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Bulletin de veille du réseau d'écotoxicologie terrestre et aquatique N°61

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Bulletin de veille du réseau d'écotoxicologie terrestre et aquatique

ECOTOX N° 61, Février 2023

Réalisé par l'équipe de veille sur la période du 1^{er} janvier au 28 février 2023.
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et Pascale Karmasyn-Veyrines (DipSO)

Edito

Voici notre 61^{ème} bulletin de veille, qui nous espérons toujours informatif !

Nous profitons de ce début d'année pour vous proposer un nouveau format pour notre bulletin. Les fiches thématiques sont désormais directement consultables et téléchargeables sur le site ECOTOX : <https://www6.inrae.fr/ecotox/Productions/Fiches-thematiques>.

Nous vous rappelons notre PCI pour la soumission de vos preprints : <https://ecotoxenvchem.peercommunityin.org/> Notre PCI monte en puissance.

N'oubliez pas de nous transmettre les informations que vous souhaitez diffuser, notamment vos publications que nous pourrions avoir oubliées. Nous rencontrons actuellement des soucis d'alertes WoS, il se peut que la liste des productions du réseau soit donc incomplète.

L'équipe vous souhaite une bonne lecture de ce bulletin !

Contact : veille-ecotox@inrae.fr

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- Colloque « Agriculture européenne sans pesticides chimiques en 2050 » [Paris 21 mars 2023]
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DROIT ET POLITIQUE DE L'ENVIRONNEMENT

- Lancement d'EcophytoPIC, le portail de référence de la protection intégrée des cultures pour produire autrement en limitant l'utilisation des produits phytosanitaires
- Funding call: Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties

REVUE DE PRESSE

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- [Conference Paris, May 2023 22-26] - Plastic Pollution INC-2
- PFAS exposure may increase diabetes risk in Latina adolescents (Environmental Factor, October 2021)
- Global wildlife contaminated by 'forever chemicals'
- La voiture électrique c'est mieux contre le climat, mais ça ne résout pas la pollution à ces substances toxiques
- Groundbreaking cross-country media investigation reveals thousands of sites contaminated by PFAS around Europe, adding further urgency to enact EU-wide ban on 'forever chemicals'

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- Herbicide - Les producteurs vent debout contre une interdiction du S-métolachlore.
- Despite Clear Evidence of Continuing Dicamba Pesticide Harm, EPA Makes Only Minor Changes to Its Approval
- Madame Borne, l'UE doit se doter d'un plan européen de réduction des pesticides et au plus vite !
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- Glyphosate Weed Killers Reduce Crop Yields and Hamper Climate Mitigation Efforts
- Harming Wildlife, Pesticides in Waterways Run into the Great Lakes Year-Round
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- Common Fungicide Adds to Growing List of Pesticides Linked to Gastrointestinal and Microbiome Damage
- UK government allows 'emergency' use of banned bee-harming pesticide
- Legal Case Opens To Stop Antibiotics in Citrus and Advance Organic, Given Resistant Bacteria Crisis
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- Soil and freshwater come under the spotlight in plastics-pollution fight
- Lutte contre les PFAS ou "polluants éternels" : le plan d'actions ministériel publié
- Safety tests of insecticides inadequate for bees
- New modelling study shows that most plastic debris on Seychelles beaches comes from far-off sources
- Buzz kill: Glyphosate weed-killer threatens bees in the EU, experts flag

- Study on pesticide toxicity in Germany calls for action
- Plastiques utilisés en agriculture et pour l'alimentation : une expertise scientifique collective INRAE-CNRS livrera ses résultats en 2024
- Project set to help Indo-Pacific region fight plastic pollution
- New open access database will better identify sources of plastic pollution

27/02/2023

Do pharmaceuticals affect microbial communities in aquatic environments? A review

Authors: Swiacka K, Maculewicz J, Kowalska D, Grace MR

Source: FRONTIERS IN ENVIRONMENTAL SCIENCE 10:1093920, 2023, DOI 10.3389/fenvs.2022.1093920

Abstract: Pharmaceuticals have been identified as a significant threat to the environment. [...] This paper reviews current developments related to the effects of pharmaceuticals on microorganisms with a particular focus on whole-community investigations, in both fresh and salt water. We a...

19/01/2023

Structural parameters of biofilm and bacterioplankton are better indicators of urbanization than photosynthetic functional parameters in low-order streams

Authors: Gorbaran R, Vilches C, Castro MCR et al.

Source: HYDROBIOLOGIA Early Access, DOI 10.1007/s10750-022-05110-5

Abstract: The aim of this study was to assess urbanization effects on microbial communities from low-order streams. Artificial substrata were placed upstream (control) and downstream (urban) of the cities of the selected streams. Photosynthetic parameters derived from chlorophyll-a fluorescence were measured using a

...

23/02/2023

Long-term plastic mulching decreases rhizoplane soil carbon sequestration by decreasing microbial anabolism

Authors: Li,YZ, Hou YT, Hou QM, Long M et al.

Source: Science of the Total Environment 868: 161713, DOI 10.1016/j.scitotenv.2023.161713

Abstract: Ridge-furrow with plastic mulching (RFPM) is a widely used agricultural practice in rain-fed farmlands. However, the impact of microbial related metabolism on soil organic carbon (SOC) is not fully understood. Amino sugar analysis, high-throughput sequencing, and high-throughput qPCR appr...

23/02/2023

Response of earthworms to microplastics in soil under biogas slurry irrigation: Toxicity comparison of conventional and biodegradable microplastics

Authors: Zhao YY, Jia HT, Deng H, Xing WZ et al.

Source: Science of the Total Environment 858: 160092, 2023, DOI 10.1016/j.scitotenv.2022.160092

Abstract: As a reliable environment-friendly alternative, biodegradable plastic mulching films have been introduced into agricultural practice to reduce the adverse threats posed by conventional plastic products. Information regarding whether potential untoward effects of biodegradable pla...

23/02/2023

Soil Bioplastic Mulches for Agroecosystem Sustainability: A Comprehensive Review

Authors: Abbate C, Scavo A, Pesce GR, Fontanazza S et al.

