

The TWAS Young Affiliates Network (TYAN) is organizing a summer school program, TEACH 4 SD, focused on providing hands-on training courses for postgraduate students in sustainable development from developing countries in Latin America and the Caribbean (LACREP) region to be held in Santiago, Chile.

The objectives of the summer school include equipping students with practical skills in various scientific topics critical for sustainable development research, bridging the gap between theoretical knowledge and practical applications often lacking in developing countries, and fostering collaboration and exchange of knowledge among students and researchers from different countries. Below are the details of the six courses and instructors participating in this next summer school on different topics, including bio-spectroscopy, photochemistry, energy metabolism, calcium imaging in live cells, optical mineralogy, and data analysis for optical tweezers experiments.

**Program Details:**

- Dates: December 11-15, 2024
- Location: Universidad de Chile, Santiago, Chile
- Host Institution: Universidad de Chile, a leading research institution in Latin America with a strong focus on sustainability.
- Courses: Six intensive, hands-on training courses offered by a team of international instructors from TYAN and local universities, covering topics like bio-spectroscopy, photochemistry, energy metabolism, calcium imaging in live cells, optical mineralogy, and data analysis for optical tweezers experiments.

For those who wish to participate, please use the QRcode on the attached flyers to register.



**3rd TYAN SUMMER SCHOOL**  
"HANDS-ON TRAINING COURSES ON HEALTH,  
BIOTECHNOLOGY AND ENVIRONMENTAL SCIENCES."  
Santiago, Chile.

**DECEMBER** **2024** **11-15** Campus Norte,  
Universidad de Chile,  
Santiago.



Join us for a unique experience to explore the basic knowledge, the advancements and challenges in sciences and technologies.

Connect with renowned experts and expand your knowledge in an inspiring environment.

Register your interest in participating and apply for a place in one of the school's six hands-on courses by scanning the QR code.



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# 3RD SUMMER SCHOOL IN CHILE

## "HANDS-ON TRAINING COURSES ON HEALTH, BIOTECHNOLOGY AND ENVIRONMENTAL SCIENCES"

**11-15** **2024** **DECEMBER** Campus Norte,  
Universidad de Chile,  
Santiago.

### COURSES - CURSOS

**OPTICAL TWEEZERS :  
FUNDAMENTALS, DATA ANALYSIS  
AND APPLICATIONS**  
PINZAS ÓPTICAS: FUNDAMENTOS, ANÁLISIS  
DE DATOS Y APLICACIONES



**Dr. Are Mjaavatten**  
• University of South-Eastern  
Norway, Porsgrunn, Norway.



**Dr. Christian A. M. Wilson**  
(TYAN Member)  
• Universidad de Chile,  
Santiago, Chile



**Dr. Steven B. Smith**  
• Steven B. Smith Engineering,  
Los Lunas, New Mexico, USA.



**PhD Student Camila G. Correa**  
• Universidad de Valparaíso,  
Valparaíso, Chile.  
• Universidad de Chile,  
Santiago, Chile.



**Dra. Karina New**  
• Universidad de Chile,  
Santiago, Chile.

**FUNDAMENTAL ASPECTS OF  
PHOTOCHEMISTRY**  
ASPECTOS FUNDAMENTALES DE LA  
FOTOQUÍMICA



**Dr. Franco Cabrerizo**  
(TYAN Member)  
• INTECH (UNSAM-CONICET),  
Argentina.



**Dr. Paula Denofrio**  
• INTECH (UNSAM-CONICET),  
Argentina.

**CALCIUM IMAGING IN LIVE CELLS**  
IMAGEN DE CALCIO EN CÉLULAS VIVAS



**Dr. Andrea Paula Lima**  
(TYAN Member)  
• Universidad de Chile, Chile.



**Dr. Paola Llanos**  
• Universidad de Chile, Chile.



**Dr. Pedro Lobos**  
• Universidad de Chile, Chile.

**INTEGRATION OF ENERGY  
METABOLISM IN MAMMALIANS**  
INTEGRACIÓN DEL METABOLISMO  
ENERGÉTICO EN MAMÍFEROS



**Dr. Patricia Zancan**  
(TYAN Member)  
• Universidade Federal do Rio  
de Janeiro, Brazil.



**Dr. Mauro Sola Penna**  
• Universidade Federal do Rio  
de Janeiro, Brazil.

**BIOESPECTROSCOPY**  
BIOESPECTROSCOPIA

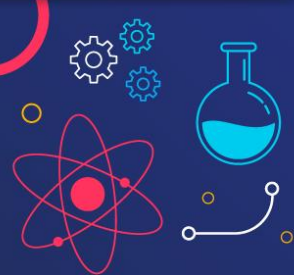


**Dr. Yraima Cordeiro**  
(TYAN Member)  
• Universidade Federal do  
Rio de Janeiro, Brazil.

**OPTICAL MINERALOGY**  
MINERALOGÍA ÓPTICA



**Dr. Mauricio Calderón**  
(TYAN Member)  
• Universidad del Desarrollo, Chile





## COURSES - CURSOS



### OPTICAL TWEEZERS : FUNDAMENTALS, DATA ANALYSIS AND APPLICATIONS

PINZAS ÓPTICAS: FUNDAMENTOS, ANÁLISIS DE DATOS Y APLICACIONES



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- Universidad de Chile, Santiago, Chile



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- Universidad de Valparaíso, Valparaíso, Chile.
- Universidad de Chile, Santiago, Chile.



**Dra. Karina New**

- Universidad de Chile, Santiago, Chile.





## FUNDAMENTAL ASPECTS OF PHOTOCHEMISTRY

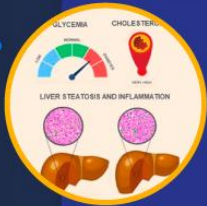
ASPECTOS FUNDAMENTALES DE LA FOTOQUÍMICA



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Argentina.



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• INTECH (UNSAM-CONICET),  
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## INTEGRATION OF ENERGY METABOLISM IN MAMMALIANS

INTEGRACIÓN DEL METABOLISMO ENERGÉTICO EN MAMÍFEROS

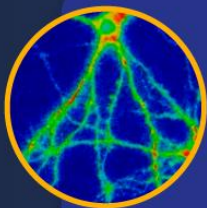


**Dr. Patricia Zancan**  
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## CALCIUM IMAGING IN LIVE CELLS

IMAGEN DE CALCIO EN CÉLULAS VIVAS



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## BIOESPECTROSCOPY

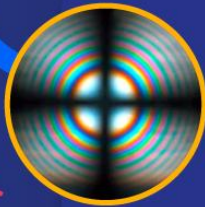
BIOESPECTROSCOPIA



**Dr. Yraima Cordeiro**

(TYAN Member)

• Universidade Federal do Rio de Janeiro, Brazil.



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## OPTICAL MINERALOGY

MINERALOGÍA ÓPTICA



**Dr. Mauricio Calderón**

(TYAN Member)

• Universidad del Desarrollo, Chile.