

ACADEMIC PROGRAM

19 AUGUST 2025 DAY 1

08.00 - 09.00: **Registration**

09.00 - 09.10: **Welcome: Prof Mmasethunya Temane, Executive Dean, Faculty of Health Sciences**

09.10 - 09.20: **Felicitatation: Prof Refilwe Phaswana-Mafuya, Deputy Vice Chancellor, Research and Innovation**

09.20 - 09.30: **Program Introduction: Prof Heidi Abrahamse, Director LRC: NRF DSI SARChI Chair**

SESSION 1: PDT DRUG DEVELOPMENT AND CLINICAL IMPLICATIONS

Chair: PROF HEIDI ABRAHAMSE

1	09:30-10:00	"PHOTODYNAMIC THERAPY: FROM CANCER TREATMENT TO INFECTION CONTROL" PLENARY Prof Vanderlei Salvador Bagnato: <i>University of São Paulo, Brazil; Distinguished Visiting Professor, LRC, UJ</i>
2	10.00-10:30	"OVERCOMING DEPTH AND SELECTIVITY LIMITATIONS OF PHOTODYNAMIC THERAPY" PLENARY Prof Luis Arnaut: <i>Chemistry Department, University of Coimbra, Portugal</i>
3	10:30-11:00	"PHOTODYNAMIC CANCER THERAPY AT THE LRC" Prof Heidi Abrahamse & Prof Blassan George: <i>Laser Research Centre, University of Johannesburg, South Africa</i>

Coffee Break: 11:00 to 11:30

SESSION 2: NANOTECHNOLOGY ADVANCES IN DRUG DISCOVERY

Chair: PROF BLASSAN GEORGE

4	11:30-12:00	"NANOENGINEERED MATERIALS FOR PREVENTION, TREATMENT AND DIAGNOSIS OF VARIOUS DISEASES" PLENARY Prof Suprakash Sinha Ray: <i>DSI/CSIR National Centre for Nanostructured Materials, Pretoria, South Africa</i>
5	12.00-12.30	"PHOTOACTIVE HERBAL COMPOUNDS AND DRUG DEVELOPMENT" INVITED Dr Cheruthazhakkat Sulaiman: <i>Centre for Medicinal Plants Research, Arya Vaidya Sala, Kottakkal, India; Visiting Research Associate, LRC, UJ</i>
6	12:30-13:00	"THE DESIGN OF BIOMIMETIC PHOTO-ACTIVE THERAPEUTICS FOR NANO & REGENERATIVE MEDICINE APPLICATIONS" INVITED Prof Choonara Yahya: <i>Department of Pharmacy and Pharmacology, WITS, South Africa</i>

Lunch: 13.00 to 13:45

SESSION 3: ANTIMICROBIAL PDT

Chair: PROF ANINE CROUS

7	13:45-14:15	"LIGHT-BASED THERAPY OF INFECTED WOUNDS: A REVIEW OF DOSE CONSIDERATIONS FOR PHOTODYNAMIC MICROBIAL INACTIVATION AND PHOTOBIOMODULATION" PLENARY Prof Lothar Lilge: <i>University Health Network and University of Toronto, Canada; Visiting Professor, LRC, UJ</i>
8	14:15-14:45	"VISIBLE-LIGHT-DRIVEN DEGRADATION OF POLLUTANTS AND MICROBIAL INACTIVATION IN AQUEOUS SOLUTION USING PORPHYRIN CONJUGATES" INVITED Dr Muthumuni Managa: <i>Institute for Nanotechnology and Water Sustainability (iNanoWS), University of South Africa, South Africa</i>

Coffee Break: 14:45 to 15:15

SESSION 4: DRUG DEVELOPMENT AND ENVIRONMENTAL IMPACTS

Chair: DR SATHISH SUNDAR DHILIP KUMAR

9	15:15-15:45	"ENDOPHYTIC FUNGI FROM RED SEA MANGROVES: BIODIVERSITY INSIGHTS AND ANTIDIABITIC POTENTIAL OF PENICILLIUM OXALICUM" PLENARY Prof Mohamed Abdelmontaser: <i>Dean of the Faculty of Science, Galala University, Suez, Egypt</i>
10	15:45-16:15	"ZEBRAFISH (DANIO RERIO) AS A MODEL ANIMAL FOR INVESTIGATING DIABETES AND ITS COMPLICATIONS" INVITED Prof Pilani Nkomozepi: <i>Human Anatomy and Physiology, University of Johannesburg, South Africa</i>

