

CNRS Chemistry welcomes Shigeru Yamago as an Ambassador in Chemical Sciences



On September 29, 2026, Shigeru Yamago, Professor in the Institute for Chemical Research, Kyoto University, will begin a series of lectures at several CNRS laboratories as the [Ambassador in Chemical Sciences](#) in France. His research group develops new approaches in organic and polymer synthesis to create structurally precise molecules and macromolecules. Its work spans organotellurium-mediated controlled radical polymerization (TERP), dendritic hyperbranched polymers and cyclic π -conjugated molecules such as cycloparaphenylenes, with the aim of understanding how molecular architecture governs material properties and function

What drove you from organic and organometallic chemistry to precision polymer synthesis?

A motto of my research group is “Let’s make a shining molecule.” By a “shining molecule,” I do not mean a molecule that emits light, but rather one that we can take pride in having created. Our research is driven by curiosity, and I hope that every student and researcher in my group will create their own “shining molecule.” I also hope that these molecules will ultimately shine not only in chemistry and science, but also in society. To achieve this goal, we draw on our knowledge and expertise in organic and organometallic chemistry to create the molecules we envision.

Over the next five to ten years, can we expect some of these “shining” precisely defined molecules to turn into new materials or technologies?

The synthetic tools we develop enable precise control over polymer architecture, ranging from linear and dendritic hyperbranched polymers to cyclic structures and even hoop-shaped π -conjugated molecules. We are particularly proud that our synthetic method for linear polymers has already been implemented on an industrial scale. A second production plant is even expected to be completed soon by our industrial partner. We have also discovered a wide range of unique properties in our hyperbranched polymers that can be readily synthesized using practical synthetic methods, making them particularly attractive for potential applications. I am therefore optimistic that they will eventually find industrial applications.

In contrast, the industrial implementation of cyclic π -conjugated molecules remains challenging, primarily because they cannot yet be readily produced in sufficient quantities. Yet, these molecules exhibit a wide range of unusual and fascinating physical properties. I hope some of these molecules will eventually find practical applications as well.

As a CNRS Ambassador in Chemical Sciences, what are you most looking forward to during your French conference tour?

My impression is that French scientists are distinguished by their originality and unique ways of thinking. I am therefore particularly looking forward to learning about their research and engaging in scientific discussions with them. I hope that these interactions will spark new, perhaps even crazy, ideas and research directions, potentially paving the way for new international collaborations.

On a personal note, I am also a great fan of wine, looking forward to making some exciting discoveries in that field as well.

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