



UNIVERSITY of SZEGED

FACULTY OF SCIENCES

DEPARTMENT OF BIOPHYSICS
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Head of the Department

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Professor Rob de Ruyter, Chair
Faculty Search Committee
Biocomplexity Institute
Indiana University
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Bloomington, IN, 47405-7105
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Dear Prof. Ruyter,

It is a great pleasure to write this letter of recommendation for

Dr. László KÁLMÁN,

and I wish to express my strongest possible support for his candidacy for a position in your Department. I have known Dr. Kálmán for over 12 years, since his graduate student days, when he worked on his doctoral degree in my institute.

From the very beginning, Dr. Kálmán's work has been outstanding in the fields of both teaching and research.

Dr. László Kálmán provides leadership and an impeccable role model for students with whom he interacts. While teaching Hungarian and English classes of medical students at our Department in the nineties, he has accumulated widespread experiences on how to deal with students of different nations and cultural backgrounds. He has miraculous ability to build up excellent contact with the students. His regular teaching duties included laboratory practices in biophysics and special courses in photosynthesis and proton pump mechanisms in biology for students major in medicine, biology and physics. He contributed in writing up a textbook for laboratory practices in biophysics that became an essential and basic guide for medical students in the University of Szeged. His teaching work has been highly appreciated by the students and the staff of the Department.

Dr. László Kálmán's first major contribution was to establish the experimental and theoretical basis for conformation-activated electron and proton transfer of the photosynthetic reaction center protein from the bacterium *Rhodobacter sphaeroides*. The reaction center, which converts light energy into cellular energy by electron and proton transfer reactions, is one of only a handful of true membrane proteins for which the structure is known at atomic resolution. Kálmán's development of the experimental tools for measurement of light-induced proton uptake was a giant step in our armory for studying this important class of proteins, which includes the major energy transducing activities of all cells.

Most recently, Dr. Kálmán has turned his attention to the donor side region of the reaction center, more specifically, to the role of different amino acid residues in the energy converting process. These novel mutations facilitate the study of certain reactions that are otherwise difficult (or even impossible) to detect. This will be a very fruitful avenue for future research.

Dr. Kálmán has what often called “golden hands”, meaning that his success with even the most delicate and difficult experimental technique appears almost amazing. Often-times, such people are the only ones who are able to perform certain procedures and without them a project may literally be impossible. This is certainly the case for Dr. Kálmán, and his abilities and contributions have been essential to our work.

Dr. László Kálmán provides unique and indispensable expertise in all areas of biophysical and biochemical methodology. He is extraordinarily self-reliant. Thus, although his undergraduate education was in chemistry, he has never showed any hesitation in extending himself to new facets of his work, from biochemistry to biophysical experimentation and theory. At all times, whether it be physical chemistry or biophysics, he has quickly acquired whatever new skills were needed. The result, now, is an exceptionally gifted experimentalist with wide ranging skills and personal attributes that are very rarely encountered in a single individual.

I have the very highest regard for Dr. László Kálmán and his unassuming nature has not prevented full recognition of his capabilities and contributions. Throughout his career in research, Dr. Kálmán’s work has been ground-breaking and his work to date has been of substantial influence on the progress of research in several labs in the U.S. and around the world. His major contributions are widely recognized and were formally commended by his receiving the Young Biophysicist Award on the Hungarian Biophysical Society in 1997.

Very sincerely yours,

Péter Maróti
Professor of Biophysics,
Head of the Department of Biophysics
University of Szeged, Hungary.