16:15: Closing: Prof Nicolette Houreld

20 AUGUST 2025 DAY 2

09:00: **Welcome and Program Introduction: Prof Heidi Abrahamse**

SESSION 5: TRANSLATIONAL BIOPHOTONICS

Chair: PROF HEIDI ABRAHAMSE

11	09:00-09:30	“MECHANISTIC BASIS OF PBMT PAIN MODULATION DEPENDS ON THE IRRADIANCE” PLENARY Prof Juanita J. Anders: <i>Neuroscience at Uniformed Services University of the Health Sciences, Bethesda, MD, USA</i>
12	09:30-10:00	“PHOTOBIOMODULATION THERAPY IN NEUROLOGICAL DISEASE” INVITED Dr Ashleigh Bhanjan: <i>The Durban Neuro Laser Clinic, Durban, South Africa</i>
13	10:00-10:30	“TRANSLATIONAL BIOPHOTONICS RESEARCH AND QUANTUM HEALTH” INVITED Prof Vesna Karic: <i>Oral Health Sciences School, WITS, South Africa</i>

Coffee Break: 10:30 to 10:45

SESSION 6: BIOPHOTONICS IN MEDICAL TECHNOLOGIES

Chair: PROF BLASSAN GEORGE

14	10:45-11:15	“BREAKING DOWN THE RESISTANCE OF BACTERIA TO ANTIBIOTIC” PLENARY Prof Vanderlei Salvador Bagnato: <i>University of São Paulo, Brazil; Distinguished Visiting Professor, LRC, UJ</i>
15	11:15-11:45	“SENMORPHIC APPROACH TO PREVENT CELLULAR DYSFUNCTION AND IMPROVE REGENERATIVE CAPACITY” INVITED Prof Mari Van De Vyver: <i>Experimental Medicine Group, Department of Medicine, FMHS, Stellenbosch University</i>
16	11:45-12:15	“HARNESSING RADIOFREQUENCY FIELD THERAPY AND PHOTODYNAMIC THERAPY FOR ENHANCED CANCER MANAGEMENT” INVITED Prof John Akudugu: <i>Division of Radiobiology, University of Stellenbosch, South Africa</i>
17	12:15-12:45	“LIGHT-DRIVEN MEDICAL TECHNOLOGIES FOR COMBATING ANTIMICROBIAL RESISTANCE AND ENHANCING PANDEMIC PREPAREDNESS” INVITED Prof Sudesh Sivasaru: <i>DSI NRF SARChI Chair, Biomedical Engineering Centre, University of Cape Town, South Africa</i>

Lunch: 12:45 to 13:45

SESSION 7: ADVANCES IN PHOTOBIOMODULATION

Chair: PROF NICOLETTE HOURELD

18	13:45-14:15	“EFFECT OF PHOTOBIOMODULATION THERAPY ON OXIDATIVE STRESS MARKERS IN HEALING DYNAMICS OF DIABETIC NEUROPATHIC ULCER: TRANSLATIONAL RESEARCH” PLENARY Prof Arun Maiya: <i>Professor & Dean, Centre for podiatry & diabetic footcare research, MAHE Deemed University, Manipal, India; Visiting Professor, LRC, UJ</i>
19	14:15-14:45	“PHOTOBIOMODULATION APPLICATIONS IN FOOD INDUSTRY AND SUSTAINABLE WOUND CARE” PLENARY Prof Ahmed El-Hussein: <i>Department of Biological Sciences, Galala University, Suez; Department of Surface Engineering, Jožef Stefan Institute, Ljubljana, Slovenia; National Institute of Laser Enhanced Science, Cairo University, Egypt</i>
20	14:45-15:15	“ADVANCES IN PHOTOBIOMODULATION THERAPY FOR THE BRAIN” PLENARY Prof Michael Hamblin: <i>Harvard University, USA; Distinguished Visiting Professor, LRC, UJ</i>
21	15:15-15:45	“PHOTOBIOMODULATION AND NANOTECHNOLOGY AT THE LRC” Prof Nicolette Houreld & Prof Anine Crous & Dr Sathish Kumar: <i>Laser Research Centre, University of Johannesburg, South Africa</i>
22	15:45-16:00	“FUNCTIONALITY OF NEURONS DIFFERENTIATED EX VIVO AND IN VIVO” INVITED Dr Sajan George: <i>School of Bio Sciences & Technology, Vellore Institute of Technology, India; Visiting Research Associate, LRC, UJ</i>

16:00: Closing Remarks: Prof Heidi Abrahamse

Coffee: 16:00