

# An Informal Teaching of Light and Lasers Through the CSIR-NLC PULSE Programme

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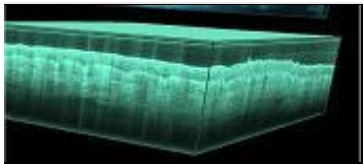


# CSIR NLC Competence Areas

## Laser Physics & Technology



Laser Sources



Biophotonics



Mathematical Optics

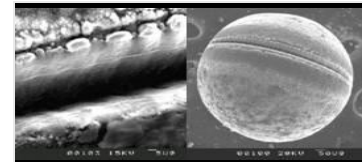


Applied Photonics

## Laser Materials Processing



Macro Processing



Micro Processing



Specialist Services

## Higher Education Institutions



LIDAR



Laser Loan Pool Programme

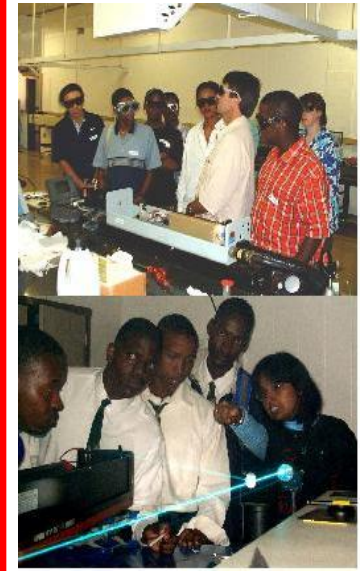


PULSE



African Laser Centre

# Higher Education Institutions



- Rental Pool Program
  - Peer reviewed programme
  - Funded access to laser systems and equipment
  - Access to NLC's scientists, engineers, technicians and expertise

- African Laser Centre
  - Research collaboration support
  - Scholarship programs
  - Training events
  - Coordination
  - Equipment & Infrastructure Programme
  - Technology Transfer Programme

- User and R&D Facility
  - Fully equipped laser laboratories and facilities for use by universities and industry
    - Advanced photonic materials research
    - Synthetic diamond
    - Semiconductors
    - Solar absorber materials

