



**Katedry genetiky a biochémie**  
Prírodovedeckej fakulty Univerzity Komenského

**Katedra biochémie a mikrobiológie**

Chemicko-technologickej fakulty, Slovenskej technickej univerzity

a

**Slovenská spoločnosť pre biochémiu a molekulárnu biológiu**

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Vás pozývajú na **35.** prednášku v rámci Kuželových seminárov:

**Dr. Wolfgang Burgstaller**  
Institute of Microbiology  
Faculty of Natural Sciences  
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**Organic acid excretion by filamentous fungi:  
metabolic background and membrane transport  
illustrated by *Penicillium simplicissimum***

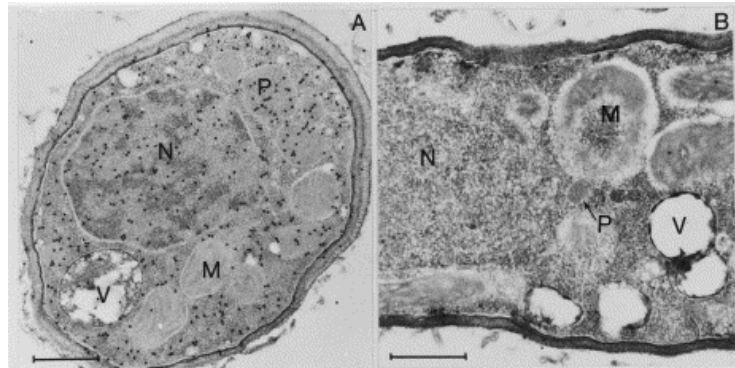
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**13. 2. 2003** (štvrtok)  
o **15:00** v miestnosti **B1-501** PriF UK

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## DR. WOLFGANG BURGSTALLER

Filamentous fungi – like *Aspergillus niger* and *Penicillium simplicissimum* – excrete great amounts of organic acids if growth is limited and the carbon source is available in excess. This phenomenon is used to produce citric acid with *A. niger* on an industrial scale and may be used to win metals from metal-containing industrial wastes and low-grade ores with *P. simplicissimum*. We know many details about the metabolism of *A. niger* under citric acid producing conditions. In this lecture, however, I will speak about two aspects, which attracted less attention in the past: the uncoupling of catabolism and anabolism and the transport of citrate across the plasma membrane. These two questions will be illustrated by results gained with *P. simplicissimum*, a soil fungus which we used to leach zinc from an industrial filter dust.



*Penicillium simplicissimum* (FEBS Lett. 422:65-8 (1998))

### Selected publications.

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GALLMETZER, M., & BURGSTALLER, W. (2001) Citrate efflux in glucose-limited and glucose-sufficient chemostat culture of *Penicillium simplicissimum*. Antonie van Leeuwenhoek 79, 81-87.

GALLMETZER, M. & BURGSTALLER, W. (2002) Efflux of organic acids in *Penicillium simplicissimum* is an energy spilling process adjusting the catabolic carbon flow to nutrient supply and activity of catabolic pathways. Microbiology 148, 1143-1149.

SIMKOVIC, M., KALINAK, M., BURGSTALLER, W. & VARECKA, L. (2002) Characterization of an inducible citrate uptake system in *Penicillium simplicissimum*. FEMS Letters 213, 21-26.