Source: Agriculture Basel 13(1): 197, 2023, DOI 10.3390/agriculture13010197

Abstract: The use of plastic mulch films is widespread in agriculture for specialty cropping systems because of several benefits. In this article, we critically review, for the first time under a holistic approach, the use of biodegradable plastic mulches (BdPMs) in soil as a sustainable alternative ...

23/02/2023

Proper Biochar Increases Maize Fine Roots and Yield via Altering Rhizosphere Bacterial Communities under Plastic Film Mulching

Authors: Sui YH, Wang YB, Xiao WX, Chang C et al.

Source: Agronomy Basel 13(1): 60, 2023, DOI 10.3390/agronomy13010060

Abstract: Biochar amendment is considered a sustainable agricultural strategy to improve crop yields. However, information on grain yield, fine roots and in relation to rhizosphere microbial communities in maize under plastic film mulching is very limited. Herein, biochar applied every 2 years (8.4 t ha⁻¹, B1) and ...

03/02/2023

Integrated effects of residual plastic films on soil-rhizosphere microbe-plant ecosystem

Authors: Fu F, Long BB, Huang Q, Li JJ et al.

Source: Journal of Hazardous Materials 445: 130420, 2022, DOI 10.1016/j.jhazmat.2022.130420

Abstract: Intensive application of low-density polyethylene mulch films has resulted in substantial accumulation of residual plastics in agricultural soil. Although considerable concerns have been raised on the residual plastic pollution, their impacts on the soil-rhizosphere microbe-plant ecosys...

03/02/2023

Biodegradability of polyethylene mulch film by *Bacillus paramycoides*

Authors: Wu H, Liu Q, Sun WX, Lu YH et al.

Source: Chemosphere 311(2): 136978, 2022, DOI 10.1016/j.chemosphere.2022.136978

Abstract: Discarded polyethylene (PE) mulch film has led to persistent agricultural pollution. Biodegradation of plastic waste is considered as a promising solution that can potentially overcome environmental and economic problems. In this study, a novel bacterium (*Bacillus paramycoides*) was isolated fro...

03/02/2023

Effects of residual mulching films with different mulching years on the diversity of soil microbial communities in typical regions

Authors: Xing JF, Wang X,F, Hu C, Wang, L et al.

Source: Heliyon 8(12): 12180, 2022, DOI 10.1016/j.heliyon.2022.e12180

Abstract: Polyethylene mulching film plays a critical role in agricultural production. To clarify the impact of residual film and microplastics on soil microorganisms, this study examined four cotton fields with different film coverage years in typical areas of Xinjiang and analyzed the changes in soil bacterial an...

19/01/2023

Cover crops offset recalcitrant soil organic carbon losses under plastic-film mulching by altering microbial functional genes

Authors: Lee JG, Chae HG, Das S, Kim GW et al.

Source: Biology and Fertility of Soils Early Access , 2022, DOI 10.1007/s00374-022-01691-4

Abstract: While cover crop residue (CR) incorporation offsets soil organic C (SOC) losses caused by plastic-film mulching (PFM), the microbial modulators and mechanisms of SOC accumulation remain poorly understood. Using functional gene microarray, soil enzyme activities, and soil density fractio...

19/01/2023

Role of polyamide microplastic in altering microbial consortium and carbon and nitrogen cycles in a simulated agricultural soil microcosm

Authors: Sun X, Tao RD, Xu DQ, Qu MJ et al.

Source: Chemosphere 312(1): 137155, 2022, DOI 10.1016/j.chemosphere.2022.137155

Abstract: Microplastics (MPs) are persistent organic pollutants globally, with a continuous increase in MP wastes near and away from the regions of human activities. Studies to date aimed to explore the impact of MPs on ecosystems, but the area of research could not go beyond environmental pollution caused by ...

19/01/2023

Microplastics distribution and microbial community characteristics of farmland soil under different mulch methods

Authors: Li NY, Qu JH, Yang JY

Source: Journal of Hazardous Materials 445: 130408, 2022, DOI 10.1016/j.jhazmat.2022.130408

Abstract: The widespread use of plastic film in agricultural production has resulted in the accumulation of large amounts of residual plastic film in the soil, and most of the plastic residuals eventually break up into microplastics (MPs). However, the effects of different film mulching methods on the soil ecos...

PESTICIDES ET SANTE DES AGRICULTEURS

16/01/2023

Characterization of multiple pesticide exposure in pregnant women in Brittany, France

Authors: Lejeune N, Mercier F, Chevrier C, Bonvallot N et al.

Source: JOURNAL OF EXPOSURE SCIENCE AND ENVIRONMENTAL EPIDEMIOLOGY, 2023, DOI 10.1038/s41370-022-00507-9

Abstract: France is one of the biggest users of pesticides in Europe and exposure to pesticides is a current concern, especially when it occurs early in life. The aim of this study was to assess the exposure of pregnant women in Brittany (western France) with high pes...

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13/01/2023

Contributions of nearby agricultural insecticide applications to indoor residential exposures

Authors: Madrigal JM, Gunier RB, Jones RR, Flory A et al.

Source: ENVIRONMENT INTERNATIONAL 171:107657, 2023, DOI 110.1016/j.envint.2022.107657

Abstract: Pesticide exposure has been associated with adverse health effects. We evaluated relationships between proximity to agricultural insecticide applications and insecticides in household dust, accounting for land use and wind direction. **Methods:** We measured concentrations (ng/g) of n...

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05/01/2023

Associations between residential proximity to agricultural land use as pesticides exposure and birth outcomes

Authors: Chen KC, Lee SF, Lin SW, Xie JS et al.

Source: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH 2023, DOI 10.1007/s11356-022-24571-8

Abstract: Pesticides are widely used globally. Due to their widespread use, exposure to pesticides is of concern. In addition to occupational exposure, residential exposure during pesticide application is a concern for those living in or near agricultural areas. The objective of this study was to...

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PUBLICATIONS DU RESEAU ECOTOX

23/02/2023

Early developmental toxicity of Atlantic salmon exposed to conventional and unconventional oils

Authors: Berube R, Garnier C, Lefebvre-Raine M, Gauthier C et al.

Source: Ecotoxicology and Environmental Safety 250: 114487, 2023, DOI 10.1016/j.ecoenv.2022.114487

Abstract: Atlantic salmon is an important species for Canadian culture and economy and its importance extends beyond Canada to Scandinavia and Western Europe. However, it is a vulnerable species facing decline due to habitat contamination and destruction. Existing and n...

