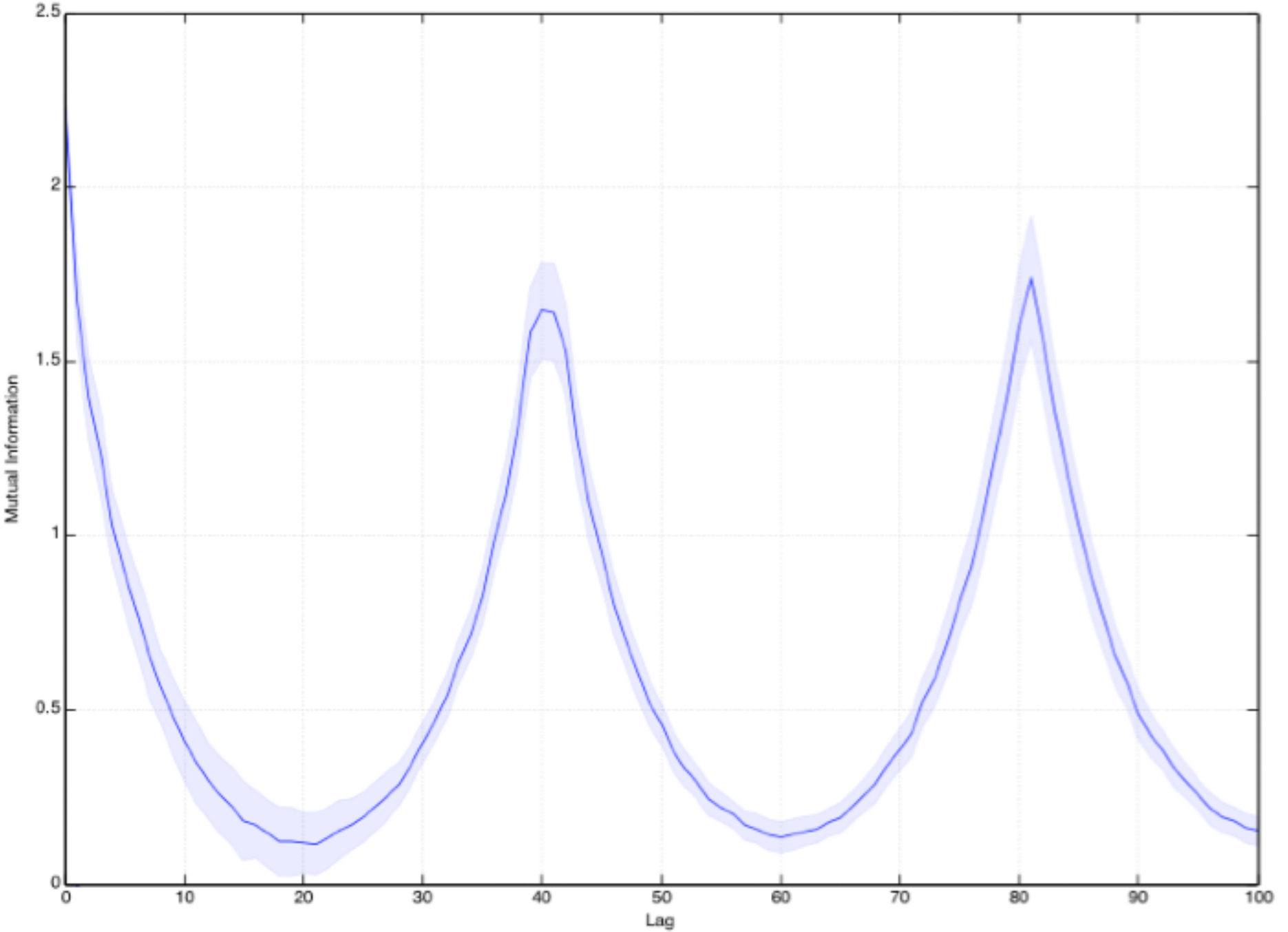
IN·DEI·NOMINE·F

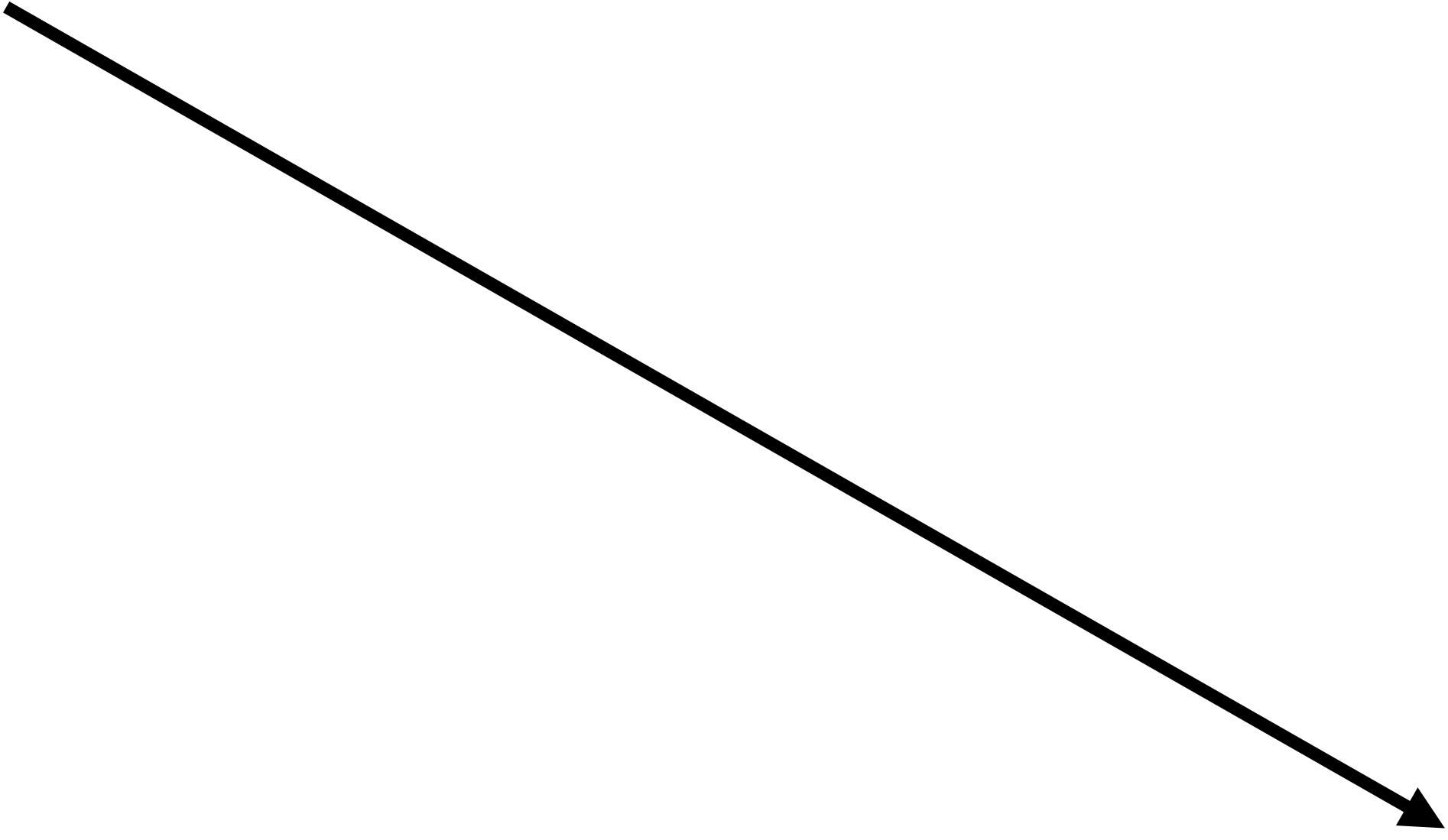
Radboud University Nijmegen

Behavioural Science Institute

Lorenz system – Determine embedding lag


2.5
2
1.5
1
0.5
0
Mutual Information
0
10
20
30
40
50
60
70
80
90
100
Lag

$$AMI_{AB} = \sum_{a_i, b_j} P_{AB}(a_i, b_j) \log 2 \left(\frac{P_{AB(a_i, b_j)}}{P_{A(a_i)} P_{B(b_j)}} \right)$$



