Programme of the AirAware workshop

Organized by: AIMS Senegal & Imperial College London

AirAware 2025 – Goals

Main Goals:

- Build capacity in the analysis of air pollution data (but not only!) using modern statistical methods
- Introduce Bayesian and advanced geostatistical tools (in particular INLA-SPDE) for spatial and spatio-temporal modelling
- Promote open science through the use of open-source data and R software
- Foster interdisciplinary exchange across statistics, air pollution, and public health
- Encourage innovation via hands-on sessions and a team-based hackathon

Programme structure

Days 1–3: Training Sessions

- Bayesian Statistics and INLA (Integrated Nested Laplace Approximation)
- Geospatial data & Time Series
- INLA-SPDE (Stochastic Partial Differential Equation) for spatial and spatio-temporal modelling
- Hands-on sessions with open-source datasets

Day 4: Hackathon

- Team formation and data release
- Collaborative work and submission of results

Day 5: Presentations and Awards

- Project presentations
- Jury deliberation and award

Collaboration and engagement

AirAware 2025 is more than lectures:

- **Invited talks** from international experts
- **Practical sessions** to apply methods in real-world contexts
- **Hackathon** to foster **teamwork**, **sharing**, and **communication**
- **Networking opportunities** with peers and mentors
- A space to **work together**, exchange ideas, and build collaborations

Workshop material

To access the materials for each day, please run the following commands in RStudio

```
install.packages("usethis")
```

In Day 1
```
usethis::use_course("monpirani/airaware-day1")
```
In Day 2
```
usethis::use_course("monpirani/airaware-day2")
```
In Day 3
```
usethis::use_course("monpirani/airaware-day3")
```

Answer Yes to the two questions that will be asked