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Nota di contenuto	From the Contents: Macromolecular Models by Single Molecule FRET -- System-specific scoring Functions; Application to Guanine-containing Ligands and Thrombin -- Large DNA Template Dependent Error Variation during Transcription -- Structures of Novel HIV-inactivating Lectins -- Fluorescence Resonance Energy Transfer Studies of Structure and Dynamics in Nucleic Acids -- An Introduction to Macromolecular Crystallography through Parable and Analogy -- Using NMR to determine the Conformation of the HIV reverse Transcription Initiation Complex -- Approaches to Protein-ligand Structure Determination by NMR Spectroscopy: Applications in Drug Binding to the Cardiac Regulatory Protein Troponin C -- How do Nascent Proteins emerge

from the Ribosome? -- Course Abstracts and Posters -- Author Index.

Sommario/riassunto

This ASI brought together a diverse group of experts who span virology, biology, biophysics, chemistry, physics and engineering. Prominent lecturers representing world renowned scientists from nine (9) different countries, and students from around the world representing eighteen (18) countries, participated in the ASI organized by Professors Joseph Puglisi (Stanford University, USA) and Alexander Arseniev (Moscow, RU). The central hypothesis underlying this ASI was that interdisciplinary research, merging principles of physics, chemistry and biology, can drive new discovery in detecting and fighting chemical and bioterrorism agents, lead to cleaner environments and improved energy sources, and help propel development in NATO partner countries. At the end of the ASI students had an appreciation of how to apply each technique to their own particular research problem and to demonstrate that multifaceted approaches and new technologies are needed to solve the biological challenges of our time. The course succeeded in training a new generation of biologists and chemists who will probe the molecular basis for life and disease.