The PoshBee Buzz

vol.4

Find out what all the *buzz* is about with the fourth annual PoshBee newsletter!

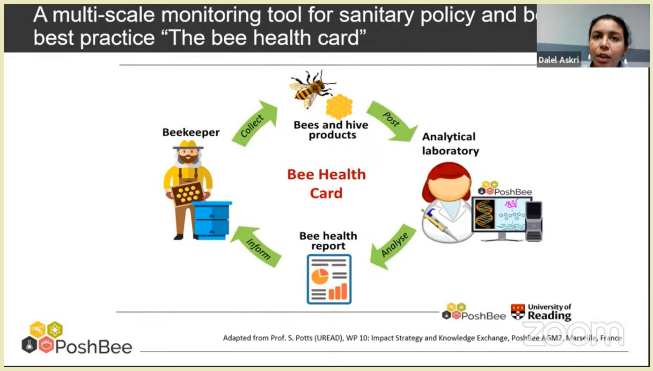
Once again, the PoshBee project met up for its annual general meeting, which took place between the 11th and the 13th of January 2022. The initial format was a hybrid environment, with five different 'hublets' (physical groups) organised in different European cities. Unfortunately, due to the emerging Omicron variant, only the UK and Estonia hubs took place. The remaining participants attended the meeting online.

The three-day-long event hosted by the coordinating institution Royal Holloway, University of London was marked by insightful presentations, vivid discussions and an overview of the project's developments and future initiatives. PoshBee members even got creative and met up in GatherTown - a proximity video chat with a 2D interactive space for PoshBee. The space allowed for group discussions, but also informal one-on-one conversations, which are a key aspect of any meeting.

Read more

PoshBee research at 2021 EU Pollinator Week

The PoshBee project was presented at the 2021 edition of the EU Pollinator Week which took place online between the 27 and the 30th of September. Project partner Dr Dalel Askri of BioPark Archamps participated in the European Research Projects: Monitoring Pollinators and Their Stressors session, which focused on the overview of some of the EU research projects gathering data on the status of EU pollinators and their stressors, such as environmental pollutants, pathogens, landscape, weather, etc.

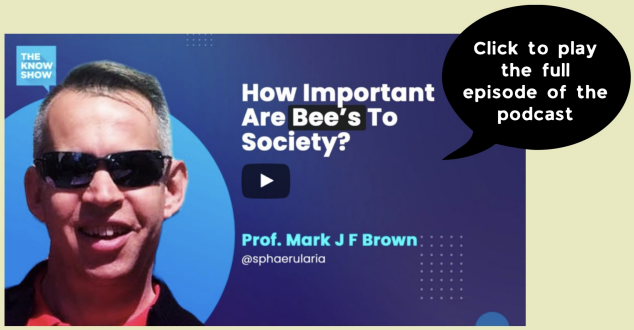


Dalel presented the Bee Health Card, mass spectrometry analysis, MALDI BeeTyping processes applied and the expected results for bee health monitoring and the sustainability of pollinators.

Read more

PoshBee in the academic podcast Know Show

PoshBee coordinator Prof. Mark Brown participated in an issue of the academic podcast Know Show called "How important are bees to society?".



The issue offers a rich discussion with Mark on a variety of topics related to PoshBee's bee health research, as well as on pollinator policies across Europe. Mark elaborates on the research objectives of PoshBee and emphasises the importance of studying the effects of agrochemicals - both pesticides and insecticides - on bees, and how some agrochemicals interact with other factors such as bee malnutrition or diseases.

In an effort to engage with its relevant EU stakeholders and build bee health capacity among early career researchers, veterinarians and other specialists via targeted training, PoshBee organised a dedicated training school on developing bee-related research skills.

During this workshop, which took place on the 12th and 13th of April 2022 in Mons, Belgium, researchers from UMONS presented new analysis techniques developed within the framework of PoshBee in a practical way. The thematic focus put an emphasis on bumblebees and solitary bees and included a variety of laboratory and field experiments. Supplementary materials, such as training videos, were developed and distributed to describe the different sampling methods and further support the workshop activities.

