



PHYSICAL CHEMISTRY 2022

16th International Conference
on Fundamental and Applied Aspects of
Physical Chemistry

Organized by
The Society of Physical Chemists of Serbia

BOOK OF ABSTRACTS



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Abbreviations

- PL** – Plenary Lecture
- SL** – Section Lecture
- O** – Oral Presentation
- P** – Poster Presentation

Topics

- A** – Education and History
- B** – Spectroscopy, Molecular Structure, Physical Chemistry of Plasma
- C** – Kinetics, Catalysis
- D** – Nonlinear Dynamics, Oscillatory Reactions, Chaos
- E** – Electrochemistry
- F** – Biophysical Chemistry, EPR investigations of Bio-systems
- G** – Organic Physical Chemistry
- H** – Material Science
- I** – Photochemistry, Radiation Chemistry, Photonics
- J** – Macromolecular Physical Chemistry
- K** – Environmental Protection, Forensic Sciences, Geophysical Chemistry,
Radiochemistry, Nuclear Chemistry
- L** – Phase Boundaries, Colloids, Liquid Crystals, Surface-Active Substances
- M** – Complex Compounds
- N** – Food Physical Chemistry
- O** – Pharmaceutical Physical Chemistry

PL- Plenary lecture

F-04-P

**PROTOPLAST PATCH-CLAMPING USING AN UPRIGHT
MICROSCOPE WITH A MOVABLE STAGE**

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ABSTRACT

Investigating membrane properties of plants is a challenging task, considering that success of experiments is highly dependent on the possibility to isolate metabolically active protoplasts that can withstand membrane current recordings. The aim of the present work is to obtain viable protoplasts derived from root cells of *Pisum sativum* that can be used for the whole-cell patch-clamp. We designed the procedure of the pea protoplasts isolation that delivers stable protoplasts with preserved membrane integrity suitable for electrophysiological experiments. We applied a custom approach for patch-clamping protoplasts using a microscope with a movable microscope stage. We recorded prominent inward and prominent outward types of membrane current profiles of protoplasts. Obtained data indicate that optimized isolation protocol and custom system for patch-clamping, can be applied to study membrane properties of root protoplasts.