## PULSE

# OBJECTIVES OF THE PULSE PROGRAMME

## Public Understanding of Laser Science and Engineering



Host schools and tertiary institutions



Visit schools and tertiary institutions



# OBJECTIVES OF THE PULSE PROGRAMME

## Public Understanding of Laser Science and Engineering



Attend Science festivals and participate in the National Science Week



Host industry and government

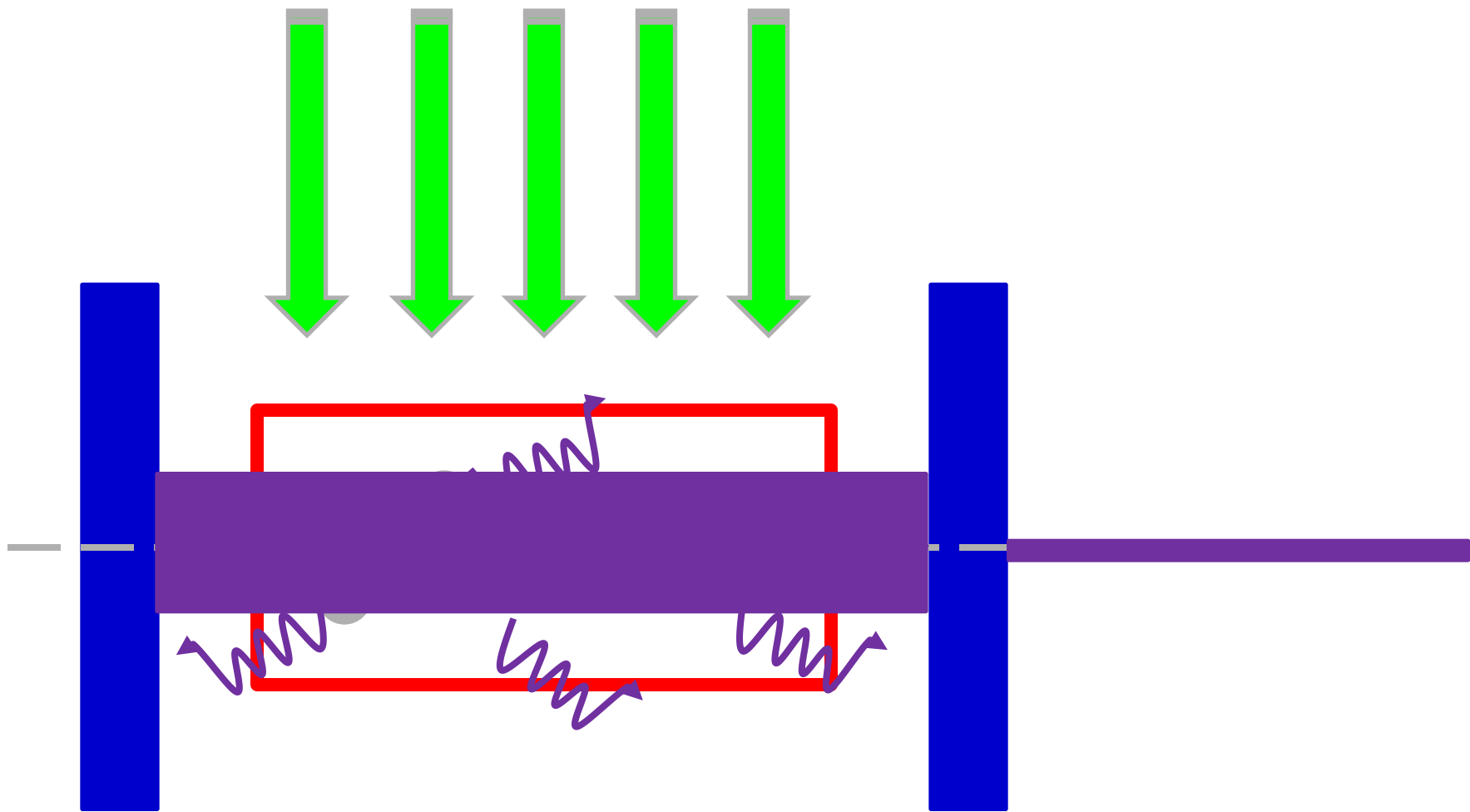
# CONTENT OF PRESENTATION



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Partially Reflective



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# CONTENT OF PRESENTATION

## Industry / Wealth

aeronautical engineer  
agricultural engineer  
biotechnologist  
brewing technologist  
building technologist  
chemical engineer  
colour technologist  
computer-aided designer  
cyberneticist  
design engineer  
factory inspector  
financial analyst  
food scientist  
industrial designer  
investment banker  
mechanical engineer  
operational research scientist  
patent engineer  
printing technologist  
production engineer

## Energy

chemical engineer  
civil engineer  
computer scientist  
control systems engineer  
electrical / electronic  
engineer  
environmental control  
scientist  
exploration and production  
engineer  
geologist  
geophysicist  
health and safety physicist  
instrumentation technician  
mining engineer  
oilfield services engineer  
pollution control scientist /  
engineer  
R&D scientist / technologist

## Medicine

audiology technician  
biochemist  
biomedical engineer  
biophysicist  
dentist  
dietician  
dispensing optician  
medical doctor  
environmental health officer  
forensic scientist  
medical physicist  
optometrist  
orthoptist  
osteopath  
pharmacist  
physiotherapist  
radiographer  
speech therapist  
veterinary surgeon

## Transport

aeronautical engineer  
air traffic controller  
armed services  
astronaut  
automobile engineer  
ceramicist  
ergonomics expert  
flight engineer  
material scientist  
merchant navy officer  
motor mechanic  
naval architect  
navigator  
nautical scientist  
pilot  
structural engineer  
transport manager  
transport researcher  
vehicle designer

## Leisure

acoustic engineer  
computer game designer  
graphic artist  
lighting engineer  
material scientist  
model maker  
museum and science  
centre manager  
photographer  
picture restorer  
safety engineer  
sport equipment designer  
sports injury specialist  
water manager  
yacht designer

## Environment

agricultural scientist  
archaeologist  
architect  
building supervisor  
cartographer  
civil engineer  
climatologist  
conservation officer  
draughts person  
environmental scientist  
geologist  
geophysicist  
health and safety officer  
marine scientist  
meteorologist  
noise engineer  
oceanographer  
soil scientist  
surveyor  
water manager

## Space

astronaut  
astronomer  
cartographer  
climatologist  
instrumentation technologist  
meteorologist  
satellite engineer  
space scientist  
test engineer