Use first local minimum

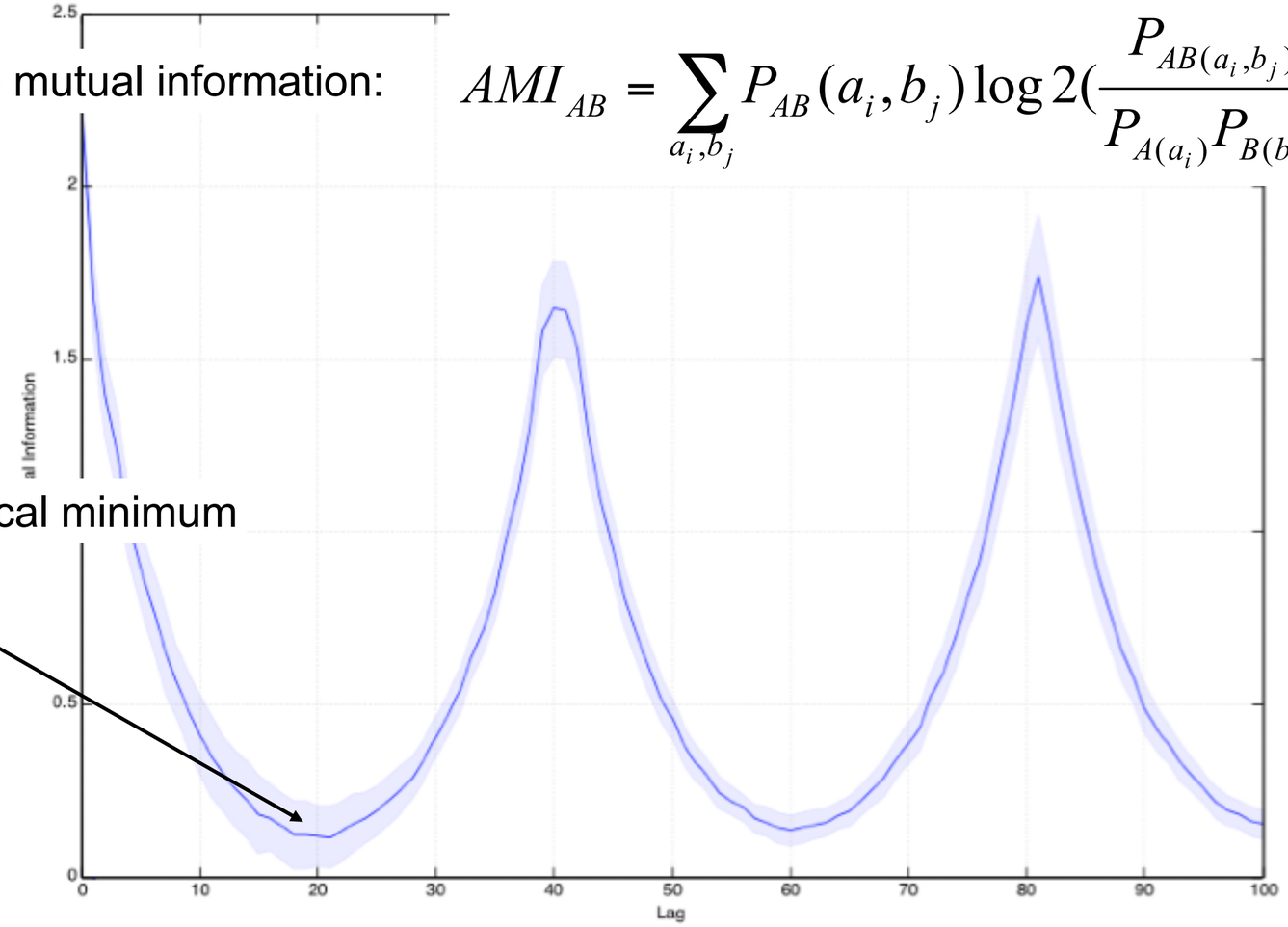
Average mutual information:

