

I-GUIDE Virtual Poster Competition Q&A Session

Join us for an Q&A session on the
upcoming I-GUIDE Virtual Poster
Competition.

Presented by
Iman Haqiqi
Research Economist
Purdue University



I-GUIDE Virtual Poster Competition

Data-Intensive Convergence Science
FAIR Geospatial Data for Sustainability Research

**I-GUIDE Invites Abstract Submissions for
the 2024 Virtual Poster Competition**

SUBMISSION DEADLINE APRIL 12, 2024

All accepted posters will be displayed in a Virtual Poster Showcase April 29-30, 2024.

**Selected winners will receive travel award grants to attend
the I-GUIDE 2024 Forum October 14-16 in Jackson, WY.**

MAP | CONNECT | DISCOVER

What is Virtual Poster Competition?

The latest research and innovation in:

- Convergence science for sustainable development
- Geospatial artificial intelligence and data science approaches,
- Focus FAIR: findability, accessibility, interoperability, and reusability

Sponsored by:

- The Institute for Geospatial Understanding through an Integrative Discovery Environment (I-GUIDE), funded by the National Science Foundation (NSF).

Open to:

- Students, researchers, and early-career professionals
- All disciplines who employ convergence and geospatial sciences to address sustainability challenges.





Important Dates

- **Thursday, March 7, 2024:** Abstract Submission Opens
- **DEADLINE EXTENDED Friday, April 12, 2024 at 11:59pm PT:** Abstract Submission Closes
- **Friday, April 19:** All Applications Notified of Decisions
- **Monday, April 29 - Tuesday, April 30:** Virtual Presentations and Discussions
- **Early May, 2024:** Awardees Notified of Decisions
- **Monday, October 14 - Wednesday, October 16, 2024:** [I-GUIDE Forum 2024 in Jackson, WY](#)

Accepted Posters

All accepted posters will be published in an open access proceeding.

In addition, **four** selected posters will be invited to the [2024 I-GUIDE Forum October 14-16 in Jackson, Wyoming](#) and will be awarded travel funding provided by I-GUIDE and its partners. The winners will be notified by early May 2024.

- **Open Science Champion:** up to \$1,500 reimbursement in travel funding
- **Convergence Science Catalyst:** up to \$1,000 reimbursement in travel funding
- **Rising Geospatial Data Scientist:** up to \$1,000 reimbursement in travel funding
- **Policy Pathfinder:** up to \$500 reimbursement in travel funding



Topics

- **Climate Change**
- **Global Environmental Change**
- **Sustainable Development and Equity**
- **Environmental Management and Conservation Biology**
- **Adaptation and Transformation to Climate Change**
- **Resilience in Complex Systems**
- **Geospatial Social Science**

Also:

- **Data and Computation**
- **Communication and Engagement**
- **Education and Awareness**

Submit Abstract:

<https://i-guide.io/poster-competition/>

- Corresponding Author:
 - Name
 - Email
 - Affiliation
- Role and career stage
- Co-authors
- Poster Title
- Poster Abstract

The screenshot shows a web browser window with the URL i-guide.io/poster-competition/. The page title is "I-GUIDE Virtual Poster Competition Abstract Submission". The form contains the following fields and sections:

- Contact Author Name ***: Two input fields for "First" and "Last" names.
- Contact Author Email ***: A single input field for the email address.
- Contact Author Institutional Affiliation ***: A single input field for the affiliation.
- Contact Author Current Role**: A dropdown menu with "Student, Undergraduate" selected.
- Additional Authors**: A large text area for listing other authors.
- Poster Title ***: A single input field for the poster title.
- Poster Abstract ***: A large text area for the abstract.
- Availability for the I-GUIDE Forum 2024**: A radio button option for "YES I would like to be considered for a travel award to attend the I-GUIDE 2024 Forum held in Jackson, WY October 14-16".

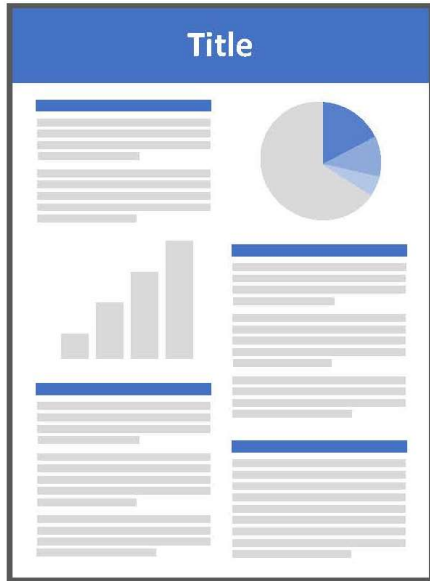
At the bottom right of the form is an orange "Submit Application" button.