## Education

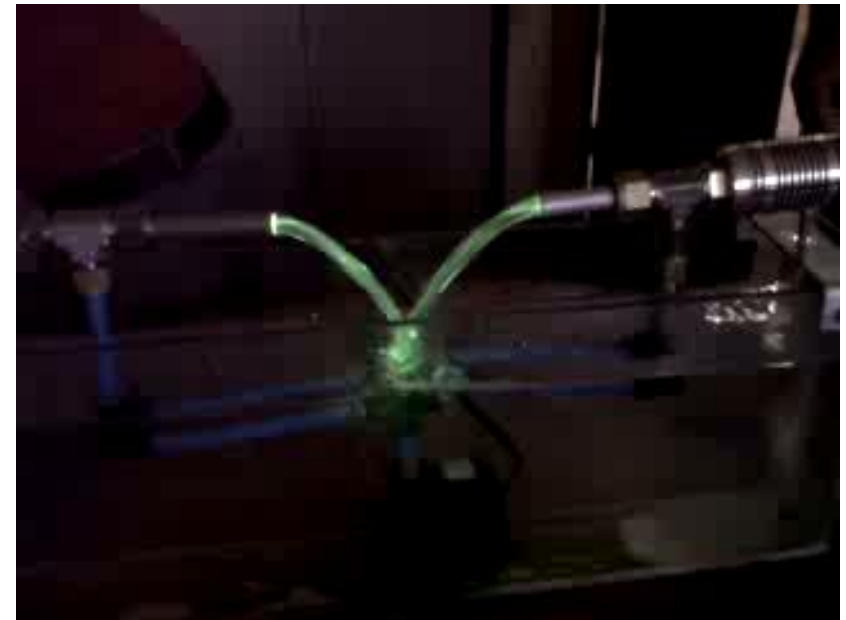
company training officer  
information scientist  
laboratory technician  
mathematician  
physics lecturer  
primary / secondary teacher  
science administrator  
science advisor  
science broadcaster  
science inspector  
science journalist  
science teacher  
statistician  
technical illustrator  
technical writer

## Research

laser scientist  
astrophysicist  
space geodesist  
astromoner  
material scientist  
nuclear scientist  
partical physicist  
theoretical physicist

WHATEVER YOU DREAM OF DOING, PHYSICS OFFERS THE BEST WAY FORWARD...

