



# mec

THIS IS THE TITLE SLIDE

YOU CAN ADD YOUR NAME/FUNCTION HERE



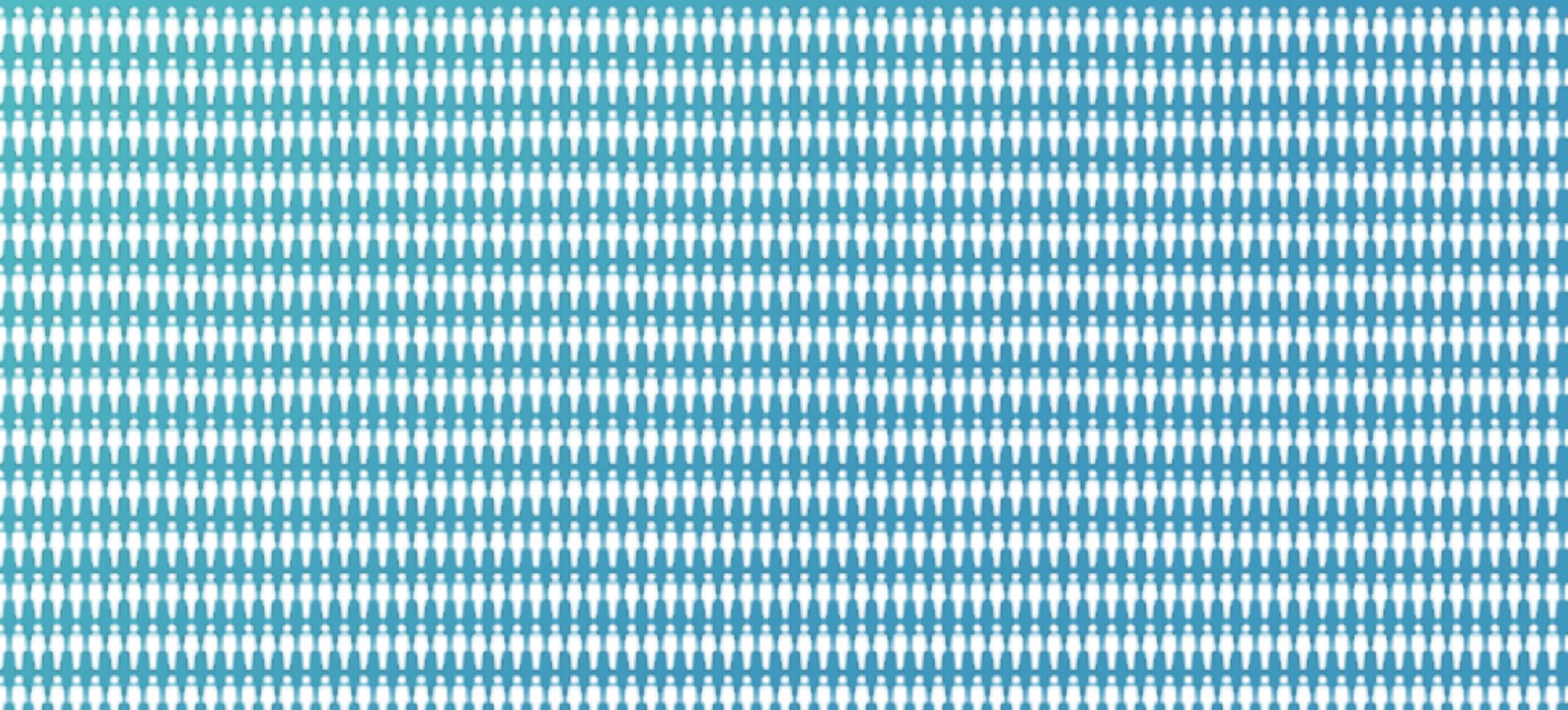


imec is  
a world-leading research and development  
nonprofit that creates innovative  
nanoelectronics and digital technology.



