

## Introduction

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This special issue of the Journal of Industrial Microbiology and Biotechnology (JIMB) originated as the result of a conference held to honor Academician Ivan Málek, distinguished microbiologist, scientist and organizer [Ivan Málek and ČSAV; Conference on the 100th birthday anniversary of Ivan Málek (1909–1994); Prague, 15–16 October 2009]. It was held under the auspices of the Masaryk Institute and the Archive of the Academy of Sciences of the Czech Republic (ASCR), which controls the personal archive of Málek. The conference was assisted by the Institute of Microbiology of the ASCR, v.v.i. (throughout this Volume, IM ASCR), and paid tribute to Málek. It was a collection of contributions dealing with historical aspects and reminiscences celebrating Malek's life and his achievements.

At the conference, the first day was devoted to the theme “Ivan Málek as an Academician of ASCR,” focusing on his activity within the structures of the Czechoslovak Academy of Sciences during the 1950s and 1960s and the science politics of Czechoslovakia. The second day, which was held on the premises of the Institute of Microbiology, emphasized Málek as the director of a scientific institution and as a prominent researcher. The speakers were mainly his former coworkers, who stressed his contributions to microbiology, emphasizing his impact on continuous cultivation of microorganisms and biosynthesis. An international assessment of Málek's scientific activity was presented by the distinguished historian of biotechnological

development, Robert Bud, from the UK. The program also included contributions dealing with Málek's studies of ecology and his life as an educator.

This publication presents the contributions made by Ivan Málek to the development of microbiology and other fields in the former Czechoslovakia, and defines their contents and analyzes their influence. The discussions represent individual contributions honoring Málek. The special issue addresses the significance of Málek's “school” with respect to the future development of microbiology and other fields (the term “school” mainly refers to continuous culture; see Kyslík and Prokop, this volume). According to the Oxford Dictionary, a ‘school’ revolves around leading teachers and principles instilled into their students and shared by them. Thus, it appears that in a scientific school, human elements like charisma of its leaders intermingle with scientific principles. Further, the impact of Málek's activity on general microbiology, genetics, molecular biology, biotechnology, microbial and algal ecology, and biodiversity is analyzed, and finally, the present status and future significance of Málek's work is examined.

This special issue is very different from a historical assessment. It consists of contributed reviews in different areas of microbiology, accompanied by original papers. It covers areas where Málek contributed the most, especially with regard to the special departments and schools that he established within his own institute. The issue is the result of the enthusiasm of the scientists and their willingness to contribute. Many of the chapters deal with aspects of continuous culture of microorganisms to some degree. The paper of Pokorný and colleagues covers dissipative ecosystems, an open system with feeds in and out. The role of microorganisms was not stressed in this presentation. In this special case, the activity described is an example of the very broad knowledge and concepts that Málek introduced

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and supported in his contacts with international organizations. It should be stressed that Málek introduced the idea of the “physiological state” as an accompanying concept of microbial culturing, initially at the qualitative level, and later, even quantitatively (see the paper of Kyslík and Prokop).

The second prevailing theme of the special issue is that of differentiation and biosynthesis, which play significant roles in general microbiology and genetics (see Nešvera; and Pazlarová) as well as in biogenesis of natural compounds (Spížek et al.). Note also an attempt to employ the continuous culture concept for secondary product

formation (Kyslík and Prokop) and algal physiology (Masojídek and Prášil). The latter contribution also deals with continuous or semi-continuous culture by design. Another example of Málek’s international activity is exemplified by the contribution of Rakesh Bajpai, who attended a 1-year UNESCO Long-term Postgraduate Training on “Modern Problems in Biology” at the Institute of Microbiology of ASCR. The Editors of this special issue are indebted to the JIMB’s past Editor, Allen Laskin, and current Editor, Robert Schwartz, whose profound understanding helped to make this happen.