# CONTENT OF EXHIBITION





# CONTENT OF EXHIBITION





# EVENTS ATTENDED

Sasol Techno X

Scifest Africa

Eding! Science festival

National Science Week

Science Unlimited

Science-tube

Scifest Africa'12: Grahamstown

Lerato, Darryl and Nozuko



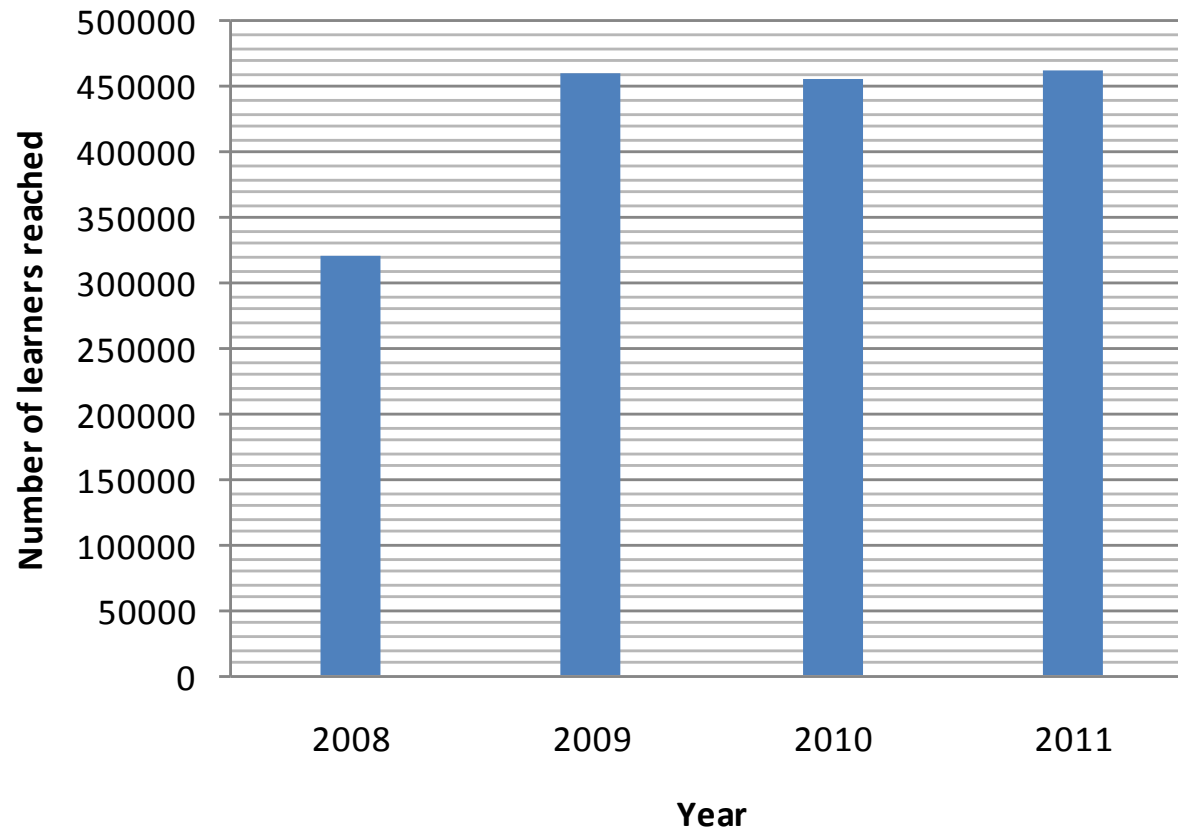
Learners reached = 505



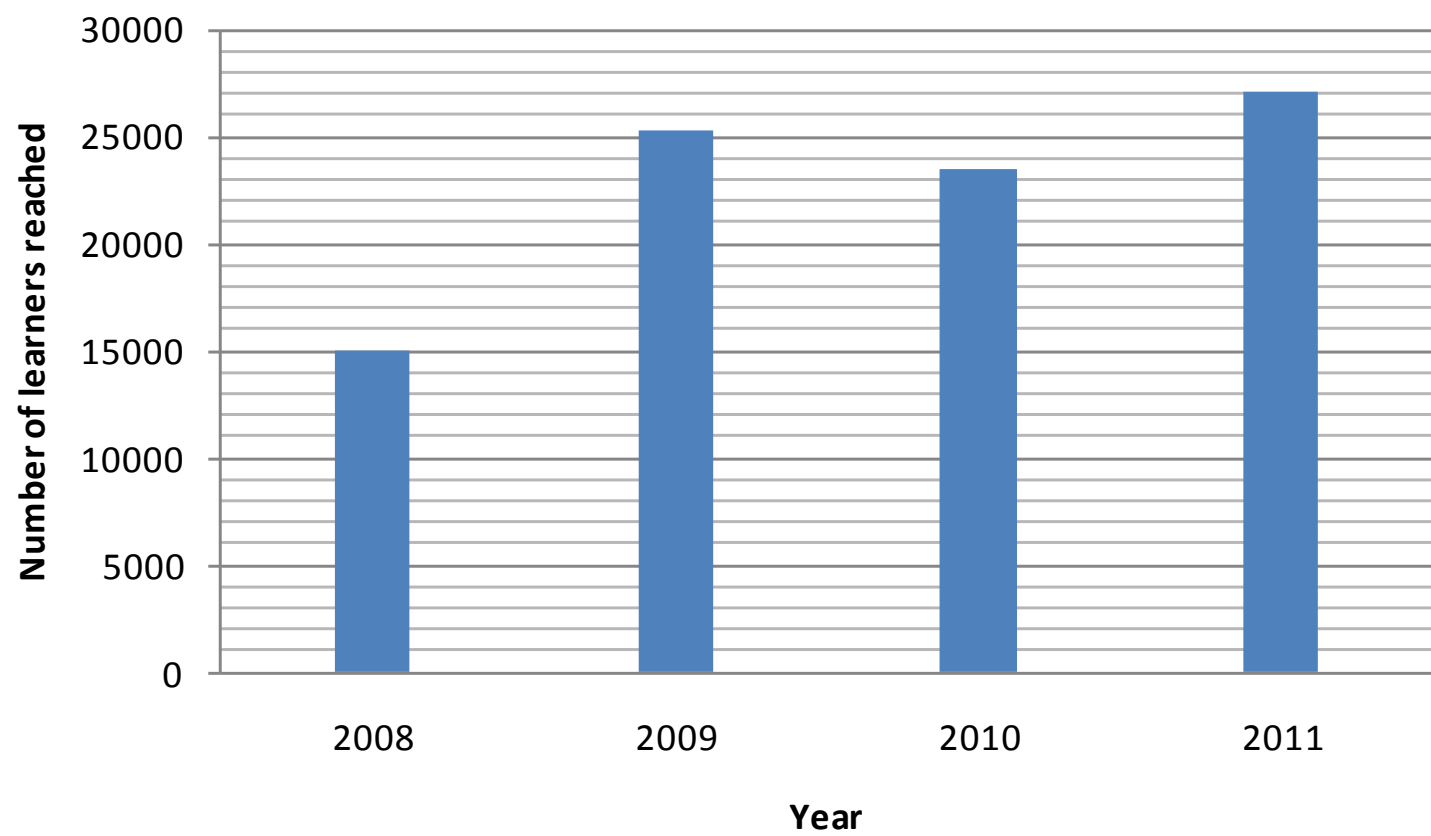
NLC took 1<sup>st</sup> place for Best Workshop: Outreach



