



Name: Prof. Dr. **Vladimír Kren**

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Born: May 3, 1956 Prague, Czechoslovakia; married, 1 child

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Current position: Head of Department of Biotechnology of Natural Products, Inst. Microbiol. Prague

Head of the Centre of Excellence - Biotransformation and Biocatalysis, Inst. Microbiol. Prague.

Education:

- Graduated (1981) with honours at the Institute of Chemical Technology in Prague in fermentation chemistry and biotechnology - degree: *Diploma-Engineer* (Dipl.-Ing.).
- CSc. (*Candidatus scientiarum*) in biology (area microbiology) (equal to PhD) from Cz. Academy of Sciences, Institute of Microbiology, Prague in 1988. Title of the thesis: "Submerge production of elymoclavine by immobilised and free cells of the fungus *Claviceps*"
- DSc (*Doctor scientiarum*) in biology from Academy of Sciences of the Czech Rep., Prague 2001, Thesis: "New enzymatic methods in preparation of biologically active glycosides".
- Professor (*full*) in Medicinal chemistry, Palacky University, Olomouc, 2005.

Language capabilities: English – fluent, German – working knowledge, French – working knowledge, Russian – working knowledge, Slovak - fluent

Employment:

- 1981 - 1988 Research assistant, Institute of Microbiology, Academy of Sciences of the Czech Republic, Prague
- 1988 Research fellow in Lab. of Metabolites of Eukaryotic Microorganisms, Inst. Microbiol.
- 1993 Head of Laboratory of Biotransformation, Inst. Microbiol. Prague (current position).
- 2001 Head of Department of Biotechnology of Natural Products (2001-2003; 2007-date).

Fellowships stays:

- 1979 Alko Co., Koskenkorva, Helsinki, Finland (3 months). Program: Undergraduate student training - kinetics of yeast fermentation
- 1985 E.-M. Arndt University, Greifswald (Prof. F. Bottcher), and Institute of Plant Physiology, Halle a. Saale (Prof. D. Groger), Germany (3 months); Program: Fungal protoplasts, preparation and fusion, mutasynthesis of ergot alkaloids.
- 1986 Inst. Microb. Physiol. Moscow (Dr. T. Reshetilova), USSR (2 months); Program: Immobilisation of *Pennicillium farinosum* and its use for alkaloid production

- 1990 - 1992 University of Warwick, U.K. Prof. D.H.G. Crout (15 months); Program: Enzymatic biotransformations, production of optically active compounds, enzymatic glycosylations, teaching.
- 1993 Université Paris-Sud, Orsay, France (3 months) Dr. C. Auge; Program: Enzymatic biotransformation of ergot alkaloids
- 1993 - 1994 University of Hamburg (A. von Humboldt fellow) Prof. J. Thiem (8 months); Program: Purification of glycosyltransferases and their use for biotransformation of ergot alkaloids and other natural substances.
- 1994 University of Bologna (3 months) Prof. A. Minghetti; Program: Biotransformations of natural products by plant cell cultures.

Taching activity:

- 1988 - date diploma thesis supervisor (9 students up to now)
- 1986 and 1989 postgraduate workshops on "Immobilised cells" (principal organiser, lectures)
- 1988 lectures (Course of immobilisation techniques) Hohenheim University, Stuttgart, Germany
- 1991 seminar on bioorganic chemistry, University of Warwick (pedagogical-research), U.K.
- PhD student supervisor 1992 - date (12 doctoral students)
- 1992 - 2002 advanced lectures at the Institute of Chemical Technology, Prague, Dept. Biochemistry and Microbiology.
- 1996 - date Xenobiochemistry; Biomedical enzymology (advanced course for PhD students), Palacky University, Fac. of Medicine, Olomouc.
- 1998 – 2001 one-term course at South Bohemian Univ., C. Bud. (Xenobiochemistry and biotransformation).

Scientific orientation: Secondary metabolites of fungi (*Aspergillus*, *Claviceps*); Immobilised microbial cells; Biotransformation of natural products by enzymes and microorganisms. Preparation of microbial glycosidases and glycosyltransferases and their use for glycosylations, glycobiology.

