CV

Dr Gregory Fogel

Physicist, Photonics/Optical Design Engineer

SKIILS:

X-ray and Gamma-ray Physics
Semiconductor and Isolator materials Physics
Thermo-luminescence (TSL) Processes and Dosimetry
Mathematical/Simulation/Numerical Analysis Physics
New method/devices development
Multiple Applications Project Management
Photonics/Optical Design
Medical/Nuclear/Radiation Physics

EDUCATION:

Ph.D. in Solid State Physics, Tel-Aviv University, Israel, in 1995.
MS in Physics, Riga State University, USSR, 1984.
Associate member of Institute of Physics and Engineering in Medicine (IPEM).

PATENT & PUBLICATIONS:
USA Patent in 1997, 12 scientific publications.

EXPERIENCE:

2002--2007:   **Senior Radiotherapy Physicist**
Churchill Hospital, Medical Physics, Oxford, UK

Commissioning of new Radiotherapy Treatment Planning System (CMS XiO).
Promotion of new Linac QA programs. Maintenance of Helax, Exomio and Prosoma.

2001--2002:   **Optical/Photonics Design Engineer**
Optical Micro Devices, Wootton Bassett, Swindon, UK

Development and design of various integrated optic devices:
AWG, MZI, Splitters, Couplers, Switches.
Analysis of Birefringence and Bend problems.
Tapered Mode Converter based on Si_3N_4.
Stresses analysis in multiplayer-substrate compounds.
Thermo-optic and Polarization effects calculation.
Software tools: BeamPROP, OPTIWAVE, APOLLO, BBV, Photon Design.

1994--2001:   **Senior Physicist**
TSL Industrial Instruments, Misgav, Israel

Founded a new company set to develop new groundbreaking technologies :
- Developed new X-ray imaging method and apparatus
- Conducted the Noise/Image physical and numerical study of new large-screen ultra-low radiation system
- Developed new methods for analysis the physical characteristics of such isolators as dentine and enamel, quartz, soil, ceramic, and glasses based on thermo-luminescence after exposed to X-Ray radiation
- Developed new thermo-luminescence multipurpose instruments for oil/gas exploration
- Promoted customers education, preparation of brochures and sales material.
- Developed computer programs and data processing methods for analysis and optimization of experimental data
- Implemented flexible 2D/3D data fitting software package for unique fractal Geometrical Interpolation Polynomial (GIP) method based on non-conventional approaches to non-Euclidean geometry. Implementation of functional integration with Excel, Quattro Pro, Lotus, Matlab, and O-Matrix.

Contract works:

for Digident Diamond Imaging Ltd., Yoqneam, Israel
- Provided physical solution and software implementation of all calibration and measurement procedures for a dental scanner
- Implemented a new user interface
- Developed new photoluminescence sensors for dental applications
- Conducted Noise/Image physical and numerical study for development of various instruments and X-ray sensors
- Performed physical study of photo-multiplier tubes application for the newly development instruments.

for Oncology Department of Rambam Medical Center, Haifa, Israel
for Isravest Ltd, Tel-Aviv, Israel
- Nuclear and high-energy radiation physics
- TLD dosimetry and planning support to the radiotherapy departments.
- Development multi leaf collimators for RadioSurgery. 2D treatment planning
- Engineering and computing service to clinical staff
- R&D and current research activities are broad ranging including applications to dosimetry and planning radiobiology, detector dosimetry and clinical-based projects in association with the oncologists
- New Brach therapy advanced projects
- Checks and patient dose measurements on a wide variety of radiology equipment.

- Radiotherapy physics' support to radiation therapy programs, medical/clinical physicists develop improvements to radiotherapy procedures through involvement in leading edge research and development initiatives
- Equipment maintenance. Quality Assurance programs.

for Lambda Crossing Ltd, Caesarea, Israel
- Optical Design
- Development and simulation of various integrated optic devices
- Birefringence analysis. BPM method
- Micro Ring Resonator Filters design based on scattering matrix method
- Coupled-Mode and Filter Losses analysis
- Support of Test Laboratory team to explanation of experimental results
- OADM and mode converters design

1990--1994: **Research Fellow**
Tel-Aviv University,Tel-Aviv, Israel

- Researching on the topic of Thermo-Luminescence (TSL/TLD)
- Researching on the topic of new TLD detectors for various radiation types
- Performed computerized mathematical modeling of physical processes
- Applied various mathematical methods to physical problems
- Devised application of Thermo-luminescence effect to forensic science, geology and archaeology dating, environmental monitoring, identification of Art objects, material quality control

1980--1990: **Senior Physicist**
Laboratory of Physical and Medical problems, Riga, Latvia, former USSR

Led a research team on the following topics:
- Application of various statistical methods to Radiation Dosimetry data
- Research on the topic of Thermo-Luminescence (TSL)(instruments, methods)
- Radiation Dosimetry (medical treatment and diagnostics)
- Research on the topic of Tungsten Metallography
- Development of new radiation dosimeters
-
Directed graduate students in thermo-luminescence research problems (TSL/TLD).

Planed curriculum and organized company schools for:
- New radiation detectors and dosimeters;
- New research in Radiation Dosimetry;
- Application of computer to Radiation Dosimetry;
- Radiation for medical, industrial and scientific applications.