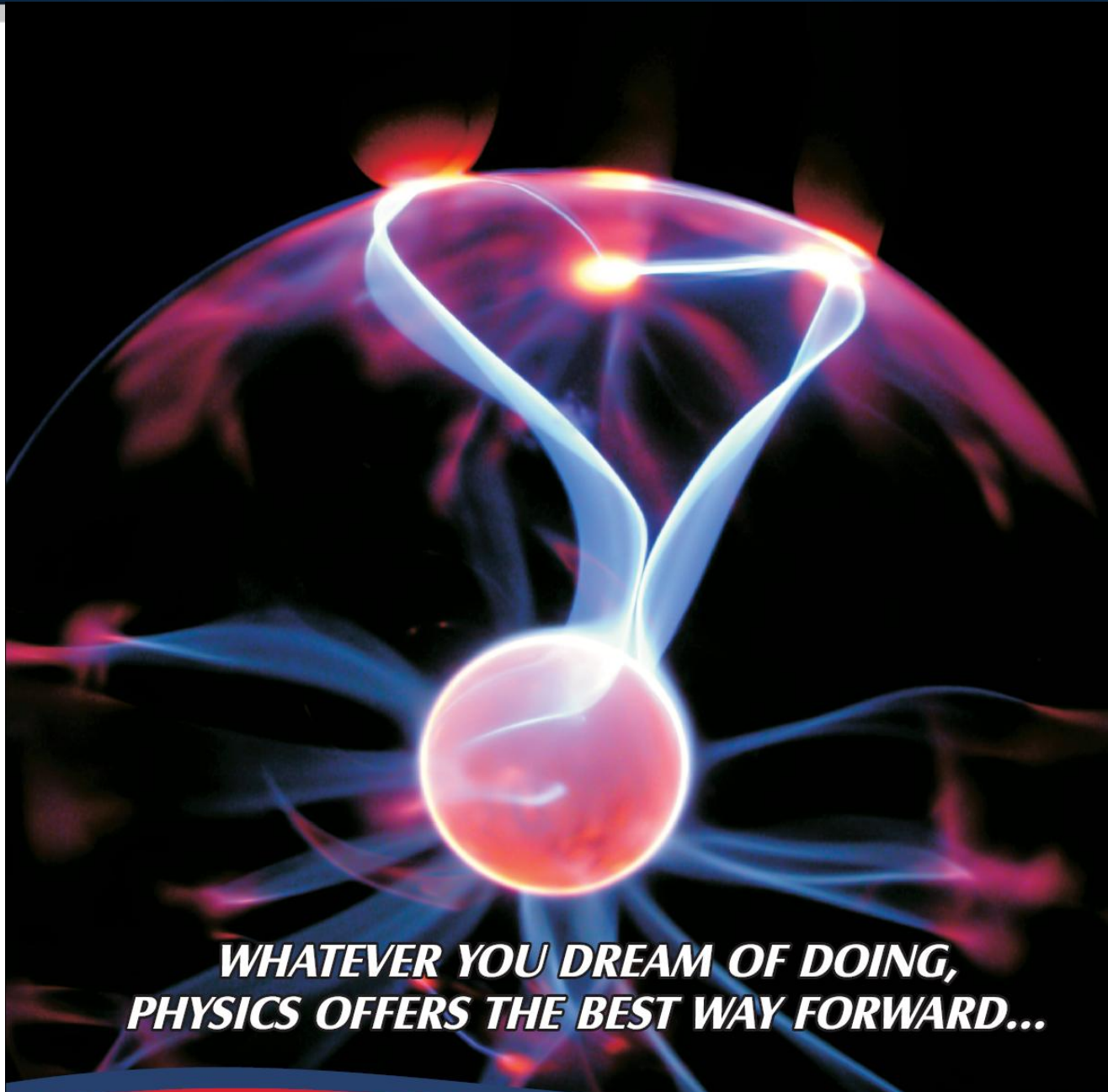
# THE NUMBER OF LEARNERS REACHED



# TREND IN THE NUMBER OF LEARNERS REACHED



# THANK YOU!



***WHATEVER YOU DREAM OF DOING,  
PHYSICS OFFERS THE BEST WAY FORWARD...***