Judging Criteria

- **Science:**
 - Scientific content
 - Methods and analysis
- **Open Access:**
 - FAIR data and code
 - Tools developed
- **Visual appeal:**
 - The design of the poster
 - Balance of text and graphics
- **Engagement:**
 - Presentation
 - Communication



Traditional Poster



Multiple Slides

Video and Voice-Over Slides



Prepare Your Poster (1): Choose Your Poster Format

TWO IS BETTER THAN ONE?

Song function for joint territory defence and within pair communication in Lovely fairy-wrens

ANA V. LEITÃO*, RAOUL A. MULDER, MICHELLE L. HALL
School of Biosciences, The University of Melbourne, Melbourne, Australia

INTRODUCTION

Song in birds has been extensively studied and is considered a classical example of a sexually selected trait. However, this interpretation is based on studies of predominantly one sex, the male. There is growing evidence that female song is common and phylogenetically widespread, but there are still only a few species for which song similarities and differences between the sexes have been described.

In this study, we investigated the function of female and male song in the Lovely fairy-wren (*Malurus amabilis*), a tropical species that maintains and defends territories year-round.

METHODS

We used observational data to describe their song structure and examine sex-specific variation in song rate across breeding and non-breeding stages and seasonal variation.

We also used experimental data to examine female and male responses to simulated territorial intrusions, with song playbacks of solo intruders of either sex that varied in complexity.

RESULTS

Females and males had similar song metrics and natural song rates.

- Song duration
- Max. frequency
- Peak frequency
- Min. frequency
- Bandwidth
- Entropy

Pairs sang more during non-breeding periods than during breeding periods. Within each breeding stage, males sang more when females were incubating.

Male song playbacks elicited a stronger approach response from both sexes, than female song playbacks.

Pairs sang with shorter latency and at higher rates to simple than complex songs but, only when they were presented after complex songs.

Overall, observations and experiments suggest that female and male songs function primarily for within-pair communication and joint territorial defence.

CONCLUSION

- Similar acoustic structure and song across all metrics measured.
- Both sexes had coordinated and similar responses to the intrusions.
- Pairs sang year-round and overall with similar song rates.
- Pairs sang more when not nesting compared to all breeding stages, and when apart from their partner.

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bioRxiv

bioRxiv preprint doi: <https://doi.org/10.1101/2021.07.14.451111>; this version posted July 14, 2021. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

A poster by A. V. Leitão. on 47th ASSAB Conference.

Examples

x.com/Juan_VaGu

 **Juan Vazquez**
@Juan_VaGu

@prymekal @Juan_VaGu @Octavian_S_ supervised by @AleLunghi Spin-phonon coupling coefficients are computed from first principles using ML, in order to predict the origin of nuclear spin relaxation in a solid-state molecular qubit. @IOPPublishing #IOPPposter #molecular #quantum

Electro-Nuclear Spin-Phonon Coupling and Relaxation in Molecular Qubits

A. Prymek, J. Vazquez, D. Stokich, Supervised by A. Lunghi
Trinity College Dublin

Introduction & Motivation

The search for a solid-state spin qubit is a highly active area of research. In this work, we study the spin-phonon coupling in a molecular qubit, which is a promising candidate for quantum information processing. We use first-principles calculations to compute the spin-phonon coupling coefficients and the nuclear spin relaxation rates. We show that the spin-phonon coupling is significantly enhanced in the presence of a magnetic field, which can be used to control the qubit state.

Objectives & Methodology

Our main objective is to compute the spin-phonon coupling coefficients and the nuclear spin relaxation rates in a molecular qubit. We use first-principles calculations to compute the spin-phonon coupling coefficients and the nuclear spin relaxation rates. We show that the spin-phonon coupling is significantly enhanced in the presence of a magnetic field, which can be used to control the qubit state.

Results

In all ML predictions versus reference for the training and test sets of the tensor g and A components.

(a) 15% of predicted values of absolute A tensor.

(b) Inverse norm of the tensor.

Conclusions & Further Work

The ML model, trained on snapshots of a IBM Q simulation, is able to predict the value of the spin-phonon parameters in the same conditions. However, the ML model is still not accurate enough when considering small distortions. A possible improvement in the accuracy of the model would be achieved by increasing the size of the training set (the training error has not reached a plateau) or by incorporating the training set to sample smaller distortions. Further work is necessary to reduce the bias of the model as well as develop improved statistical methods that would take the results obtained and compare the obtained ones that were the ultimate goal of the project.