23/02/2023

Virus-to-prokaryote ratio in spring waters along a gradient of natural radioactivity

Authors: Baker LA, Biron DG, Beauger A, Kolovi S, Colombet J et al.

Source: Hydrobiologia 2023, DOI 10.1007/s10750-023-05146-1

Abstract: Although a strong link between viruses and prokaryotes is commonly known to exist in aquatic systems, few studies have investigated their relationship in spring waters. In the French Massif Central, certain springs are known to exhibit varying levels of naturally occurring radioactivity. Therefore...

23/02/2023

The plasma membrane-associated cation-binding protein PCaP1 of Arabidopsis thaliana is a uranyl-binding protein

Authors: Vallet A, Martin-Laffon J, Favier A, Revel B et al.

Source: Journal of Hazardous Materials 446: 130668, 2023, DOI 10.1016/j.jhazmat.2022.130668

Abstract: Uranium (U) is a naturally-occurring radionuclide that is toxic to living organisms. Given that proteins are primary targets of U(VI), their identification is an essential step towards understanding the mechanisms of radionuclide toxicity, and possibly detoxification. Her...

23/02/2023

Impact of single and combined exposure to priority pollutants on gene expression and post-embryonic development in *Drosophila melanogaster*

Authors: Frat L, Chertemps T, Pesce E, Bozzolan F et al.

Source: Ecotoxicology and Environmental Safety 250: 114491, 2023, DOI 10.1016/j.ecoenv.2022.114491

Abstract: Many priority pollutants are concentrated in the environment due to human activity. Most are highly toxic to various organisms, including endocrine disruptors EDCs, aromatic polycyclic hydrocarbons PAHs, pesticides. While the effects of single and binary exposure have ...

23/02/2023

Applicability of OECD TG 201, 202, 203 for the aquatic toxicity testing and assessment of 2D Graphene material nanoforms to meet regulatory needs

Authors: Connolly M, Moles G, Carniel FC, Tretiach M et al.

Source: Nanoimpact 29: 100447, 2023, DOI 10.1016/j.impact.2022.100447

Abstract: Tests using algae and/or cyanobacteria, invertebrates (crustaceans) and fish form the basic elements of an ecotoxicological assessment in a number of regulations, in particular for classification of a substance as hazardous or not to the aquatic environment according to the Globally Harmonised ...

23/02/2023

Transcriptome sequencing of *Brassica napus* highlights the complex issues with soil supplementation with sewage sludge

Authors: Jaskulak M, Rostami S, Zorena K, Vandebulcke F

Source: Chemosphere 298: 134321, 2023, DOI 10.1016/j.chemosphere.2022.134321

Abstract: The soil supplementation with sewage sludge (SS) has become a widespread method to improve soil quality, but its long-term possible consequences are still relatively unknown. SS may contain several groups of contaminants to which the biological responses of the organisms are still poorly un...

23/02/2023

Fate of antimony contamination generated by road traffic - A focus on Sb geochemistry and speciation in stormwater ponds

Authors: Philippe M, Le Pape P, Resongles E, Landrot G (et al.)

Source: Chemosphere 313: 137368, 2023, DOI 10.1016/j.chemosphere.2022.137368

Abstract: Although antimony (Sb) contamination has been documented in urban areas, knowledge gaps remain concerning the contributions of the different sources to the Sb urban biogeochemical cycle, including non-exhaust road traffic emissions, urban materials leaching/erosion and waste incinerat...

23/02/2023

Plastic additives and microplastics as emerging contaminants: Mechanisms and analytical assessment

Authors: da Costa JP, Avellan A, Mouneyrac C, Duarte A et al.

Source: Trac-Trends in Analytical Chemistry 158: 116898, 2023, DOI 10.1016/j.trac.2022.116898

Abstract: Plastic additives comprise a plethora of substances that serve numerous purposes in the plastic industry. These can be used to assist the molding of plastics and can contribute to providing optimal performance to the material when molded and used, or, simply, to reduce...

03/02/2023

Time and dose-dependent impairment of liver metabolism in *Gasterosteus aculeatus* following exposure to diclofenac (DCF) highlighted by LC-HRMS untargeted metabolomics

Authors: Lebeau-Roche E, Daniele G, Fildier A, Bonnefoy C et al.

Source: Science of the Total Environment 858(1): 159801, 2023, DOI 10.1016/j.scitotenv.2022.159801

Abstract: Anthropogenic chemicals as emerging contaminants, such as pharmaceuticals, increased worldwide in the environment. This study aimed to apply metabolomics-based approaches on the fish model species three-spined stickleback (*Gasterosteus aculeatus*) exposed to dic...

03/02/2023

High contamination of a sentinel vertebrate species by azoles in vineyards: a study of common blackbirds (*Turdus merula*) in multiple habitats in western France

Source: Angelier F, Prouteau L, Brischoux F, Chastel O et al.

Source: Environmental Pollution 316(1): 120655, 2023, DOI 10.1016/j.envpol.2022.120655

Abstract: Azoles represent the most used family of organic fungicides worldwide and they are used in agriculture to circumvent the detrimental impact of fungi on yields. Although it is known that these triazoles can contaminate the air, the soil, and the water, field data are currently ...

03/02/2023

Uptake, distribution, and elimination of selenite in earthworm *Eisenia fetida* at sublethal concentrations based on toxicokinetic model

Authors: Wang RP, Yue SZ, Huang CD, Shen ZQ et al.

Source: Science of the Total Environment 858: 159632, 2023, DOI 10.1016/j.scitotenv.2022.159632

Abstract: Natural and anthropogenic causes have promoted the rapid increase in environmental selenium (Se) levels, and the complex Se metabolism and dynamic in organisms make it challenging to evaluate the toxicity and ecological risks. In this study, the kinetics of selenite in earthwo...

03/02/2023

Sublethal effects of pesticide residues differ between strains of captive Grey partridge: Consequences in terms of rearing conditions

Authors: Gaffard A, Loiseau C, Bretagnolle V, Pays O et al.

