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## *Special event intro*

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Dear Colleagues,

Ladies and Gentlemen,

This conference coincides with the 50th anniversary of the pioneering paper on spectral hole burning by researchers from the Tartu Institute of Physics, then affiliated with the Estonian Academy of Sciences.

Authored by Anzhel Gorokhovskii, Rein Kaarli, and Ljubov Rebane, this groundbreaking work laid the foundation for selective spectroscopy of solids—a new field in condensed matter physics that continues to thrive.

Rein Kaarli is with us today in the audience. Let's acknowledge and congratulate him for this achievement.

The discovery of spectral hole burning was inspired by previous research on zero-phonon lines at the Institute of Physics. These studies also advanced single-molecule spectroscopy, leading to William E. Moerner's Nobel Prize in Chemistry, 10 years ago.

Femtosecond and spectral hole burning spectroscopies, both at the forefront of chemical physics research, are more closely related than one may initially think.

This is why we celebrate the 50<sup>th</sup> anniversary of spectral hole burning within this conference.

Our speakers for this jubilee event are:

- **Jaak Kikas:** Instrumental in the theoretical interpretation of hole burning experiments, Jaak will discuss unknown aspects of the discovery and modern applications of this phenomenon.
- **Peeter Saari:** Developed time-domain holography based on spectral hole burning. Peeter will explain us the intricate connections between hole burning and femtosecond spectroscopies.
- **Tõnu Reinot:** A former graduate student from this Institute, now continuing his research in the USA. Tõnu will share some of the latest discoveries in the field.