5:17 AM · Jul 14, 2021

Multiple slides from a winner of #IOPPposter 2021 competition

x.com/AndreaByekwaso

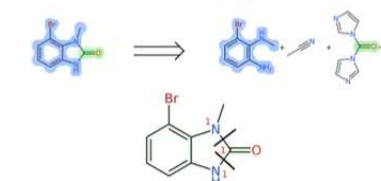
 **Andrea Byekwaso**
@AndreaByekwaso

Check out my #IOPPposter poster on machine learning models for disconnection-aware synthesis planning. Let human experts decide where to cut bonds. (Thread) @IBMResearch @forRXn #rxn4chemistry @IOPPublishing #Atomic #Molecular #WomenInSTEM #BlackInSTEM

IOP Publishing
Twitter Poster Conference #IOPPposter
14-15 July 2021

#Atomic #Molecular

Data-Driven Model for Disconnection Aware Retrosynthesis



Andrea Byekwaso, Alain Vaucher, Alessandra Toniato, Philippe Schwaller, Joppe Gelyukens, and Teodoro Laino

IBM Research Euro 00:00 / 0:34

8:00 AM · Jul 14, 2021

Video from a winner of #IOPPposter 2021 competition

Prepare Your Poster (2): Content

- **Introduction:**
 - Briefly state the research question, contribution, and significance.
- **Methods:**
 - The approach and techniques tailored for a multidisciplinary audience.
- **Results:**
 - Present your key findings with supporting figures or tables.
- **Discussion/Conclusion:**
 - Takeaways and implications for interdisciplinary studies.
- **Open data and code:**
 - Code and data availability or the tools developed.
- **References:**
 - Cite relevant literature briefly if (space available).



How to Submit Your Poster

- Post your poster on LinkedIn:
 - All online poster presenters must create a Poster to upload on LinkedIn or submit to the program.
 - The deadline to upload a poster is April 29.
- Present your poster:
 - To be considered for the prize, you are required to present during the scheduled presentation time in the online poster sessions or submit a video.
- Copyright:
 - The authors remain the sole copyright holder of the posters. If you choose your poster to not be posted publicly, we will only include your title slide.

Promote Your Session

- Post online:
 - Announce the event to your network on LinkedIn
 - Upload the event image to your LinkedIn and let your network know that you are going to present at the online session
 - Use I-GUIDE customizable templates to promote your Poster session on social media.
- Invite your network:
 - Attend the event and join for comments and discussion.
 - Note: registration is required for online Zoom meetings, no registration fee!
 - Invite your network to mark their calendar and LinkedIn event for updates and winner announcement.

Online session

- Structure:
 1. Introduction
 2. Presentations
 3. Questions and answers
- The session chair will introduce the session
- Each presenter will provide a brief overview of their poster
- Presenters share their screens during their presentations.
- Presentations will be followed by a group discussion with the online audience.
- The session chair will moderate the Q&A

How to Get the Link to the Online Event

- Regularly check your email and I-GUIDE LinkedIn page.
- Online poster sessions will use Zoom.
- Please note, that you need to register for the event to be able to join the Zoom room.
- Meeting attendees who are not presenting can access the session via the registration link.

FAQs

- Q: When is the online session?
 - Time: April 30, 3-5pm, EDT
- Q: What is the agenda of the online session?
 - Agenda: To be determined by April 20
 - Registration links: To be determined by April 24
- Q: What if I do not have a LinkedIn account?
 - Submit your posters to iguide@purdue.edu
 - Promote the session on other social media account you may have
- Q: What if I none of the authors are available for the online presentation?
 - Submit a voice over PPT or a video to iguide@purdue.edu

FAQs

- What should be the size of poster?
 - There is no restriction.
 - However, the fonts and graphics should be readable from standard computer monitors.
- Do I get instructions on how to submit the poster?
 - Yes. an email will be sent to you by April 17 with finalized agenda and instructions to upload.
- Why there is an online session?
 - The idea of virtual poster is to network with fellow researchers, exchange ideas, and engage in meaningful conversations.
 - Like in-person posters, in online session the attendees can ask questions, offer suggestions, and provide insights.
- Is the online session recorded?
 - Yes. The recorded video will be available on the I-GUIDE Website.

FAQs

- Q: Do I need to have the finalized results?
 - We accept in-progress research.
 - In your non-final studies, you should communicate clearly about what do you expect to learn and discover.
- Q: How long is each presentation?
 - Each poster will have five minute for presenting their work.
 - There will be Q&A and discussion at the end of each session.

Thank You!

Contact:

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