Source: Applied Animal Behaviour Science 257: 105791, 2022, DOI 10.1016/j.applanim.2022.105791

Abstract: Over the last 50 years, farmland bird populations have declined steeply in Europe and North America. Rein-troduction or reinforcement for populations unable to self-maintain are popular management tools to overcome extinction risk through captive rearing and release. Ho...

03/02/2023

The use of new approach methodologies for the environmental risk assessment of food and feed chemicals

Authors: Di Nicola MR, Cattaneo I, Nathanail AV, Carnesecchi E et al.

Source: Current Opinion in Environmental Science & Health 31: 100416, 2022, DOI 10.1016/j.coesh.2022.100416

Abstract: New Approach Methodologies (NAMs) provide tools for supporting both human and environmental risk assessment (HRA and ERA). This short review provides recent insights regarding the use of NAMs in ERA of food and feed chemicals. We highlight th...

03/02/2023

Ionizing radiation affects the demography and the evolution of *Caenorhabditis elegans* populations

Authors: Quevarec L, Reale D, Dufourcq-Sekatcheff E, Armant O et al.

Source: Ecotoxicology and Environmental Safety 249: 114353, 2022, DOI 10.1016/j.ecoenv.2022.114353

Abstract: Ionizing radiation can reduce survival, reproduction and affect development, and lead to the extinction of populations if their evolutionary response is insufficient. However, demographic and evolutionary studies on the effects of ionizing radiation are st...

03/02/2023

Evaluation of the accumulation of the iodinated contrast agents diatrizoic acid and iohexol in *Dreissena polymorpha* mollusks

Authors: Daniele G, Lafay F, Arnaudguilhem C, Mounicou S et al.

Source: Chemosphere 312(1): 137153, 2022, DOI 10.1016/j.chemosphere.2022.137153

Abstract: Mollusks are very sensitive to aquatic environmental alterations and then, are important bio-indicators for monitoring the contamination of water bodies. Iodinated X-ray contrast media (ICMs) are ubiquitously present in the aquatic environment, primarily due to their high consumpt...

19/01/2023

Adsorption of organochlorinated pesticides: Adsorption kinetic and adsorption isotherm study

Authors: Amutova F, Jurjanz S, Akhmetsadykov N, Kazankapova M et al.

Source: Results in Engineering 17: 100823, 2023, DOI 10.1016/j.rineng.2022.100823

Abstract: Adsorption of organochlorine pesticides (OCPs) on 4 contrasted activated carbons (ACs) and biochars (BCs) and 5 different basic substances of soil organic matter (SOM) in aqueous media was investigated using adsorption kinetic and isotherm study. This study was performed wi...

19/01/2023

Inter and intraspecific variability of dieldrin accumulation in *Cucurbita* fruits: New perspectives for food safety and phytomanagement of contaminated soils

Authors: Affholder MC, Cohen GJV, Gombert-Courvoisier S, Mench M

Source: Science of the Total Environment 859 Part1: 160512, 2022, DOI 10.1016/j.scitotenv.2022.160152

Abstract: Due to past agricultural practices, it is common to identify arable soils contaminated with persistent and potentially toxic organochlorine pesticides (OCPs). Occurrence of OCPs, including dieldrin, in vegetables can lead to chronic exposure of the consumers...

19/01/2023

Exposure to polyethylene microplastics alters immature gut microbiome in an infant in vitro gut model

Authors: Fournier E, Ratel J, Denis S, Leveque M et al.

Source: Journal of Hazardous Materials 443 PartB: 130383, 2022, DOI 10.1016/j.jhazmat.2022.130383

Abstract: Infants are characterized by an immaturity of the gut ecosystem and a high exposure to microplastics (MPs) through diet, dust and suckling. However, the bidirectional interactions between MPs and the immature infant intestinal microbiota remain unknown. Our study aims to...

19/01/2023

Identifying the impact of toxicity on stream macroinvertebrate communities in a multi-stressor context based on national ecological and ecotoxicological monitoring databases

Authors: Sarkis N, Geffard O, Souchon Y, Chandesris A et al.

Source: Science of the Total Environment 859(1): 2022, DOI 10.1016/j.scitotenv.2022.160179

Abstract: *In situ* bioassays are used to measure the harmful effects induced by mixtures of toxic chemicals in watercourses. In France, national-scale biomonitoring data are available including invertebrate surveys and in-field chemical toxicity measures with caged gammarids t...

19/01/2023

Accuracy of Computational Chemistry Methods to Calculate Organic Contaminant Molecular Properties

Authors: Bonnot K, Benoit P, Hoyau S, Mamy L et al.

Source: Chemistryselect 7(48): 202203586, 2022, DOI 10.1002/slct.202203586

Abstract: The quantitative structure activity relationship (QSAR) methodology has been developed and extensively used to predict unknown environmental data for compounds that have not been experimentally studied yet. QSAR is based on a large series of descriptors: such as the number of atoms, the number of ...

02/01/2023

Evidence of environmental transfer of tebuconazole to the eggs in the house sparrow (*Passer domesticus*): An experimental study

Authors: Bellot P, Brischoux F, Fritsch C, Goutte A et al.

Source: Chemosphere 308(3): 136469, 2022, DOI 10.1016/j.chemosphere.2022.136469

Abstract: Triazole compounds are among the most widely used fungicides in agroecosystems to protect crops from potential fungal diseases. Many farmland birds spend a significant part of their life cycle in agroecosystems, which may chronically expose them to pesticides. We experimentally tested ...

02/01/2023

Determination of biomarkers threshold values and illustration of their use for the diagnostic in large-scale freshwater biomonitoring surveys

Authors: Lepretre M, Geffard A, Ladeiro MP, Dedourge-Geffard O et al.

Source: Environmental Sciences Europe Volume34(1): 115, 2022, DOI 10.1186/s12302-022-00692-2

Abstract: Background: Several biomarkers developed from freshwater sentinel species are used to complement chemical assessment of freshwater ecosystems and improve the evaluation of their contamination levels. While active biomonitoring strategies allow to compare biolog...

02/01/2023

The effect of the main physicochemical properties of polycyclic aromatic hydrocarbons on their water/sediments distribution

Authors: Soukarieh B, Hamieh M, Halloum W, Budzinski H et al.

