

We develop the POKY suite which is the revolutionized platform with boundless possibilities for advancing research and technology development in biomolecular studies. POKY serves as the core of the Integrative NMR platform, providing a fully integrated, professional-grade cyberinfrastructure. Our full-stack development approach employs cutting-edge technologies such as artificial intelligence (AI), machine learning (ML), and computer vision (CV) to enable the next level of automation and visualization, maximizing the quality of user experience and productivity. POKY is capable of routine automated studies on well-behaving proteins, as well as keeping up with recent advances in the field, such as 13C-detected solution NMR for intrinsically disordered proteins (IDPs) and 1H/13C/19F detected solid-state NMR for large, insoluble, and membrane proteins. To cater to different level users, we offer various interface tools, including step-by-step guided automations (POKY Automation Guide), high-level push buttons (POKY Extensions), intermediate-level Jupyter notebooks (POKY Notebooks), and low-level customizable scripts (POKY Notepad). In this presentation, we will demonstrate how POKY makes NMR-based structural studies more accessible and automated with practical examples.