Extremophiles
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IN MEMORIAM

In Memoriam: Maria Ciaramella (1958–2018)

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On December 3, 2018, Maria Ciaramella passed away in Naples, Italy, at the age of 60. She was born in Naples in 1958 and received her degree in biology magna cum laude in 1980 discussing a thesis under the supervision of Prof. John. F. Pulitzer. From 1982 until 1992 she worked as research scientist in Naples at the Institute of Genetics ad Biophysics (IGB) of the National Research Council (CNR) of Italy. In the Pulitzer's group, she worked on the genetic analysis of the interactions of virus–host during the infection of phage T4 on *Escherichia coli*, on the regulation of the transcription in *Saccharomyces cerevisiae*, and on the heterologous expression in yeast of enzymes from hyperthermophilic microorganisms.

From 1993, she moved into the Institute of Protein Biochemistry (IBP) of CNR in Naples where, settled as group leader, she focused her scientific interests on the adaptation of organisms to high temperatures, by analysing the molecular mechanisms of stabilization of DNA, proteins and enzymes in hyperthermophilic Archaea. Promoted as senior scientist in 1999, Maria joined the new Institute of Biosciences and BioResources of CNR in 2014, where from 2015 she served as Responsible of the Operative Unit in Naples.

The community of extremophiles scientists will remember Maria Ciaramella for her studies on the mechanisms of regulation of gene expression and on protein/enzymes involved in DNA transactions in hyperthermophilic Archaea. In the last 20 years, her scientific activity has been focused on the study of genome structure and stability, by analysing the molecular mechanisms involved in DNA damage response and repair. In particular, her findings have clarified the biochemical role of DNA manipulating proteins and enzymes (DNA binding proteins, topoisomerases, helicases) in hyperthemophiles. Especially, the studies on the reverse gyrase topoisomerase provided essential information about the in vivo function of this thermophilic hallmark. More recently, she also made substantial contributions to elucidate for the first time the structure–function relationships governing activity and stability of a thermostable protein involved in DNA alkylation damage repair. The knowledge from these studies also led to the development of new *protein-tags,* expanding biotechnological applications on thermophilic model systems.

On 18 September 2018, Maria Ciaramella delivered her last talk: "Peculiar hyperthermophilic genome-protecting enzymes: new techniques, applications and perspectives" as invited speaker at the 12th International Congress for Extremophiles in Ischia, Naples, Italy.

Throughout her career, she inspired and mentored many young students and scientists, and her approach to research was characterized by creativity, collaboration, and determination.

Communicated by M. Moracci.

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On top of her professionalism, she also transpired much kindness and was a good friend to many people. Maria was an enlightened and enlightening woman for all those who worked with her, touching the lives of many people at the laboratory and in her field nationally and internationally.