Source: International Journal of Environmental Science and Technology Early Access, 2022, DOI 10.1007/s13762-022-04661-3

Abstract: Polycyclic aromatic hydrocarbons (PAHs) are environmental contaminants that continue to attract researchers' attention until these days due to their toxicity and their multisource emission. In this study, levels of 17 active molecules of PAHs...

02/01/2023

Contrasting soil- and canopy-nurse effects in metalliferous systems may be explained by dominant plant functional strategies

Authors: Rande H, Michalet R, Nemer D, Sappin-Didier V et al.

Source: Journal of Applied Ecology Early Access, 2022, DOI 10.1111/1365-2664.14329

Abstract: Plant-plant interaction studies in metalliferous systems have focused either on the role of facilitation or on negative effects of elemental allelopathy. However, no studies have investigated both of these effects in the same system, and their relationships with the functional st...

02/01/2023

Enhanced database creation with in silico workflows for suspect screening of unknown tebuconazole transformation products in environmental samples by UHPLC-HRMS

Authors: Rocco K, Margoum C, Richard L, Coquery M

Source: Journal of Hazardous Materials 440: 129706, 2022, DOI 10.1016/j.jhazmat.2022.129706

Abstract: The search and identification of organic contaminants in agricultural watersheds has become a crucial effort to better characterize watershed contamination by pesticides. The past decade has brought a more holistic view of watershed contamination via the deployment of powerful analy...

OUVRAGES / RAPPORTS / ACTES DE CONGRES

20/02/2023

Nano- et micro-plastiques dans l'environnement: présence, effets et leur rôle comme cheval de Troie d'autres polluants

Projet de thèse par Celia Trujillo lacasa sous la direction de Ryszard Lobinski et de Francisco Laborda garcia - Pau

theses.fr

13/02/2023

Certain environmental pollutants increase the risk of developing COVID-19

High levels of certain chemical pollutants in the blood are associated with an increased risk of SARS-CoV-2 infection and COVID-19 disease, according to a study conducted by the Hospital del Mar Medical Research Institute (IMIM-Hospital de Mar), the Barcelona Institute for Global Health (ISGlobal), a centre supported by the "la Caixa" Foundation, and the University of Las Palmas, with support from CIBERs of Epidemiology and Public Health (CIBERESP), Obesity and Nutrition (CIBE...

www.eurekalert.org

07/02/2023

New insecticidal compounds remain effective against target species while reducing bee toxicity

Researchers at South China Agricultural University have developed new insecticidal compounds that show significantly reduced bee toxicity without reducing effectiveness against target pests – in this case, the diamondback moth and red imported fire ant.

Arylpyrazole insecticides such as fipronil display broad-spectrum insecticidal activity against insect pests, but their high toxicity to honeybees prohibits their agronomic use. In this study, published on 7 February in the SCI journal

www.eurekalert.org

19/01/2023

LMR de 2,4-D, d'azoxystrobine, de cyhalofopbutyl, de cymoxanil, de fenhexamide, de flzasulfuron, de florasulam, de fluroxypyr, d'iprovalicarbe et de silthiofam : rectificatif au règlement

Rectificatif au règlement (UE) 2022/1363 DE LA COMMISSION du 3 août 2022 modifiant l'annexe II du règlement (CE) n° 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus de 2,4-D, d'azoxystrob...

eur-lex.europa.eu

18/01/2023

LMR d'acéquinocyl présents dans ou sur certains produits : modification

RÈGLEMENT (UE) 2023/127 DE LA COMMISSION du 18 janvier 2023 modifiant l'annexe II du règlement (CE) n° 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus d'acéquinocyl présents dans ou sur ...

eur-lex.europa.eu

18/01/2023

LMR de béalaxyl, de bromoxynil, de chlorsulfuron, d'époxiconazole et de fénamiphos : annexes II, III et V modifiées

RÈGLEMENT (UE) 2023/128 DE LA COMMISSION du 18 janvier 2023 modifiant les annexes II, III et V du règlement (CE) n° 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus de béalaxyl, de bromo...

eur-lex.europa.eu

18/01/2023

LMR d'azoxystrobine, de prosulfocarbe, de sédaxane et de valifénalate : annexe II modifiée

RÈGLEMENT (UE) 2023/129 DE LA COMMISSION du 18 janvier 2023 modifiant l'annexe II du règlement (CE) n° 396/2005 du Parlement européen et du Conseil en ce qui concerne les limites maximales applicables aux résidus d'azoxystrobine, de prosulfocarbe, ...

eur-lex.europa.eu

AVIS / EXPERTISES / NORMES

28/02/2023

Peer review of the pesticide risk assessment of the active substance S-metolachlor excluding the assessment of the endocrine disrupting properties

The conclusions of the European Food Safety Authority (EFSA) following the peer review of the initial risk assessments carried out by the competent authorities of the rapporteur Member State Germany and co-rapporteur Member State France for the pes...

www.efsa.europa.eu

21/02/2023



Colloque « Agriculture européenne sans pesticides chimiques en 2050 » [Paris 21 mars 2023]

Colloque de restitution de la Prospective « Agriculture européenne sans pesticides chimiques en 2050 »

[...] La prospective Agriculture européenne sans pesticides chimiques en 2050 a été menée dans le cadre du Programme Prioritaire de Recherche « Cu...

ecophytopic.fr

16/01/2023

Autorisation de mise sur le marché des pesticides : Fortes disparités entre les dispositifs de prévention des conflits d'intérêts mis en place par les Etats membres de l'UE

Les disparités entre les 9 pays membres pourraient avoir de sérieuses conséquences sur le degré de protection apporté par ce processus communautaire pour les professionnels de l'agriculture, les riverains, les consommateurs et pour la biodiversité.

www.alerte-sante-environnement-deontologie.fr

DROIT ET POLITIQUE DE L'ENVIRONNEMENT

07/02/2023

Lancement d'EcophytoPIC, le portail de référence de la protection intégrée des cultures pour produire autrement en limitant l'utilisation des produits phytosanitaires

Le ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt ouvre EcophytoPIC, le premier portail de la protection intégrée des cultures dédié aux professionnels du secteur agricole.

agriculture.gouv.fr

13/01/2023

Funding call: Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties

Programme: Horizon Europe - Deadline: 13 April 2023

Scope

Endocrine disrupting chemicals (EDCs or endocrine disruptors) are of increasing importance in chemical regulations in the European Union. According to the Comprehensive European Union F...

www.efsa.europa.eu

REVUE DE PRESSE

28/02/2023

Pesticides : vers un nouveau plan Ecophyto qui sera vraiment performant ?

