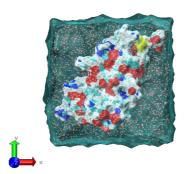




Centro Nacional de Biotecnología

Analysis of Macromolecular Structures



This is to certify that Jairo Rocha Cárdenas has attended and satisfactorily completed the International Course on Analysis of Macromolecular Structures, organized at *Centro Nacional de Biotecnología, Consejo Superior de Investigaciones Científicas (CNB/CSIC)* from June, 21st to July, 2nd 2010, sponsored by CYTED (Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo) through the FreeBIT (Free BioInformatics Tools) network, EMBnet (European Molecular Biology Network) and CNB/CSIC.

This is a full-day, two week intensive theoretical-practical course with a duration of **70 lecturing hours** that provided a broad coverage of various aspects of macromolecular structure analysis:

- In-depth Analysis of Protein Structures using STING (Goran Nešić (Neshich), PhD, from Embrapa Informática Agropecuária and EMBnet/Brazil
- Pharmacogenomics (Allan Orozco, PhD) from Instituto Nacional de Bioinformática, Spain and EMBnet/Costa Rica)
- X-Ray Crystallography (José Casasnovas, PhD and Cesar Santiago, MSc) from the Department of Macromolecular Structure and Service of X-Ray Crystallography, CNB/CSIC, Spain
- Protein Structure prediction, from secondary to homology modeling and threading technologies (Juan Carlos Sánchez, MSc from Florencio Pazos, PhD group of Computational Systems Biology, CNB/CSIC)
- Molecular Dynamics, Docking and 3D-QSAR, Quantum Dynamics (José R. Valverde, PhD, MD, Scientific Computing Service, CNB/CSI and EMBnet/Spain).

José Ramón Valverde Carrillo

Head of Scientific Computing Service, EMBnet/CNB

CNB/CSIC

Madrid, July 2nd, 2010

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