

BIOLOGICAL CHEMISTRY

*Founded in 1877 by Felix Hoppe-Seyler as
Zeitschrift für Physiologische Chemie*

Felix Hoppe-Seyler (1825–1895) was a pioneer of biochemistry, remembered not only for his discovery of hemoglobin and his contributions to the chemical characterization of many other biological compounds and processes but also for having been the mentor of Friedrich Miescher and Albrecht Kossel. In his preface to the first issue of *Zeitschrift für Physiologische Chemie*, Felix Hoppe-Seyler coined the term *Biochemistry* ('Biochemie') for the then newly emerging discipline.

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COVER ILLUSTRATION

On the front cover a biofilm formed by the undomesticated *Bacillus subtilis* strain NCIB3610 is shown. *Bacillus subtilis* is the model organism for Gram-positive bacteria. Through complex signal-perception and signal-transduction mechanisms it can develop into different cell types that can co-exist in a self-produced extracellular matrix that encases the constituent cells. These multi-cellular assemblages of *B. subtilis* cells, referred to as biofilms, can form complex structured macro-colonies on solid surfaces and plant roots [Vlamakis et al., *Nat. Rev. Microbiol.* **11** (2013), pp. 157–168]. The picture shows such a macro-colony of the *B. subtilis* strain NCIB3610 grown for two days at 30 °C on biofilm-inducing MSgg agar plates containing Congo Red (40 µg/ml) and Coomassie Brilliant Blue (20 µg/ml) to stain the colony [Brada et al., *Proc. Natl. Acad. Sci. USA* **98** (2001), pp. 11621–11626; Assaly et al., *Proc. Natl. Acad. Sci. USA* **109** (2012), pp. 18891–18896]. The diameter of the shown macro-colony is approximately 1 cm. See also the article by Bange and Bedrunka on pp. 1307–1322 in this issue.

Image courtesy of Dr. Patricia Bedrunka [Center for Synthetic Microbiology (SYNMIKRO), Philipps-University Marburg, Germany].



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