MODELO DE OFERTA DE PRÁCTICAS CURRICULARES

Título de las prácticas:

Simulation and analysis of a spatial model of viral infection propagation

Descripción de las funciones del alumno

The student must learn how to program in C language to implement a cellular automata model representing viral infection propagation with and without the co-propagation of a viral satellite. The dynamics of the model will be explored in order to determine equilibrium situations. The space of parameters will be investigated in order to evaluate the conditions that allow coexistence of the different viral associations. The results will be compared with the exact solutions previously obtained for the mean-field version of the model.

Requisitos: *(indicar titulación y curso); otros requisitos adicionales (idiomas, informática, otros conocimientos, etc).*

The candidate should have followed the Computational Biology Master at UPM. The master student is required to know the basic of algorithmic programming and enough skills so as to represent and critically evaluate the numerically obtained results. Knowledge of the basics of virus propagation physiology will be useful, and proficiency in the English language is required.

Proyecto formativo

The fundamental objective of the External Practice is to guide the student to apply his knowledge, skills and abilities in the real world, in a group work environment, which reproduces the conditions that can be found in his future workplace. The functions and tasks to be carried out in the Practice will allow the student to develop his or her professional skills from three dimensions: technical skills (technical knowledge specific to the degree); personal skills (behaviour, communication, sense of responsibility, commitment and motivation, creativity and initiative, involvement, teamwork) and contextual skills (ability to adapt to the professional context)

The fundamental objective of the TFM is to carry out academic work that demonstrates that the student is capable of applying the knowledge and skills that they have acquired throughout the master's degree to try to solve a problem, take advantage of an opportunity or satisfy a need, of a similar nature and complexity to those that they may develop in their professional activity, choosing a solution that is viable, both from a technical and an economic point of view.

Actividades a desarrollar en la práctica académica:

The student will acquire specific knowledge of programming algorithms and will receive specific guidance when needed. He will participate in all the activities developed in the group and will

attend the joint institute seminars as well as group working seminars regularly. He will be encouraged to write the final report (TFM) in a journal-style form, such that he is expected to gain basic knowledge on how scientific results are presented to the community.

Nº de plazas:	**1**
Fecha de inicio:	**February**
Fecha de fin:	**June**
Horas semanales:	**35**
Horario jornada laboral:	**Flexible**
Importe Ayuda/Bolsa de estudio:	**€/mes**
Tutor académico: Email:	
Departamento tutor académico:	
Tutor empresa:	**Susanna Manrubia Cuevas**
Email tutor empresa:	**smanrubia@cnb.csic.es**
Departamento tutor empresa:	**Biología de Sistemas**
ENTIDAD COLABORADORA:	**Centro Nacional de Biotecnología (CSIC)**
A cumplimentar por Oficina Prácticas: **Créditos a reconocer (Nº ECTS)**:	

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