

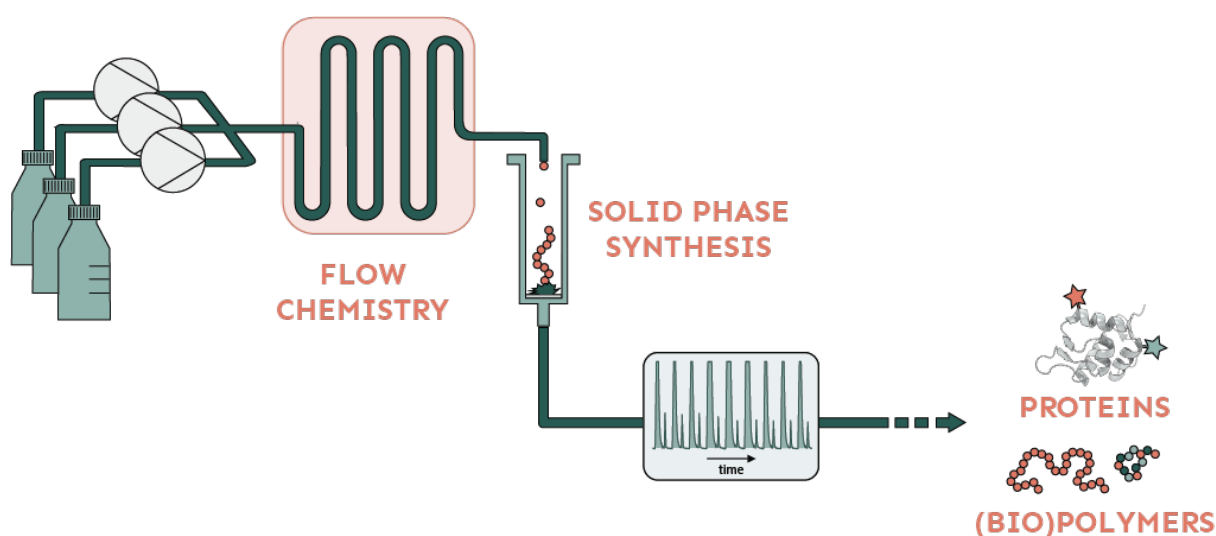
## Flow-based methods for chemical peptide and protein synthesis

Nina Hartrampf

Institute for Chemistry, University of Zurich, Winterthurerstrasse 190, Zürich, Switzerland  
nina.hartrampf@chem.uzh.ch

The field of biopharmaceuticals is rapidly expanding, requiring new methods for on-demand production of chemically modified peptides and proteins. Their chemical synthesis involves iterative formation of amide bonds on an immobilized solid phase and requires high yields for efficient incorporation of each individual amino acid. Flow-based synthesis methods are used to accomplish rapid synthesis of tailored peptides and proteins with the advantage of automated in-line data collection.<sup>[1]</sup> This analytical data can be used to further optimize and predict chemical synthesis outcome, including sequence-dependent events such as aggregation.<sup>[2]</sup>

After optimizing this method with respect to minimized time and by-product formation, flow-based synthesis now routinely delivers proteins exceeding 100 amino acids in length. Control of every incorporated amino acid is opening the chemical space to a theoretically unlimited number of modifications, such as incorporation of functional handles and post-translational modifications. In this presentation, the technology is set into context and areas for future developments and applications are highlighted.



### References:

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<sup>‡</sup> = authors contributed equally