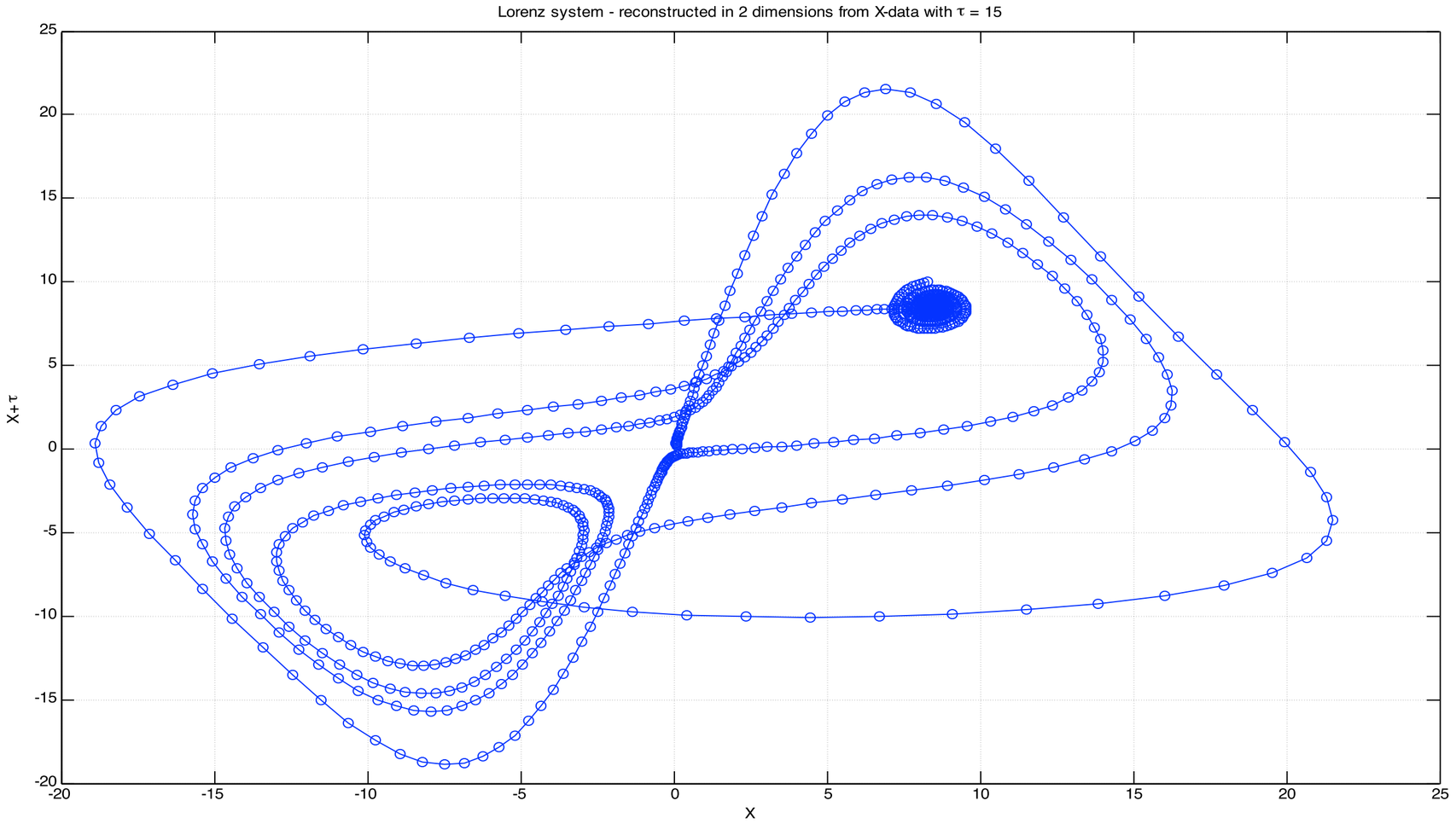
31

Lorenz system – Determine embedding lag

Average mutual information:

$$AMI_{AB} = \sum_{a_i, b_j} P_{AB}(a_i, b_j) \log 2 \left(\frac{P_{AB(a_i, b_j)}}{P_{A(a_i)} P_{B(b_j)}} \right)$$



Use first local minimum

How many dimensions? Determine *embedding dimension* (m)