisons-Alfort, France
- PS3-3 Levels of environmental pollutants biomarkers in 296 parturient women. A pilot study of the Elfe longitudinal mother-child cohort. *GULDNER, L.* InVS. Saint-Maurice, France
- PS3-4 Evaluation des risques liés à une exposition cutanée au BPA via les tickets de caisse pour les travailleurs en caisse : comparaison des travaux existants et proposition d'amélioration. *ROTH, O.* Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (Anses). Maisons-Alfort, France

- PS3-5 Evaluate children exposure to endocrine disruptors in the diet: the infant total diet study approach. *HULIN, M.* French agency for food, environmental and occupational health & safety (Anses). Maisons-Alfort, France
- PS3-6 Systematic review of occupational and environmental exposures associated with the risk of testicular germ cell tumours. *LE CORNET, C.* Centre Léon Bérard, Unité cancer et environnement. Lyon, France
- PS3-7 Prenatal exposures to phenols and fetal growth estimated using repeated ultrasound measurements. *PHILIPPAT, C.* Inserm, Institut Albert Bonniot (U823), Team of environmental epidemiology applied to reproduction and respiratory health. Grenoble, France
- PS3-8 Protocoles d'échantillonnage et d'analyse de perturbateurs endocriniens dans l'air ambiant intérieur et extérieur aux locaux. *ALLIOT, F.* EPHE-UMR 7619 Sisyphe, Université Pierre et Marie Curie. Paris, France
- PS3-9 Cumulative indoor exposures to semi-volatile organic compounds in France (ECOS Project): measurements of endocrine disruptors in 30 French dwellings. *BLANCHARD, O.* EHESP-School of public health. Rennes, France
- PS3-10 Cumulative indoor exposures to semi-volatile organic compounds (SVOCs) in France: the ECOS project. *GLORENNEC, P.* EHESP-School of public health. Rennes, France
- PS3-11 Cumulative indoor exposures to semi-Volatile organic compounds (SVOCs) in France: contamination levels in thirty French schools. *LE BOT, B.* EHESP-School of public health/ Inserm-U1085, Research institute for environmental and occupational health (Irset). Rennes, France
- PS3-12 First characterization of the endocrine-disrupting potential of indoor and outdoor air contamination in France. *OZIOL, L.* UMR 8079 Ecologie systématique évolution, Université Paris-Sud 11. Châtenay-Malabry, France
- PS3-13 Chemical and toxicological assessments of anaerobic digesters removing EDCs. *BRAUN, F.* Inra, UR050, Laboratoire de biotechnologie de l'environnement. Narbonne, France

Comité Scientifique du colloque. Scientific Committee of the conference

JOUANNET, Pierre (Président) ; BAROUKI, Robert ; CERVANTÈS, Paulina ; CRAVEDI, Jean-Pierre ; EUSTACHE, Florence ; GARRIC, Jeanne ; LASFARGUES, Gérard ; LE MOAL, Joelle ; LÉVI, Yves ; SLAMA, Rémy.

Comité de Pilotage du colloque. Board Organization Committee of the conference

LACOUR, Céline (MEDDE-CGDD-DRI) ; MOULIN, Lionel (MEDDE-CGDD-DRI) ; SLAMA, Rémy (Président du Conseil scientifique du PNRPE) ; CERVANTÈS, Paulina (Anses) ; LASFARGUES, Gérard (Anses)

Comité local. Local organisation

BAILLEUL, Yoann ; DOMAIN, Isabelle ; LAURENT, Louis (Anses)

***Programme National de Recherche sur les Perturbateurs
Endocriniens (PNRPE).***

National Endocrine Disruptor Research Program (PNRPE)

Le PNRPE a pour objectif de soutenir des recherches fondamentales et appliquées en appui aux praticiens de l'action publique sur les questions de perturbation endocrinienne. Il est piloté par le ministère du développement durable (Commissariat général au développement durable, Direction de la recherche et de l'innovation) ; son animation scientifique a été confiée à l'Agence nationale de sécurité sanitaire de l'Alimentation, de l'environnement et du travail (Anses). Le colloque est organisé dans le cadre de cette animation.

Pour plus d'information : <http://www.pnrpe.fr>

The aim of the national endocrine disruptor research program (PNRPE) is to support fundamental and applied research for those involved in public action on endocrine disruption issues. The program is conducted and financed by the French Ministry of sustainable development (General sustainable development commission, Research and innovation division); the scientific coordination of the program is insured by the French agency for food, environmental and occupational health and safety (Anses).

Further information: <http://www.pnrpe.fr>





PROGRAMME
NATIONAL
DE RECHERCHE
SUR LES
PERTURBATEURS
ENDOCRINIENS



RÉPUBLIQUE FRANÇAISE



Ministère
de l'Écologie,
du Développement
durable
et de l'Énergie

anses
agence nationale de sécurité sanitaire
alimentation, environnement, travail

