# Vocal and visual mechanisms behind coordinated group movement

## Fact Sheet

Project Information

**GROUP MOVEMENT**

Grant agreement ID: 794412

Project website

**DOI**
10.3030/794412

Project closed

**EC signature date**
5 April 2018

**Start date**
15 May 2018

**End date**
14 May 2020

**Funded under**
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

**Total cost**
€ 159 460,80

**EU contribution**
€ 159 460,80

**Coordinated by**
MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV
Germany

## Objective

Anthropogenic noise is ubiquitous across the world and, aside from other negative effects, causes declines in abundance and species richness in birds. How anthropogenic noise does this is not yet well understood, although it is probably because anthropogenic noise disrupts biologically important signals. One such important signal that has received considerable attention in primates and cetaceans but little in birds are calls used to coordinate group movement. Historically, research examining collective movement has focused on free-flying murmurations to determine

how individuals' behaviour impacts group movement. However, these models do not include visual and physical impediments that occur in many habitats (i.e. forests) and assume that information is transferred by visual, not vocal cues. Conversely, research examining vocalizations in groups, has focused on correlations between group movement and vocal behaviour, not accounting for effects of the movement and vocal behaviour of all individuals on their neighbours. To establish the mechanisms behind how birds use vocalizations to coordinate group movement, and the effect of anthropogenic noise on their ability to do this, I will combine a vocal communication approach with the mathematical modelling of collective movement to analyse fine-scale 3D spatio-temporal data collected from starling flocks in semi-natural conditions to determine: (1) what vocalizations are used during group movement; (2) how birds use vocalizations to coordinate group movement; and (3) how anthropogenic noise affects a flock's ability to coordinate group movement. These data will establish a fundamental understanding of how vocalizations mediate group movement allowing for us to determine the impact of anthropogenic noise on this behaviour, and will provide the foundation for further study into other vocally mediated behaviours.

## Fields of science (EuroSciVoc)

natural sciences > biological sciences > zoology > mammalogy > **primatology**

natural sciences > biological sciences > zoology > mammalogy > **cetology**

natural sciences > mathematics > applied mathematics > **mathematical model**

## Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions MAIN PROGRAMME

H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

## Topic(s)

MSCA-IF-2017 - Individual Fellowships

## Call for proposal

H2020-MSCA-IF-2017

See other projects for this call

## Funding Scheme

MSCA-IF-EF-ST - Standard EF

## Coordinator

**MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV**

Net EU contribution

**€ 159 460,80**

Total cost

**€ 159 460,80**

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Region

**Bayern > Oberbayern > München, Kreisfreie Stadt**

Activity type

**Research Organisations**

Links

Contact the organisation  Website
Participation in EU R&I programmes
HORIZON collaboration network

**Last update:** 16 August 2022

**Permalink:** https://cordis.europa.eu/project/id/794412