 Neuromorph Movement Control questions 2023.

1.      Direct Kinematic Problem (in controlling multi-joint limb movements)

2.     Inverse Kinematic Problem (controlling of multi-joint limbs.)

Optimization criterias in inverse kinematics in controlling multijont limbs.

3. What is „jerk” in human limb movements and generally in biological movements. Minimization of jerk during in limb movements (the smoothest movement).

4. Human Machine Interface, how it relates to the covariance matrix of (sensored)time series. Application of Eigenvalues and eigenvectors of covariance matrices in

Human Machine Intreface algorithms

5. Functional Electrical Stimulation. What is it? Applications in medical rehabilitation

(movement rehabilitation).

6. Redundancy in human motor control. Variances of human movements, Dimension reduction methods. Uncontrolled Manifold approach.