**Tematica concursului pentru ocuparea postului**

**Conferențiar poziția 10.,**

**din Statul de funcții al Departamentului de Bioinginerie**

1. Bazele biologiei sistemelor
2. Modelarea *in silico* a căilor metabolice pe baza constrângerii
3. Reconstrucția căilor metabolice, baze de date, abordare de tip “top-down” și “bottom-up”
4. Modele metabolice la scară genomică și principalele aplicații
5. Modelarea și optimizarea fluxurilor metabolice - Flux Balance Analysis (FBA)
6. Caracteristicile rețelelor fără scară
7. Crearea tulpinilor prin optimizare pe două niveluri
8. Robustețea căilor metabolice, PhPP, MOMA
9. Clasificarea genelor, pFBA, FVA
10. Clasificarea și caracterizarea bioreactoarelor
11. Cinetica fermentației
12. Modele matematice al proceselor de fermentație
13. Principii generale de proiectare a bioreactoarelor

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