# Global Partnerships

OVER 4,000 HIGHLY SKILLED RESEARCHERS WORLDWIDE



**USA**  
SAN FRANCISCO



**USA**  
NEOCITY



**BELGIUM - HQ**  
LEUVEN



**THE NETHERLANDS**  
EINDHOVEN

**INDIA**  
BANGALORE



**CHINA**  
SHANGHAI



**JAPAN**  
OSAKA



**JAPAN**  
TOKYO

**TAIWAN**  
HSINCHU

# HUMBLE BEGINNINGS IN LEUVEN , BELGIUM IN 1985...

WORLD CLASS INFRASTRUCTURE TODAY



Nerf lab

300 mm  
pilot line

Nano bio  
labs

200 mm  
pilot line

Organic solar  
cell line

Silicon solar  
cell line

# MEET THE IMEC USA-FLORIDA TEAM





SPECIALTY CAMERAS  
PYTHON DETECTION CAMERAS



**UF** | UNIVERSITY of  
**FLORIDA**



**umec**



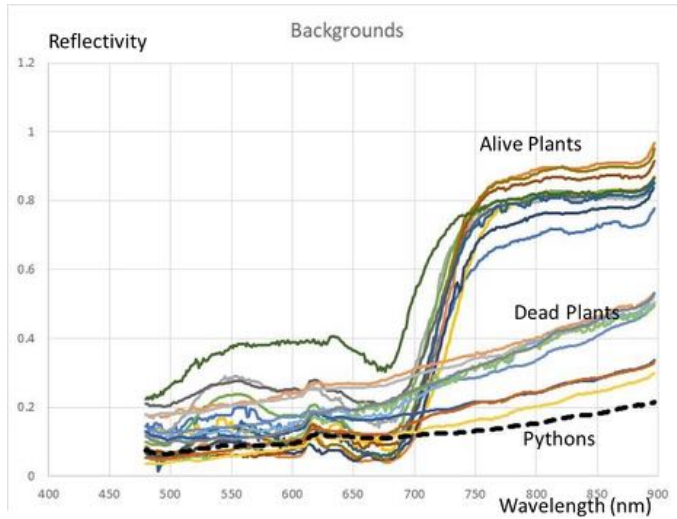
 **umec**



The Deathly Hallows



# SPECIALTY CAMERAS: FINDING PYTHONS IN THE EVERGLADES



$$\begin{bmatrix} m_1 \\ m_2 \\ \vdots \\ m_n \end{bmatrix} = \begin{bmatrix} M_{11} & \cdots & M_{1k} \\ \vdots & \ddots & \vdots \\ M_{n1} & \cdots & M_{nk} \end{bmatrix} \begin{bmatrix} p_1 \\ p_2 \\ \vdots \\ p_k \end{bmatrix}$$