Hier, la Première Ministre, Elisabeth Borne a fait une déclaration sur les pesticides au Salon de l'Agriculture. Ses déclarations appellent une réaction de la part de Générations Futures.

Pesticides: anticipation du retrait de substances

L'...

www.generations-futures.fr

28/02/2023

[Conference - December 11-15 2023 - Nairobi] Plastic Pollution INC-3

The third meeting of the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment (Plastic Pollution INC-3), will take place in December 2023 at U...

saicmknowledge.org

28/02/2023

[Conference Paris, May 2023 22-26] - Plastic Pollution INC-2

The second meeting of the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment (Plastic Pollution INC-2), will take place in May 2023 in Paris...

saicmknowledge.org

25/02/2023

PFAS exposure may increase diabetes risk in Latina adolescents (Environmental Factor, October 2021)

Environmental pollutants known as "forever chemicals" may increase risk of type 2 diabetes in Latino girls, according to a new NIEHS-funded study by researchers from the University of Southern California (USC) Keck School of Medicine.

Chatzi ...

egreenews.com

24/02/2023

Global wildlife contaminated by 'forever chemicals'

From pandas to sea lions to tigers, hundreds of wildlife species across the globe are contaminated by potentially harmful "forever chemicals", according to a review of hundreds of peer-reviewed studies.

phys.org

23/02/2023

La voiture électrique c'est mieux contre le climat, mais ça ne résout pas la pollution à ces substances toxiques

Certains imaginent que le déploiement massif de véhicules électriques résoudra les problèmes de pollution liée au transport. Pas tout à fait, leur répondent aujourd'hui des chercheurs de l'Imperial College London (Royaume-Uni). Ils rappellent en ef...

www.futura-sciences.com

23/02/2023

Groundbreaking cross-country media investigation reveals thousands of sites contaminated by PFAS around Europe, adding further urgency to enact EU-wide ban on 'forever chemicals'

An unprecedented cross-country media investigation on per- and polyfluoroalkyl substances (PFAS) contamination around Europe – The Forever Pollution Project – was released today, revealing that more than 17,000 sites are contaminated by 'forever ch...

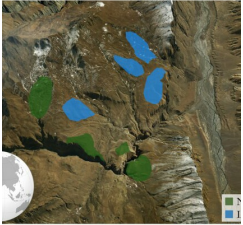
www.env-health.org

23/02/2023

Father's Exposure to Toxic Chemicals in the Workplace Increases Risk of Heart Disease in Infants

A father's exposure to occupational (work-related) chemicals, including pesticides, around the time of his partner's pregnancy, has an association with a higher risk of infant congenital heart defects (CHDs), according to a Japanese study published...

beyondpesticides.org



22/02/2023

Antibiotics in livestock dung 'harming soil quality'

Antibiotics used on livestock can impact microbes in the soil and negatively affect soil carbon, reducing resilience to climate change, claims a study conducted in India's trans-Himalayan region.

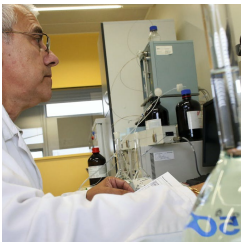
phys.org

22/02/2023

Restricting antibiotics for livestock could limit spread of antibiotic-resistant infections in people

A new study shows that a 2018 California bill banning routine antibiotic use in livestock is linked with reduction in some antibiotic-resistant infections.

www.eurekalert.org



21/02/2023

Pesticides dans l'eau du robinet : comment s'effectuent les contrôles en France ?

Une fois dispersés dans l'environnement, les pesticides peuvent entraîner la contamination des ressources servant à la production de l'eau du robinet.

theconversation.com



20/02/2023

Using biochar to remove antibiotics from wastewater

To feed the world's growing population, farmers need to grow a lot of crops. Crops need water to grow and thrive, and the water used to irrigate crops makes up an estimated 70% of global freshwater use. But many areas across the world are plagued b...

phys.org

20/02/2023

Pesticides : Le faux chiffre des « intoxications graves »

Durant la trêve des confiseurs, l'Agence Bio a ressorti un chiffre sur les « intoxications graves » provoquées par les pesticides provenant de l'association antipesticides PAN Europe. Pourtant, comme l'a confirmé Libération, « ce chiffre est entach...

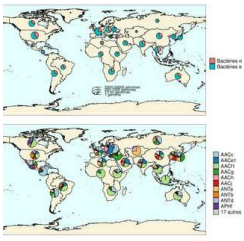
www.agriculture-environnement.fr

20/02/2023

NRDC Sues to Close Huge California Pesticide Loophole

After years of delay from California officials, NRDC's campaign to close a massive loophole in California pesticide law this week reached a critical tipping point. NRDC and our partners sued the California Department of Pesticide Regulation (DPR) t...

www.nrdc.org



17/02/2023

Comprendre les facteurs d'expansion des résistances antibiotiques pour mieux les freiner

L'émergence et la propagation des résistances et multirésistances antibiotiques constituent aujourd'hui une vraie crise de santé publique. Il est donc primordial de comprendre les facteurs qui favorisent et orientent la propagation des gènes de rés...

www.inee.cnrs.fr

16/02/2023

Herbicide - Les producteurs vent debout contre une interdiction du S-métolachlore.

L'agence française de sécurité sanitaire des aliments (Anses) vient de publier un avis favorable à l'interdiction du S-métolachlore. Mais plusieurs associations de producteurs expriment leur inquiétude face aux retraits successifs des molécules ess...

www.cultivar.fr

16/02/2023

Despite Clear Evidence of Continuing Dicamba Pesticide Harm, EPA Makes Only Minor Changes to Its Approval

Washington - Earlier today, the Environmental Protection Agency (EPA) issued its latest amendment to the registration of dicamba sprayed over-the-top of genetically engineered crops for the 2023 growing season. Despite admitting that massive dicamb...

www.centerforfoodsafety.org



16/02/2023

Madame Borne, l'UE doit se doter d'un plan européen de réduction des pesticides et au plus vite !