PoshBee science for non-scientists

In PoshBee, we believe in making research information FAIR (findable, accessible, interoperable and reusable). This is why we strive to make our publications easily understandable and available to all our stakeholders, from researchers to beekeepers.

To achieve that, we develop a “Stakeholder summary” for each primary research paper produced in the framework of the project. These are either short text-based or graphical summaries, describing the question addressed in the study, its importance, and the main results.

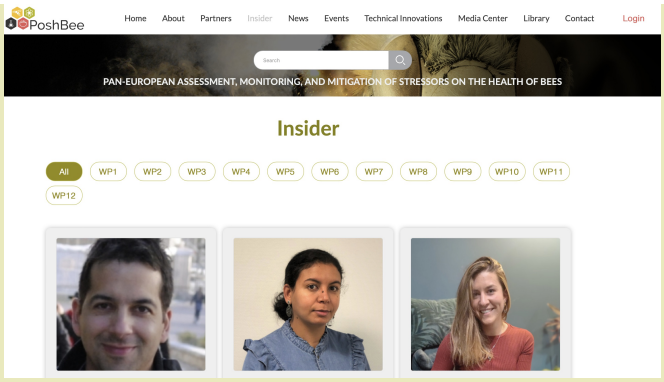
Read stakeholder summaries

We also publish practice abstracts on the European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) platform. These brief and direct pieces of research information aim to make project results more available to practitioners in order to foster sustainable farming. During the last year, we published four new practice abstracts, meaning that PoshBee now has a total of eight abstracts available on the EIP-AGRI platform.

Read practice abstracts

PoshBee Insider webpage

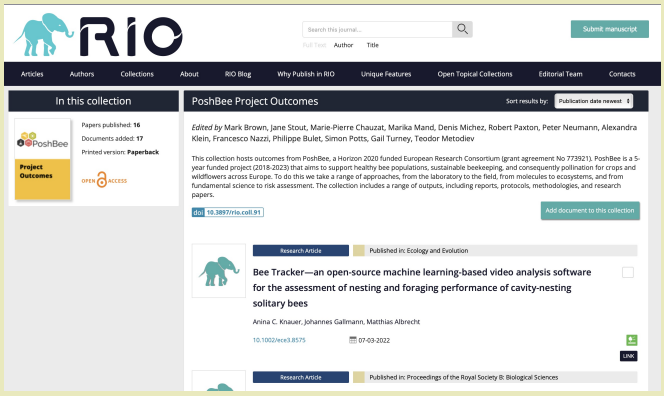
At PoshBee, we know that many hands make light work - our project is composed of 43 partner organisations from 14 countries. This diversity contributes to a particular research environment, where each member adds value to the project with their own specific and unique background, capacity and knowledge.



In order to highlight the invaluable work done by the different organisations and researchers in PoshBee, we launched a new webpage on our website dedicated specifically to our "Insiders".

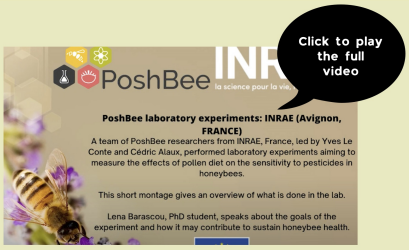
Read more

In an effort to increase the project’s visibility and improve the dissemination of all publicly available project outputs, PoshBee launched an open research collection in the Research Ideas and Outcomes (RIO) journal.



The collection will host a wide range of project outputs, including reports, protocols, methodologies, research papers and more, and it will also link publications in other journals. This collection thus allows the centralisation of project outputs and assures their availability throughout and beyond the project's lifetime.