Scientific-organizational activities:

- Head of laboratory (28 research workers & PhD students) – date
- Head of Department of Natural Products – 2001-2003; 2007-date
- Vice-chairman of Scientific board of the Institute of Microbiology, Academy of Sciences 1996-2001.
- Member of Scientific board of the Inst. of Organic Chemistry and Biochemistry, Acad. Sci. 1992-2001
- Chairman of Chemistry section of the Grant Agency of the Cz. Acad. Sci. 1995-98
- Editorial board of Journal of Carbohydrate Chemistry – member
- National representative of the Czech Republic in EUROCARB (European Carbohydrate Organization)
- National representative of the Czech Republic in ICO (International Carbohydrate Organization)

Consultation activity: 1987 – date Galena Pharmaceuticals (Opava, Czech Rep.) - fermentative preparation and biotransformation of ergot alkaloids. Fermentative production of fungal metabolites, biotransformations of bio-active substances, flavonoid chemistry.

Expert activity for the Czech government:

- Ministry of Industry and Commerce – Member of ministerial advisory board for industrial grants
- Ministry of Education – Member of the ministerial advisory board for young scientists returning from foreign stays
- Ministry of Education – Member of the ministerial advisory board for institutional grants

Expert activity for EU:

- Evaluation of grant applications of 5th and 6th and 7th FW – Food quality and microbiology
- Evaluation of applications for Marie Curie training centers and Centers of Excellence CERC
- Preparation of the position materials for EU (SusChem)

Participation in COST EU/ESF project activities:

- MC member of Cost Chemistry D25, D28, D34, MC0601, MC0702
- Coordinator of WG D25-0001-02, WG-MC0702-1
- Participant in WG D13-0001-98 and WG D13-0015-01, WG D28-0007-03, WG D34-0001-05, MC0601
- Organizer of Workshop of COST D25, June 28, 2003 Olomouc

Research Awards :

- Price of rector for outstanding study results (1981)
- Distinguished young scientist achievement medal - from Czech Academy of Sciences (1988)
- A. v Humboldt research fellowship (1993)
- Matsumae International Foundation Research Award, Japan (1995-6)
- Invited lecture – Gordon conference Biocatalysis, Boston (1996)
- Czech Academy of Sciences Award for Excellent project results (2003)

Project coordination responsibility

- Industrial grant - "Glycosylation of pharmaceuticals" 1994, 1995
- Grant of Czech Academy of Sciences - "Biotransformations of alkaloids by peroxidases" 1994 - 1996
- EU Grant PECO Preparation of ergot alkaloid O- and N- glycosides with potential antiviral activities.
- EU Grant PECO Glycosylation of flavonoids with potential hepatoprotective activities.
- Volkswagen foundation res. grant. (together with Prof. J. Thiem, Univ. Hamburg) - Chemoenzymatic synthesis of immunomodulatory saccharides
- DAAD grant (together with Dr. T.K. Lindhorst, Univ. Hamburg) - Dendrimeric carbohydrates
- Grant of Czech National Grant Agency - 6 grants up to now
- Grant of Czech Ministry of Industry - 3 grants up to now
- Grant of Czech Academy of Sciences – 4 grants up to now
- Grant of British Royal Society of Chemistry (3x)
- National Center for Biotransformation and Biocatalysis (coordinator)

Membership in learned societies: Member of: Czech Society of Biochemistry, Czech Society of Chemistry (member of the board of trustees), Czechoslovak Society of Microbiology, British Royal Society of Chemistry (Fellow).

Membership of editorial boards: Journal of Carbohydrate Chemistry, Biotransformation and Biocatalysis (Editor associate), International Journal of Molecular Sciences, International Journal of Carbohydrate Chemistry

Survey of publication activity: (see enclosed list of publications)

175 papers in peer reviewed journals and books,

80 posters at local conferences,

90 at international conferences,

23 patents

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