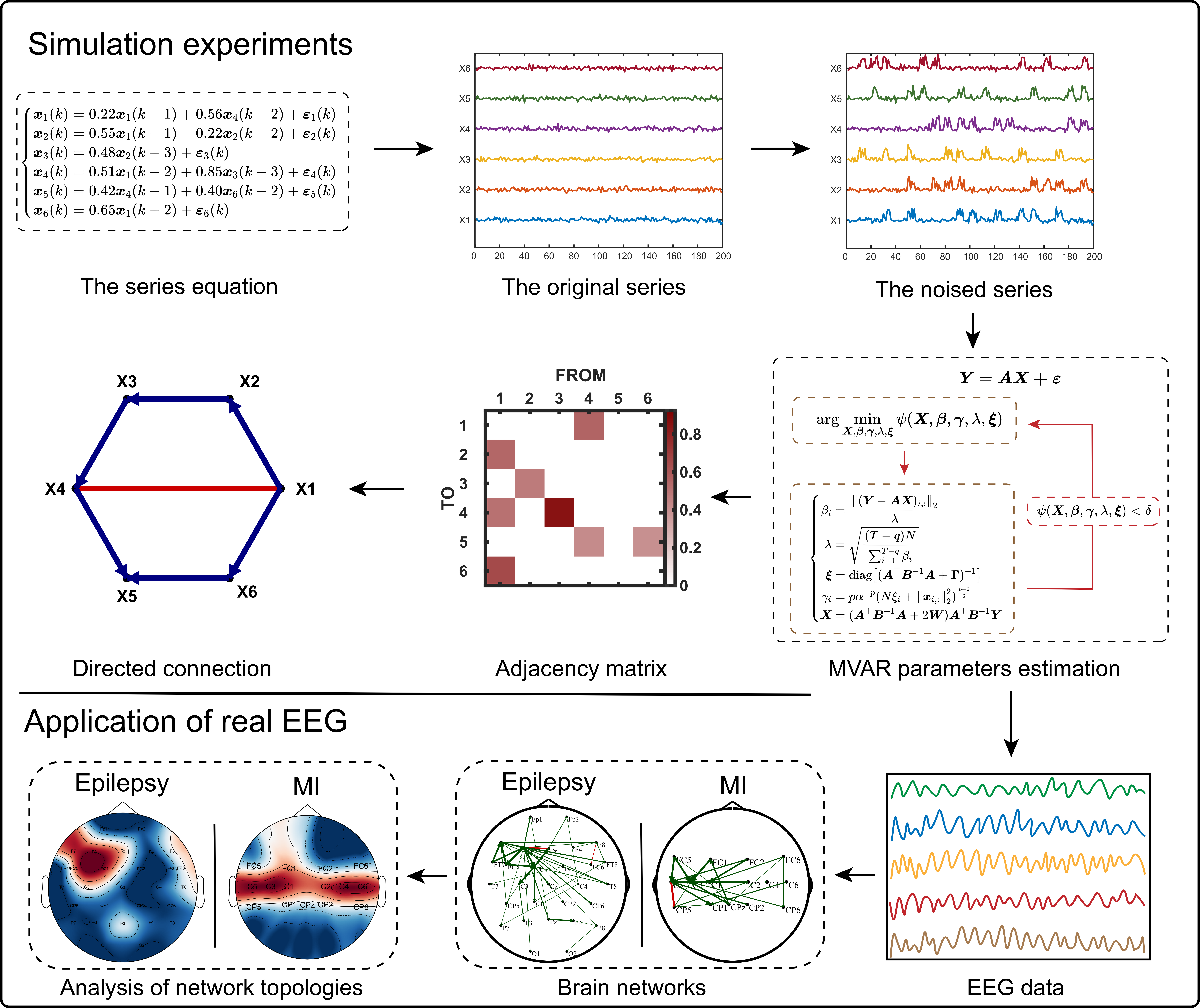

Simulation experiments
$x_1(k) = 0.22x_1(k-1) + 0.56x_4(k-2) + \varepsilon_1(k)$
$x_2(k) = 0.55x_1(k-1) - 0.22x_2(k-2) + \varepsilon_2(k)$
$x_3(k) = 0.48x_2(k-3) + \varepsilon_3(k)$
$x_4(k) = 0.51x_1(k-2) + 0.85x_3(k-3) + \varepsilon_4(k)$
$x_5(k) = 0.42x_4(k-1) + 0.40x_6(k-2) + \varepsilon_5(k)$
$x_6(k) = 0.65x_1(k-2) + \varepsilon_6(k)$
The series equation
X6
X5
X4
X3
X2
X1
0 20 40 60 80 100 120 140 160 180 200
The original series
The noised series
$Y = AX + \varepsilon$
$\arg\min_{X,\beta,\gamma,\lambda,\xi} \psi(X,\beta,\gamma,\lambda,\xi)$
$\beta_i = \frac{\|(Y - AX)_{i,:}\|_2}{\lambda}$
$\lambda = \sqrt{\frac{(T-q)N}{\sum_{i=1}^{T-q}\beta_i}}$
$\xi = \mathrm{diag}[(A^\top B^{-1} A + \Gamma)^{-1}]$
$\gamma_i = p\alpha^{-p}(N\xi_i + \|x_{i,:}\|_2^2)^{\frac{p-2}{2}}$
$X = (A^\top B^{-1} A + 2W) A^\top B^{-1} Y$
$\psi(X,\beta,\gamma,\lambda,\xi) < \delta$
MVAR parameters estimation
FROM
1 2 3 4 5 6
TO
0.8
0.6
0.4
0.2
0
Adjacency matrix
X3
X2
X4
X1
X5
X6
Directed connection
Application of real EEG
EEG data
Epilepsy
MI
Brain networks
Epilepsy
MI
Analysis of network topologies