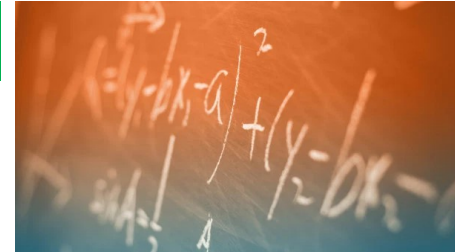




# NSW DIVISION END OF YEAR BREAKFAST

## My Mathematical Journey Through Music



**Date:** Friday, 13 December 2019

**Venue:** Kirribilli Club,  
11 Harbourview Crescent, Lavender Bay, 2060  
For more information, please visit their website:  
<https://www.kirribillclub.com.au/>

**Time:** 7:00 am for 7:15 am breakfast, followed by talk

**Speaker:** Doctor Andrew Milne from Western Sydney University

**RSVP:** AAS members (and guests upon request) are welcome to attend.  
A \$30 charge will apply for non-members to cover breakfast costs.

**FOR CATERING REQUIREMENTS, WE REQUIRE ALL ATTENDING TO RSVP.**

Please **RSVP by Monday 2<sup>nd</sup> DECEMBER 2019** to Mattia Tabacchi by email  
[Mattia.tabacchi@renzotonin.com.au](mailto:Mattia.tabacchi@renzotonin.com.au).

Please advise of any dietary requirements with your RSVP.

### Abstract of the presentation

Andrew Milne will present his mathematical journey through music. How does music work, how does it communicate, how can we algorithmically generate it and facilitate its performance? To answer these questions, Andrew Milne will discuss the following: using mathematical characterisations of the frequency spectra of musical sounds to partially account for perceived consonance/dissonance, musical fit, and affective valence; describing scales and rhythms with the discrete Fourier transform for the purpose of analysis; the "balance" and "evenness" of musical rhythms and their relevance to algorithmic music and to perception; multilevel Bayesian regression; the playability and learnability of different spatial representations of pitch in new musical instruments.

### Speaker

Andrew Milne is a postdoctoral research fellow in music cognition and computation at the MARCS Institute for Brain, Behaviour and Development, Western Sydney University. As a member of the Music Cognition and Action research program, he has developed computational models of music perception/cognition and used these models to drive creative musical outputs and to inform the development of educational tools.