Read more



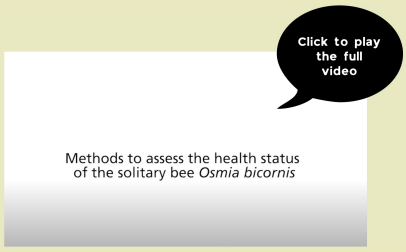
This video gives an overview of the lab experiments performed by researchers from INRAE to measure the effects of pollen diet on honey bees' sensitivity to pesticides.

In this video, PoshBee researchers Matt Allan and Robin Dean examine the impact of the nutrition that bees are getting in order to better understand bee stressors.

In this video, PoshBee researchers from the Anses Sophia Antipolis laboratory demonstrate the process of analysis of pathogens in honey bees, bumblebees and solitary bees.

This video demonstrates the digital data storage platform Poshbase, which serves for gathering and exchange of data. The platform allows centralised access to a significant amount of research data.

In this video, researchers from the Anses Sophia Antipolis laboratory show the procedure for pesticide residue analysis in nectar regurgitated by honey bees and bumblebees.



In this video, Agroscope researchers conduct a semi-field experiment to investigate the effects of a pesticide on a cavity-nesting solitary bee species - *Osmia Bicornis*.

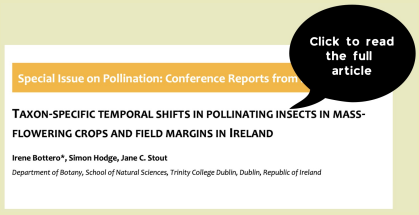
This PoshBee training video demonstrates the PoshBee methods for nectar extraction from bee stomachs performed by the researchers at the ANSES Sophia Antipolis laboratory.

In this PoshBee video, project partners from BioPark Archamps and CNRS demonstrate the analysis of bee haemolymph samples with MALDI BeeTyping®.

In this PoshBee training video, Alexandre Barraud, a PhD student from the University of Mons, gives more insight into bee decline in Europe.

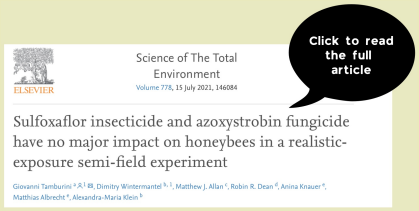
In this video, Alexandre Barraud talks about wild bees, which represent over 20 000 species in Europe, and can be very different in terms of size or colours.

This article shows that depending on the level of exposure to the novel insecticide, lethal and sublethal effects occur, threatening bumblebee



This study discovers that different insect groups, such as honey or bumblebees and flies, respond differently to mass-flowering crops and field margins.

health.

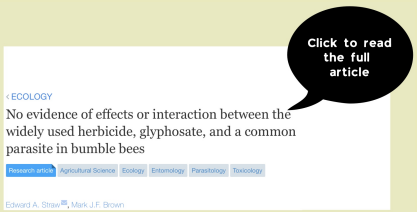


This paper indicates that even though several neonicotinoid insecticides were recently banned in cropland within the EU, bees remain exposed to many pesticides whose effects are still poorly understood.

This article evaluates the toxicity of acute and chronic exposures to field-realistic and higher concentrations of azoxystrobin and sulfoxaflor in honey bees, and the bee mortality rate depending on pollen diets.

This article shows that Closer (sulfoxaflor insecticide) led to reduced colony growth, colony size and foraging in bumblebees, and Amistar (azoxystrobin fungicide) adversely impacted bee foraging and pollination.

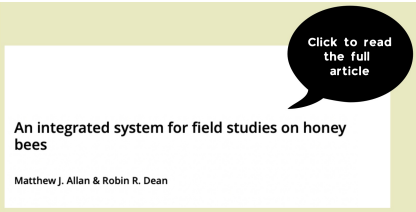
This paper focuses on the relationship between quantity of floral resources and number of flower visits at community-level, taking into account the structure and robustness of pollination networks.