Le règlement européen sur l'utilisation des pesticides (SUR) n'a pas fini de provoquer du débat. Générations Futures se mobilise depuis plusieurs mois sur ce sujet afin que le Règlement avance et voit le jour sous la Commission européenne actuelle....

www.generations-futures.fr

15/02/2023

PFAS can suppress white blood cell's ability to destroy invaders

In a new study, researchers found that the PFAS chemical GenX suppresses the neutrophil respiratory burst – the method white blood cells known as neutrophils use to kill invading pathogens. The study is an important first step in understanding how bot...

www.eurekalert.org

15/02/2023

Glyphosate Weed Killers Reduce Crop Yields and Hamper Climate Mitigation Efforts

Glyphosate use in grassland pastures reduces crop yield and impedes climate change mitigation, finds two studies (1,2) published this month from the University of Turku, Finland. While massive public relations campaigns by the agrichemical industry...

beyondpesticides.org

14/02/2023

Harming Wildlife, Pesticides in Waterways Run into the Great Lakes Year-Round

The waterways that flow into the Great Lakes are experiencing year-round pesticide contamination that exceeds benchmarks meant to protect aquatic life, according to research published in Environmental Toxicology and Chemistry by scientists at the U...

beyondpesticides.org



14/02/2023

Unknowns Swirl Around How Plastic Particles Impact the Climate

Recent studies reveal that tiny pieces of plastic are constantly lofted into the atmosphere in larger amounts than scientists originally thought. These particles travel thousands of miles and can seed clouds — sometimes powerfully — which means they c...

undark.org

13/02/2023

Flemish government sued for better pesticide protection

Environmental and nature organisations sue the Flemish government in court over its pesticide policy. According to them, not only nature should be better protected, but also schools and rest homes. The case started on February 6 before the Brussels...

www.pan-europe.info

13/02/2023

Decades of conflict in Iraq have fuelled “catastrophic” rise in antibiotic resistance

Decades of wars and conflict in Iraq have led to a “catastrophic” rise in antibiotic resistance in the country, with serious implications for the entire region and the world, warn international experts in the open access journal *BMJ Glob...*

www.eurekalert.org

11/02/2023

Impact sanitaire des nanomatériaux

Les propriétés des nanomatériaux sont utilisées pour de multiples applications, telles que la pharmacie, l'aéronautique et les nouvelles technologies, où ils permettent d'améliorer l'efficacité de traitements médicaux ou d'accroître la compétitivité d...

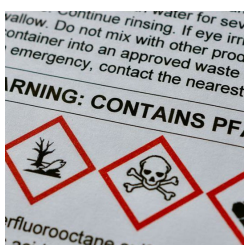
www.notre-environnement.gouv.fr

10/02/2023

Four Pesticides Restricted to Protect Salmon, Thousands of Other Endangered Species Imperiled

The U.S. Environmental Protection Agency (EPA) announced, on February 1, new measures to protect 28 endangered salmon species (including steelhead trout) from the use of four pesticides that threaten them and their critical habitats. Those compound...

beyondpesticides.org



09/02/2023

EU floats plan that would ban virtually every PFAS currently on the market

Members states will examine proposal to prohibit production, use, sale and import of PFAS into Europe in 2025

www.chemistryworld.com

09/02/2023

« Le problème des pesticides de synthèse est lié au développement d'un système alimentaire défaillant »

Les politiques d'accompagnement aux changements de pratiques agricoles sont indispensables mais insuffisantes, estime, dans une tribune au « Monde », l'élus rennais Ludovic Brossard, qui préconise de définir une « exception alimentaire à l'échelle euro...

www.lemonde.fr

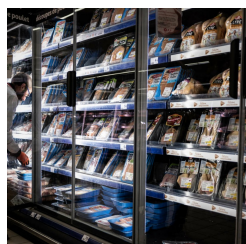


08/02/2023

Microplastics: are plastic alternatives any safer for our health?

Alternative food containers, such as those made of bioplastics, are being promoted as a way to reduce our exposure to plastic in food. But there is still a lack of knowledge around their impacts.

theconversation.com



07/02/2023

« Polluants éternels » : les Européens ouvrent la voie à une interdiction massive des PFAS

Le projet d'interdiction globale de ces composés chimiques ultratoxiques devrait être soumis par la Commission européenne aux Etats membres d'ici à 2025.

www.lemonde.fr

07/02/2023

Civil society groups demand a highly protective EU restriction on PFAS

The EU Chemicals Agency (ECHA) published the draft proposal for an EU-wide restriction on the production and uses of per- and polyfluoroalkyl substances (PFAS), starting a much needed process to restrict these 'forever chemicals'

www.env-health.org

07/02/2023

EU Commission to ban 3 very toxic pesticides: great, but what took so long?

The European Commission is proposing to ban two fungicides and one insecticide due to their high toxicity to human health and the environment. This ban is good news for human health and the environment, but it took far too long. In accordance with ...

www.pan-europe.info

07/02/2023

Pesticide Reform Bill Reintroduced in U.S. Senate, Advocates Call Changes Major But Not the Systemic Ones Needed

U.S. Senator Cory Booker (D-N.J.) reintroduced legislation last week to increase protections against exposure to toxic pesticides. The Protect America's Children from Toxic Pesticides Act of 2023 (PACTPA) eliminates many of the current problems wit...

beyondpesticides.org



06/02/2023

« Polluants éternels » : explorez la carte d'Europe de la contamination par les PFAS

Issue d'un travail inédit d'agrégation de données, cette carte permet de visualiser pour la première fois l'ampleur de la contamination de l'Europe par ces substances toxiques et persistantes.

www.lemonde.fr



05/02/2023

Upcycled plastic membrane helps clean up waste

Plant-derived biosolvents enable the sustainable conversion of plastic waste into valuable membrane materials.

www.eurekalert.org



03/02/2023

[Biodiversité] Pesticides dans les sites Natura 2000 : FNE et LPO attaquent l'Etat en justice

France Nature Environnement (FNE) et la Ligue pour la protection des oiseaux (LPO) attaquent de nouveau l'Etat en justice pour exiger une réduction drastique de l'usage des pesticides dans les zones Natura 2000, dédiées à la protection de la biodiversité...

