

nanocomposite sensor array electronic nose within 30 min. We used the profusion category  $\geq 1/1$  in chest X-ray in accordance with the ILO-2011D criteria as the reference standard to assess the diagnostic accuracy. Data were randomly split into 80% for model building and 20% for validation. By linear discriminant analysis, the sensitivity was 71.0%, specificity was 91.8%, accuracy was 86.8%, and ROC-AUC was 0.89 in the training set, and the sensitivity was 80.0%, specificity was 66.7%, accuracy was 70.0%, and ROC-AUC was 0.79 in the validation set. Breath test might have potential in the screening for pneumoconiosis; however, a multi-centre study is warranted to establish a reliable model and all procedures must be standardised before clinical application.

## Poster Presentation

### Methodology

0245

#### **BIG DATA AND OCCUPATIONAL HEALTH VIGILANCE: USE OF FRENCH MEDICO-ADMINISTRATIVE DATABASES FOR HYPOTHESIS GENERATION REGARDING OCCUPATIONAL RISKS IN AGRICULTURE**

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Surveillance of diseases and associated exposures is a major issue in occupational health, especially identifying and preventing new threats for worker's health. New complementary methods relying on exploitation of already existing data, such as those from health insurance, could be developed to look for relevant signals for early detection of emerging occupational diseases. In this context, a systematic data mining could be performed on databases from the "Mutualité Sociale Agricole" (MSA), the dedicated social security system to French agricultural workers, which covers about 3 million individuals. As this healthcare system holds a large amount of data, MSA databases could allow us to apply "big data" analytics in order to study occupational risks of French agricultural workers. Thereby, this innovative approach could permit to look for associations between diseases and occupational activities without any prior hypothesis and also could have the potential to be used on continuous data flow for vigilance.

The authorisation of the French National Commission on Informatics and Liberty allowed the cross-linking of MSA databases using a common anonymous identifier for each individual. The main methodological point is programming of unsupervised analysis, especially latent models of mixed factors, applied to the "occupational activity x diseases" matrices. Due to the lack of direct information about exposure, a complementary work is performed to estimate retrospectively the exposure to pesticides of agricultural workers.

This innovative method which will be presented, has the following advantages: 1) offers a systematic approach, 2) has a strong statistical power, 3) is costless about data acquisition.

## Poster Presentation

### Methodology

0246

#### **THE IMPACT OF HIGH-SCHOOL COMPLETION - A MULTI-STATE MODEL FOR WORK PARTICIPATION AND HEALTH-RELATED ABSENCE IN YOUNG MEN**

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Withdrawn at the author's request

## Oral Presentation

### Shift Work

0247

#### **SHIFT WORK AND INCIDENCE OF CARDIOVASCULAR DISEASES IN THE DANISH NURSE COHORT**

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