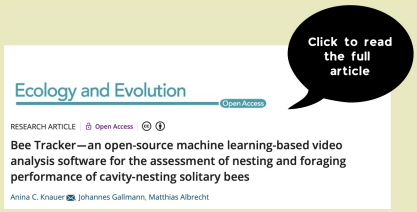
This study expands the current knowledge on glyphosate. It examines its impact on buff-tailed bumblebees and incorporates a bee parasite, *Crithidia bombi*, never tested with glyphosate.

Researchers reviewed a total of 19 studies (from 1973 to 2021) and identified a number of understudied concerns around the impacts of 'inert' ingredients on bee health.

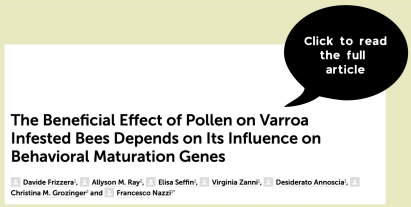
This research article presents insightful ways to improve the pesticide-use data for the European Union.



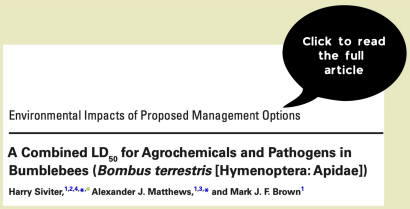
This article proposes a novel integrated system of research equipment with improved and coordinated design.



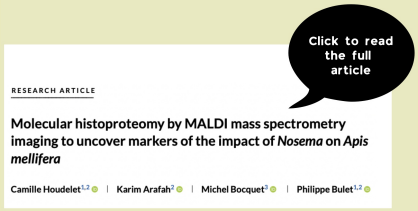
This article presents a novel automated approach for the assessment of nesting and foraging performance of cavity-nesting solitary bees.



This article analysed the expressions of genes associated with behavioural maturation in pollen-fed Varroa-infested honey bees.

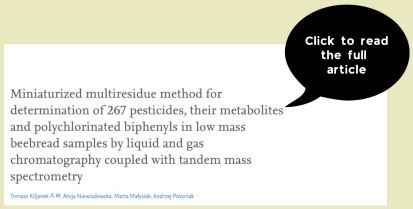


This paper demonstrates how existing ring-tested experimental designs can be effectively modified to include other environmental stressors such as parasites.



This article reports the use of MALDI IMS to follow the molecular impact of an experimental infection of *Apis mellifera* with the microsporidia *Nosema ceranae*.

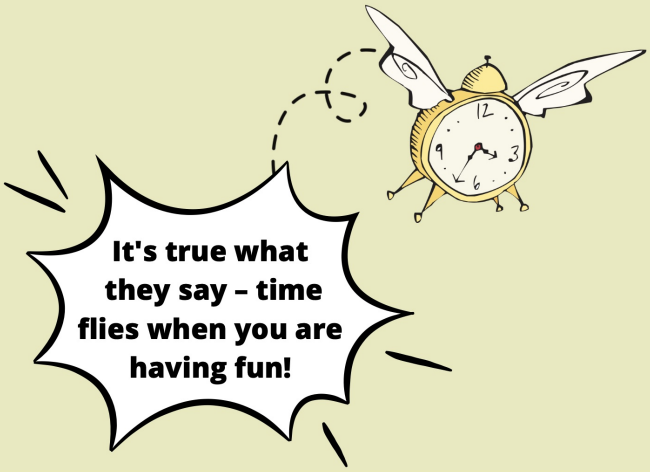
In this paper, researchers found that a co-formulant, alcohol ethoxylates, caused a range of damage to bumble bee health.



This article presents a validated miniaturized method for residue analysis of 261 pesticides and their metabolites.

Thanks to our joint effort and your invaluable contributions, PoshBee has reached 1000 followers on Twitter.

We want to thank all project partners and supporters and may this milestone inspire us to keep sharing our latest work!



For more exciting news and updates from the PoshBee project, make sure to subscribe to the PoshBee Buzz annual newsletter and the project channels on Twitter, Facebook, and Youtube!

Subscribe!

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