www.terre-net.fr

03/02/2023

L'État attaqué sur la toxicité des pesticides : "Nous sommes les cobayes de l'industrie"

Nouveau recours contre l'État. Une trentaine d'organisations et 28 députés ont saisi jeudi 2 février le Conseil d'État afin d'ordonner au gouvernement de respecter la réglementation européenne en matière d'évaluation des pesticides. Celle-ci exige ...

www.novethic.fr

02/02/2023

Carences dans l'homologation des pesticides : Recours au CE de 30 ONG et 28 députés

CARENANCES DANS L'HOMOLOGATION DES PESTICIDES, TOXICITÉ DES PRODUITS AUTORISÉS SOUS-ÉVALUÉE : GENERATIONS FUTURES DÉPOSE UN RECOURS AU CONSEIL D'ÉTAT AVEC 29 ORGANISATIONS ET 28 DÉPUTÉS

Le 5 octobre 2022, Générations Futures avec 29 organisations...

www.generations-futures.fr



28/01/2023

Denmark to ban groundwater polluting fungicide - after 18 years of use

A fungicide that is used a lot in potato cultivation in Denmark is entering groundwater, a new study shows. The Danish authorities will now ban it, after almost 20 years of use.

"The case shows that the Danish authorisation system is not good enough t..."

www.pan-europe.info

26/01/2023

Règlement REACH sur les polluants chimiques : le réseau HEAL publie ses demandes

Le réseau européen HEAL, dont Générations Futures fait partie, publie ses demandes clés concernant la révision du règlement REACH, règlement qui a pour but d'encadrer l'autorisation et l'évaluation des polluants chimiques en Europe.

REACH en de...

www.generations-futures.fr

25/01/2023

Common Fungicide Adds to Growing List of Pesticides Linked to Gastrointestinal and Microbiome Damage

A study published in Food Safety and Toxicology finds that the widely used fungicide azoxystrobin (AZO), used in food production and turf management, can disrupt the function of the intestinal (colonic) barrier responsible for the absorption of nut...

beyondpesticides.org



24/01/2023

UK government allows 'emergency' use of banned bee-harming pesticide

by Amy Heley, The Pesticide Collaboration The government has announced that for the third year in a row, it will permit the use of the banned pesticide thiamethoxam – a type of neonicotinoid – on sugar beet in England in 2023. A single teaspoon of neo...

www.pan-uk.org

23/01/2023

Legal Case Opens To Stop Antibiotics in Citrus and Advance Organic, Given Resistant Bacteria Crisis

Oral arguments begin this week in a lawsuit challenging the U.S. Environmental Protection Agency's (EPA) approval of the antibiotic streptomycin as a pesticide on citrus crops. Brought forth by a coalition of farmworker, health, and environmental g...

beyondpesticides.org



22/01/2023

First research on impact of micro and nano plastics on human health in Croatia

A research team at Zagreb's Srebrnjak Children's Hospital will conduct the first national research on the impact of micro and nano plastics on children's health and the development of allergies, to involve more than 650 students in three Croatian regi...

n1info.ba



19/01/2023

Soil and freshwater come under the spotlight in plastics-pollution fight

Growing awareness of microplastics in the ground and in freshwater highlights the need to tackle an environmental threat generally associated with oceans.

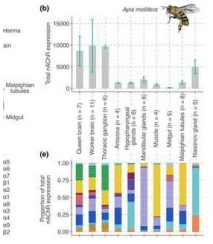
phys.org

19/01/2023

Lutte contre les PFAS ou "polluants éternels" : le plan d'actions ministériel publié

Le plan d'actions ministériel sur les PFAS, dits "polluants éternels", a été publié ce 17 janvier. Organisé autour de six axes d'actions, visant notamment à mieux connaître et quantifier la présence de ces substances dans l'environnement, il est criti...

www.banquedesterritoires.fr



18/01/2023

Safety tests of insecticides inadequate for bees

Queen Mary researchers have revealed unexpected variation in bee neural receptors, challenging current safety assessments of insecticides, which work by targeting these receptors.

phys.org

18/01/2023

New modelling study shows that most plastic debris on Seychelles beaches comes from far-off sources

A new modelling study shows that the Seychelles and other islands in the western Indian Ocean are not responsible for most of the plastic waste that accumulates on their beaches. Indonesia, India, and Sri Lanka were found to be the main sources of lan...

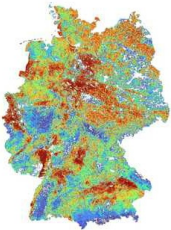
www.eurekalert.org

18/01/2023

Buzz kill: Glyphosate weed-killer threatens bees in the EU, experts flag

Bees might be at risk from contaminated glyphosate exposure via wildflower nectar, the active ingredient is most commonly used in weed killers from the EU. This is according to research conducted by Trinity College Dublin and Dublin City University...

www.foodingredientsfirst.com



17/01/2023

Study on pesticide toxicity in Germany calls for action

Pesticide risks in Germany have shown notable trends over the last 25 years, as a study of environmental scientists from the RPTU Kaiserslautern-Landau has recently found out. The risk for terrestrial vertebrates has decreased, whereas the risk for fi...

phys.org



17/01/2023

Plastiques utilisés en agriculture et pour l'alimentation : une expertise scientifique collective INRAE-CNRS livrera ses résultats en 2024

L'usage des plastiques se développe depuis les années 1950 du fait de leurs propriétés très intéressantes. Mais comme ils sont peu, ou pas, dégradables et donc très persistants dans l'environnement, les déchets plastiques s'accumulent tout au long ...

www.cnrs.fr

12/01/2023

Project set to help Indo-Pacific region fight plastic pollution

The UK's Foreign, Commonwealth and Development Office (FCDO) and UNCTAD have extended to the Indo-Pacific region a joint programme that works with governments, researchers and businesses to reduce manufacturing's environmental footprint in developi...

environment.einnews.com

05/01/2023

New open access database will better identify sources of plastic pollution

A new open access Raman spectral library can detect molecular 'fingerprints' of particles and better trace sources of ocean plastic pollution.

www.innovationnewsnetwork.com