

PROFESSOR AVRAHAM GOVER

**Department of Electrical Engineering Physical Electronics
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University,**

- [Head, Israeli Free Electron Laser Knowledge Center for Radiation Sources and Applications](#)
- **Fellow of the American Physical Society (APS)**
- **Fellow of the Institute of Electric and Electronic Engineering (IEEE)**

Short Biography

Professor Avraham Gover is a faculty member (emeritus) in the Physical Electronics Department of the Faculty of Engineering in Tel Aviv University. He has received his B. Sc. and M. Sc. Degrees in Physics from Tel-Aviv University in Israel in 1968 and 1971 respectively. He received his Ph.D. degree in Applied Physics from CALTECH in California U.S.A. in 1975.

A. Gover is a Fellow of the IEEE and a Fellow of the American Physical Society. In 2005, he was awarded the international FEL prize "in recognition for his outstanding contributions to Free Electron Laser science and technology"

A. Gover is one of the pioneers of the field of Free Electron Lasers (FEL), and is one of the leading experts in this field for the last thirty years. A. Gover together with his PhD thesis advisor at CALTECH – Amnon Yariv, made their first contributions to the fundamental theory of FEL (full classical formulation including high gain operating regimes) in 1974. In Tel-Aviv University, his FEL research group has developed an electrostatic accelerator FEL based on the Tandem accelerator of the Weizmann Institute, and demonstrated lasing in 2003. This FEL was the basis of the Israeli Center for Radiation Sources and Applications (FEL Knowledge Center) in Ariel.

A. Gover has participated in numerous international FEL projects in the U.S. and other countries. These include consulting for NRL (Washington DC, US) through SAIC (1978-1984), sabbatical period employments in Stanford University (1983) and Brookhaven National Lab (1986), and collaborations with University of Maryland, UCLA. In the period 1987-1988 he managed through SAIC a research and development contract for SDIO (Strategic Defense Initiative Office) aimed at development of high average power FEL concepts. In 2005 he served as a member of the "Soft X-Ray Free Electron Laser Committee" of ESFRI (EU), charged of preparing a road map of the long term scientific infrastructure development of the European Union Commission. He has presently scientific collaborative projects on FEL science with UCLA, SLAC and Stanford University.

A. Gover's expertise is in both the theoretical and experimental fields of lasers and quantum electronics, and his main contribution. He has contributed to the development of numerous innovative theoretical and experimental concepts in the field of free electron radiation sources. These include the identification of the common high gain and collective regime dispersion relation of FEL and a large variety of free electron radiation sources, the theory of Quantum-FEL and other quantum radiation sources and fundamental relations of spontaneous and stimulated emission [17], Smith-Purcell FEL, Electrostatic schemes and concepts of pre-bunched beam FEL - superradiant and stimulated superradiant FELs [35,36] and the Tapering Enhanced Stimulated Superradiant Amplifier (TESSA). His comprehensive theoretical model of FEL and e-beam radiation devices is published in the chapter on Lasers/FEL in the Encyclopedia of Modern Optics [38].