

PACIARONI ALESSANDRO, Born in Acquasparta (Italy) on 05-29-1968

- **ACADEMIC CAREER:** currently Associate Professor of Physics of Matter. I received my Master Degree in Physics with first class honors in 1993 and the Ph. D. degree in Physics in 1996 at the University of Perugia (Italy). After two years of postdoctoral research, where I combined neutron scattering and molecular dynamics simulation to study the dynamical properties of protein hydration water, I moved to Grenoble (France) where I became researcher for the CNR at the international neutron source Institut Laue-Langevin (ILL). In 2001 I returned to Perugia to join the Department of Physics where I was first appointed as researcher and then in 2014 as Associate Professor. I'm currently head of the "Physics of DNA and Biomolecules" molecules at the Physics and Geology Department of the University of Perugia.

In more than 20 years of academic activity I taught the courses of "Physics of DNA and Biomolecules" (2013-present), "Neutron Spectroscopy" (2003-2007 and 2017-2019), "Spectroscopy" (2005-2013), and "Physics of Condensed Matter" (2008-2011 and 2018-present) for the master degree in Physics. Since 2004 I am member of the teaching board of the PhD in Physics.

- **SCIENTIFIC INTERESTS** Dynamics of proteins, protein hydration water and relationship with biological functionality. Role of molecular environment and crowding for bioprotection. Collective dynamics of proteins, DNA and biological water in the terahertz range. Secondary structure of DNA G-quadruplexes and complexation with anticancer drugs. Structure of macromolecules in hydrogels. The recurring theme in the research lines mentioned above is the use of advanced neutron scattering (NS) technique. Actually, in more than 20 years, I participated in as many as 123 experiments at international research infrastructures for neutron and synchrotron light scattering. I was the PI in about half of the related experimental proposal.