

## Seminars/ Invited Lectures:

1. Laser based sensors and their application, Physics Department, KFUPM, Nov, 2006.
2. Laser induced Breakdown Spectroscopy and its Applications in Environment, Geology, Petroleum, Steel and Mining industries, Phys Deptt, Jeddah, 29.3.2006.
3. Effect of industrial pollution on environment and new optical techniques, Earth Science Department, KFUPM, 20 December, 2005.
4. Lecture Series on pollution (solid, liquid and gas) Monitoring using lasers , Institute of Environmental Sciences and Engineering, National University of Sciences and Technology., Rawalpindi, Pakistan, 7-11 November, 2005.
5. Laser application in environmental Sciences, Physics department, KFUPM, 24.September, 2005
6. LIDAR Monitoring Of Aerosols For Prediction Of Boundary Layer Heights, Phys Department, King Saud University, Riyadh, 7th June 2005.
7. Environmental issues and need for advanced (laser based) air monitoring techniques, Mechanical Eng. Deptt, KFUPM, 30th March 2004.
8. Global warming and its effects on humans,forest and climate, American Chemical Society Meeting, Gulf Meridian, Alkhobar, September 2004
9. Laser based photoacoustic spectrometry and its applications, Phys Deptt, KFUPM, 28th March, 2004.
10. Laser-induced Desulfurization of Oil and other aromatic compounds, Saudi Aramco January, 2004 & June 2005.
11. Laser production of high value hydrocarbons and high value organic products from petrol residue, Saudi Aramco, March 2003.
12. Methane Cracking for the production of higher hydrocarbons on 28 April 2003 at the LRS, CAPS, RI, KFUPM.
13. Detection of SF<sub>6</sub> leaks in power systems using laser on 12 May 2003 at the LRS, CAPS, KFUPM.
14. Photoacoustic Spectroscopy for Trace Gas Analysis and Gas Leak Detection, Physics Department, Free University Berlin, Germany, 17.7.2002.
15. Lasers and their applications in every day life, Electrical Engineering Department, King Abdul Aziz University, Jeddah, Saudi-Arabia, 24.10. 2001.
16. Laser remote sensing and its applications in environment, agriculture and metrology, Air and Waste Management Association USA (Saudi-Section) Dhahran International Hotel, 23.1.2001.
17. Laser sensors applications in agriculture, oil and industrial pollution Joint seminar R.I and Mechanical Engineering Department, KFUPM, 3.10 2000.
18. Light detection and ranging (LIDAR) system, Institute of Applied Physics, University of Bonn, Germany, 19.7.2000.
19. Photoacoustic sensor for insitu detection of leaks in power systems, to the technical experts from SCECO Central, Riyadh and SCECO West, Jeddah on 17.10 2000.
20. Development of remote laser based sensors for environmental applications
21. Center for Applied Physical Sciences, R.I, KFUPM, 15.2. 1999.

22. Applications of laser sensors for atmospheric studies, Applied Physics Deptt, Victoria University, Melbourne, Australia, 8.8.1997
23. Laser Remote Sensing and its Applications, Joint seminar R.I and Physics Department, KFUPM, 4.5 1997
24. Laser Applications in Medicine, King Fahd Teaching Hospital, Alkhobar, Saudi-Arabia. 25. 6. 96.
25. Oil and Gas Exploration using Laser Remote Sensors”, Saudi-Aramco, Dhahran, Saudi-Arabia, 30. 6. 96
26. Multi-step Excitation of Autionizing States and Role of Collisions in Ca-vapor”, Center for Laser and Applications, Macquire University, Sydney, Australia, 21. 2. 96
27. Collisional energy transfer of laser excited metastable Ca atoms and excitation of ionic states of calcium, Physics Department, University of Kaiserslautern, Germany (8.8.1995).
28. Large scale collisional energy transfer in optically prepared atomic states of calcium, Institute of Applied Physics, University of Bonn, Germany (28.7.1995).
29. Collisional excitation of 4p 2p states of Ca II in resonant excitation of CaI states, Institute of Physical chemistry, University of Heidelberg, Germany (24.8.1995).
30. Energy transfer in laser pumped calcium vapor, ICTP, Trieste, Italy (21.7.1995).
31. Environmental applications of lasers", Division-II, R.I. Seminar was presented to experts from National Environmental Preservations Co. (BeeA'h). (31.10.1994).
32. Laser induced fluorescence studies of agricultural plants using lasers", Division-III, R.I., KFUPM (25.1.1994).
33. Laser remote sensing of leaks in gas pipelines, Division-II, R.I., KFUPM (30.11.1993).
34. Study of diffuse bands in alkali dimers", Division-II, R.I., KFUPM (28.1.1992).
35. Diode laser and its applications", Division-II (Proposal Seminar at Managerial Level) (February 1993).
36. Single photon excitation studies of new diffuse bands in Na<sub>2</sub> and Li<sub>2</sub> dimers using 351nm (XeF) and 337 nm (N<sub>2</sub>) excimer laser, ICTP, Trieste, Italy (18.6.90).

## 5. Short Courses/workshops:

- (a) **Title:** Lasers and their applications held at LRS, CAPS, KFUPM.  
**Description:** The course covered the basic principles of lasers, types of lasers, operation & routine maintenance of lasers, laser safety, as well as many applications in engineering, industry, environment, medicine and agriculture  
**Date:** November 27 – 01st December 1999 (delivered five lectures and two labs)

- (b) **Title: Recent advancements in air pollution monitoring & control** held at Institute of Environmental Sciences and Engineering, National University of Sciences and Technology (NUST), Rawalpindi, Pakistan.  
**Description:** The course covered the important issues concerning global warming, ozone depletion, acid rain, photochemical smog, forest decline and state of the art advanced techniques for air pollution monitoring such as LIDAR, Photoacoustic spectroscopy, Laser Induced Breakdown Spectroscopy (LIBS) and their applications as well as the latest techniques for control of air pollution at industrial complexes.  
**Date:** September 8-9, 2003 (delivered five lectures)
- (c) **Title: Workshop on environmental issues and air monitoring techniques**, Institute of Environmental Sciences and Engineering, National University of Sciences and Technology (NUST), Rawalpindi, Pakistan  
**Date:** January 7, 2003.
- (d) **Title: Work shop on awareness of environmental(water, air) problems in Pakistan**, Global environmental problems, green house effect, ozone depletion and acid rain formation, toxic air pollutants and their safe permissible limits and laser based techniques developed at KFUPM (Total six lectures + videos), National Engineering and Science Commission Islamabad, Pakistan  
**Date:** 23.8.2006.