

**Session Program**

12-17 Jul 2026



**European Conference on Mathematical and Theoretical  
Biology (ECMTB 2026)**

***Advances in multiple timescale dynamics in neurons and  
related excitable systems***

University of Graz

# Wednesday 15 July

11:10

## Advances in multiple timescale dynamics in neurons and related excitable systems

Session | Location: University of Graz, 15.12 - HS

11:10–11:30

### Timescale separation anxiety in capturing neuronal activity patterns in biophysically detailed models

**Speakers**

Anna Thomas, Jonathan Rubin, Ryan Phillips, Sushmita John

11:30–11:50

### Unfolding neuronal excitability: dynamical paths to depolarization block during spreading depolarization events

**Speaker**

Marisa Saggio

11:50–12:10

### Multiscale Organization in a novel Cartwheel Interneuron Model: From averaging to folded node dynamics

**Speakers**

Jonathan Rubin, Matteo Martin, Morten Gram Pedersen

12:10–12:30

### Slow-fast dynamics in a neurotransmitter release model: Delayed response to a time-dependent input signal

**Speakers**

Mathieu Desroches, Mattia Sensi, Serafim Rodrigues

12:30

## Thursday 16 July

10:40

### Advances in multiple timescale dynamics in neurons and related excitable systems

Session | Location: University of Graz, 15.12 - HS

#### 10:40–11:00 Multimodal Synchronization of Pancreatic Islets

**Speakers**

James Thornham, Michael Roper, Richard Bertram

#### 11:00–11:20 Cardiomyocyte Models: Bifurcations and Fast-Slow Decomposition

**Speakers**

Hiroyuki Kitajima, M. Angeles Martinez, Roberto Barrio, Sergio Serrano, Toru Yazawa

#### 11:20–11:40 Mechanisms for strong symmetry-breaking in coupled fast-slow oscillators

**Speaker**

Yangyang Wang

#### 11:40–12:00 How slow rhythmic inputs induce spike-adding in neuronal model

**Speakers**

Pake Melland, Rodica Curtu, Zahra Aminzare

12:00