

# **PHYSICS WITHOUT FRONTIERS ANNUAL MEETING, Dec 3, 2024**

**PWF BURKINA FASO, JUNE 3 -14, 2024**

**by**

**Laure GOUBA**

**Project: Course on advanced quantum mechanics**

**TEAM**

**Speaker: Dr. Laure Gouba (PWF Volunteer, ICTP )**

**Local organizers: Dr. Mahamadi Savadogo and Prof. Antoine Bere  
(University Joseph Ki-Zerbo (UJKZ), UFR-SEA, Physics Department )**





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# **Training and Research Unit in Exact and Applied Sciences (UFR-SEA)**

- **Mathematics Department**
- **Physics Department**
- **Chemistry Department**
- **Computer Science Department**
- **Department of Common Core Exact and Applied Sciences**

# Department of Physics



**Bachelor's Degree**  
(L1, L2, L3)



**Master's Degree**  
(M1, M2)



**Doctoral Degree**

- **Physics**
- **Solar and Applied Technologies**
- **Material Physics**
- **Physics of Energy**

# Current Situation For Physics Education/Research

- **The Department of Physics has training and research activities.**
- **The training programs lead to a Master's Degree (5 Years).**
- **There are also doctoral programs.**
- **There are lack of teaching and research staff.**
- **The laboratories are not well equipped and lack funds for the well-going of research activities.**
- **Motivated students in difficult conditions: no bursaries and accommodations problems.**

# Advanced Quantum Mechanics (Course, tutorial, exam)

## Project

- A course of 30 hours in advanced quantum mechanics which is a compulsory course for the first-year Master's program. The course should cover the following topics: Spin- Angular Momentum, Addition of Angular Momenta; Perturbation Theory; Identical Particles. Some tutorial sessions and an Exam.
- A Career Opportunity Seminar: 80 Participants (M1 & M2)

Language for the course: French

Lecturer: Dr. Laure Gouba (ICTP)

Students: Class M1: 32 students.

Local Coordinators:

Dr. Mahamadi SAVADOGO (UJKZ)

Prof. Antoine BERE (UJKZ)



# TEAM-PARTNERS

- **Lecturer:** Dr. Laure Gouba, Volunteer, Physics Without Frontiers (PWF), ICTP
- **Local organiser:** Dr Mahamadi Savadogo, Head of Department of Physics, UJKZ



The Abdus Salam  
**International Centre  
for Theoretical Physics**  
Physics Without Frontiers



# Students of M<sub>1</sub> in Physics



# Tutorial session





# Career opportunity session: M<sub>1</sub>&M<sub>2</sub>





# Evaluation- Feedback

The students enjoyed a lot the course

The students expected more tutorial sessions

The course fulfill their expectation.

They learnt a lot.

The course will be useful for the Master's 2 programme

Difficulty of the course: Medium.

The course was well organized.

The students wished a longer duration of the course

The students performed well in the exam

The student voted the speaker very pedagogical

Not at all

1

2

3

4

5

Yes, completely

Comments (Commentaires)

Votre réponse *Tout ce que j'ai eu pendant le cours de ma  
beaucoup, j'aimerais qu'on gagnait plus de  
temps que ça.*

How would you rank the overall organization of the course?  
Comment classeriez-vous l'organisation globale du cours?

1

2

3

4

5

Very poor

Excellent

Any suggestions for improvements?



Comments (Commentaires)

Votre réponse

Très belle expérience vécue avec le professeur qui est soucieux de ce que vous comprenez ou pas.

How would you rank the overall organization of the course?

Comment classeriez-vous l'organisation globale du cours?

	1	2	3	4	5	
Very poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Excellent

Any suggestions for improvements?

des suggestions d'améliorations?

Votre réponse

Comments (Commentaires)

Votre réponse

Notre niveau a progressé à l'issu du cours

How would you rank the overall organization of the course?  
Comment classeriez-vous l'organisation globale du cours?

	1	2	3	4	5	
Very poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Excellent

/ suggestions for improvements?  
suggesi

Do you think that what you learned  
Pensez vous que ce que vous aviez appris serait utile pour vous?

1 2 3 4 5  
Not at all      Yes, very much

Did the school fulfill your expectations?  
Le cours a-t-il répondu à vos attentes?

1 2 3 4 5  
Not at all      Yes, completely

Comments (Commentaires)

Votre réponse

*The course was very motivating and inspiring*

How would you rank the overall organization of the course?

# Take away Lessons, Ideas, Plan

- **The students are thankful to ICTP's Physics Without Frontiers Programme.**
- **The Department of Physics and the local organizers are grateful to PWF and have wished to welcome a PWF project every year.**
- **The students are interested in the graduate programmes at ICTP.**
- **The lecturers are interested in ICTP's TRIL programme and the seminars.**
- **The speaker of the project enjoyed the activity in Burkina Faso. She is grateful to PWF.**

**Dr. Laure Gouba is an alumna of UJKZ.**

THANK

YOU