↑
→





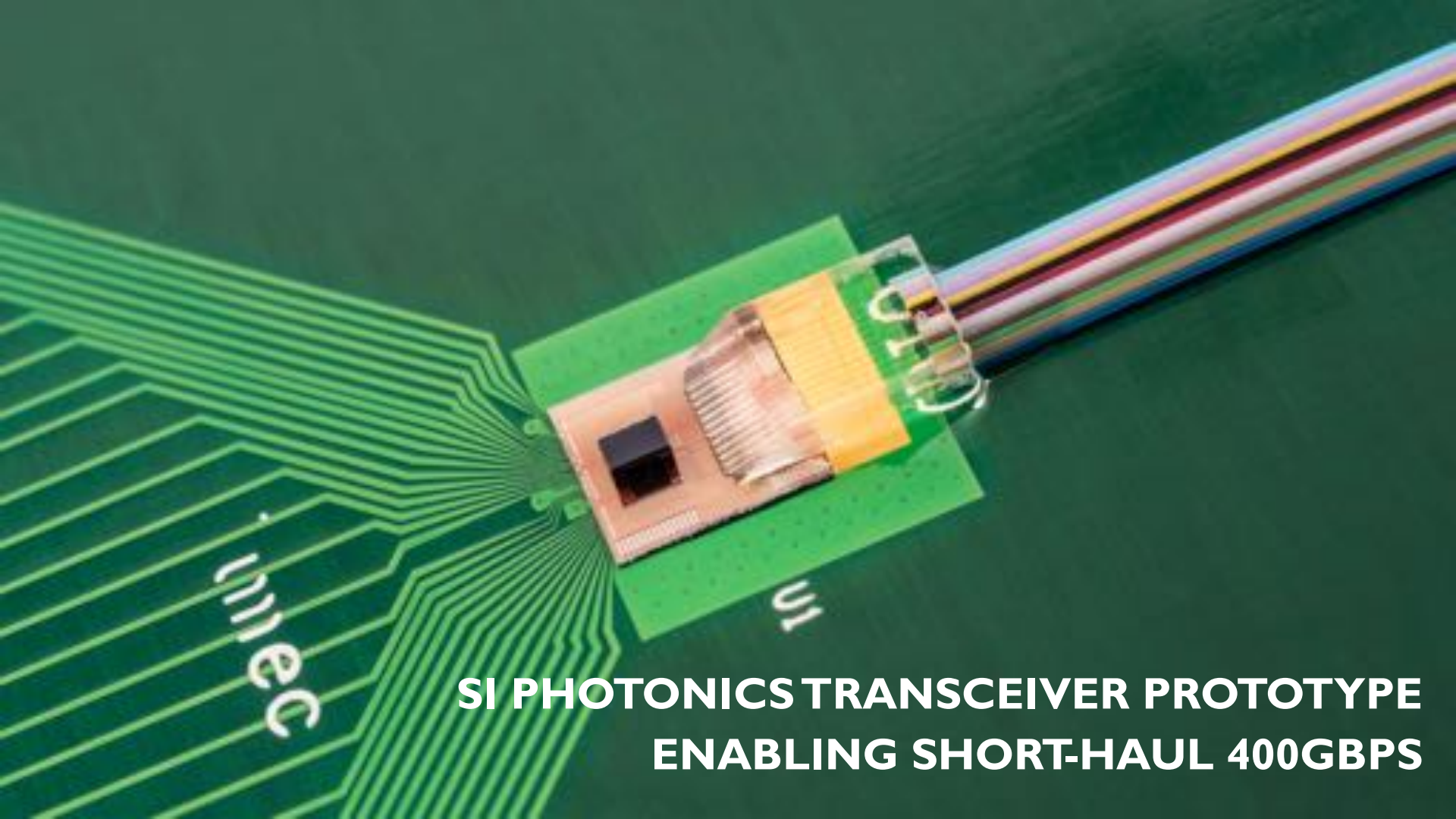


**WHY NOT INTEGRATE OPTICAL COMPONENTS  
ONTO A SILICON CHIP?**



**IMEC SILICON PHOTONICS PLATFORM**





**SI PHOTONICS TRANSCEIVER PROTOTYPE  
ENABLING SHORT-HAUL 400GBPS**

# **DATA CENTER INTERCONNECTS BORROWING FROM LONG-HAUL TELECOMMUNICATIONS**

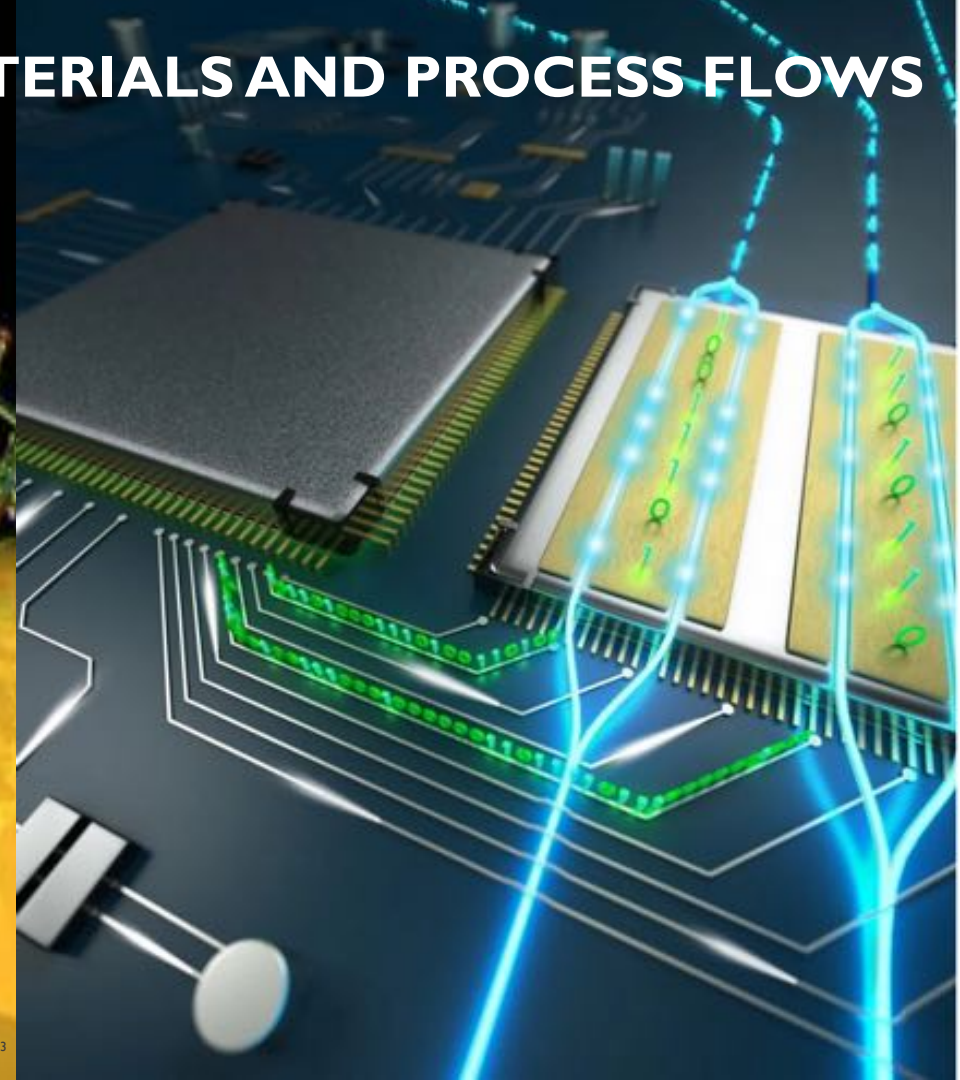
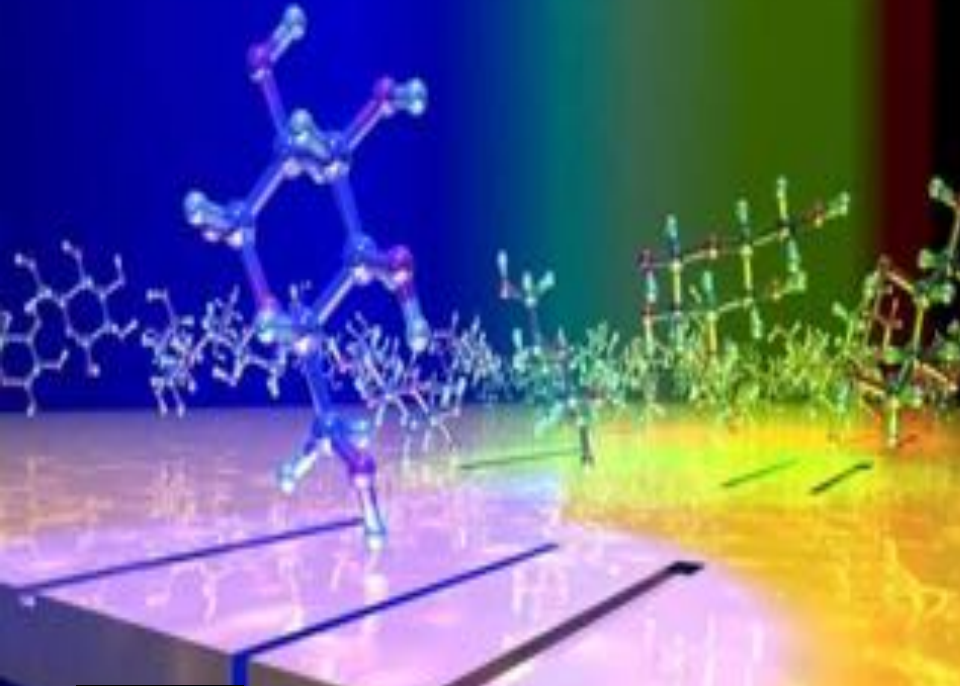


# **COHERENT OPTICAL TRANSCEIVER MOVES TO DATA CENTER INTERCONNECT**



# NEW STANDARDS FOR COST EFFECTIVE, INTEROPERABLE OPTIONS

# NEW ELECTRO-OPTICAL MATERIALS AND PROCESS FLOWS



**CREOL, The College of  
Optics and Photonics**

**UCF**

**Functional Materials and Sensors Lab**

Materials Science and Engineering, University of Central Florida

# GROWING FUTURE STEM TALENT IN OSCEOLA COUNTY





at imec, we shape the future