

## EVALUATION AND ACCREDITATION DOCUMENTS

### **Ph.D. Biochemistry**

Department of Biochemistry

Ahmadu Bello University

Zaria, Nigeria

**February 2024**

Rapport publié le 15/04/2024

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International evaluation and accreditation

## **EVALUATION REPORT**

**Ph.D. Biochemistry**

Department of Biochemistry

Ahmadu Bello University

Zaria, Nigeria

**February 2024**

The Ahmadu Bello University has mandated the Hcéres to perform the evaluation of its Biochemistry Ph.D. programme. The evaluation is based on the “External Evaluation Standards” of foreign study programmes, adopted by the Hcéres Board on January 31<sup>st</sup>, 2022. These standards are available on the Hcéres website (hceres.fr).

On behalf of the experts committee<sup>1</sup> :

Anne Varenne, President of the committee

In the name of Hcéres<sup>1</sup> :

Stéphane Le Bouler, Acting President

<sup>1</sup>In accordance with articles R. 114-15 and R. 114-10 of the Research Code, evaluation reports are signed by the chairman of the experts committee and countersigned by the President of Hcéres.

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## I. STUDY PROGRAMME IDENTITY SHEET

- University: Ahmadu Bello University (ABU), Zaria, Nigeria
- Department concerned: Department of Biochemistry
- Title of the programme: Ph.D. Biochemistry
- Year of creation and context: 1980, to provide manpower in diagnosis, management, and prevention of neglected tropical diseases and to develop vaccines for prevention of those diseases
- Site where the programme is taught (town and campus): Department of Biochemistry, Campus Samaru, Ahmadu Bello University (ABU), Zaria, Nigeria

### PROGRAMME DIRECTOR

- Surname, first name: Sallau, Abdullahi Balarabe
- Profession and grade: Professor
- Main subject taught: Physical Biochemistry, Bioengineering

### METHODS AND RESULTS OF THE PREVIOUS ACCREDITATION(S)

- In 2017, the programme was evaluated by the National Universities Commission (NUC). The programme received its full accreditation by the NUC for 5 years, from March 2017 to March 2022.
- No previous international accreditation. However, two other programmes from the ACE NTDFB (M.Sc. and Ph.D. Biotechnology) were accredited by Hcéres in 2019 for five years.

### HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

#### – Human resources

<b>Academic staff</b>	Professor and Assistant Professor	Senior Lecturer	Lecturer	Assistant Lecturers	Graduate Assistant	Total
	<b>11</b>	<b>11</b>	<b>12</b>	<b>8</b>	<b>2</b>	<b>44</b>
<b>Technical staff</b>	Chief Technologist	Assistant Chief Technologist	Principal and Senior Technologist	Technologist	Assistant Technologist	Total
	<b>2</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>13</b>
<b>Administrative staff</b>	Department Secretary	Higher executive officer	Senior Library Officer	Senior Office Assistant	Other	Total
	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>10</b>

- **Material resources:** students have access to desktops and laptops. Classrooms are equipped with interactive whiteboards and audiovisual recording facilities (lectures are automatically recorded). ACE NTDFB uses 2 lecture rooms, 2 conference rooms, 1 seminar room and 2 laboratories, with access to the University library. The programme uses the equipment of the Department of Biochemistry, which includes over 200 facilities, including 58 provided by the ACE NTDFB.

### STUDENT POPULATION: EVOLUTION AND TYPOLOGY OVER THE LAST 4 YEARS

		2018/2019	2019/2020	2020/2021	2021/2022*	2022/2023*
<b>Enrolment</b>	Male	4	7	2	2	-
	Female	1	1	1	4	-
	<i>including foreigners</i>	0	0	0	0	-
	<i>including students with grants</i>	1	1	0	1	-
	<b>Total</b>	<b>5</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>-</b>
<b>Graduates</b>	Male	1	3	2	-	5
	Female	0	2	3	-	2
	<i>including foreigners</i>	0	0	0	-	0
	<b>Total</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>-</b>	<b>7</b>

\*Due to the Covid-19 pandemic and industrial action embarked by Academic staff of Nigerian universities, Ahmadu Bello University had to partially cancel two academic sessions (2020/2021 and 2022/2023), as such no admission in 2022-2023. The next round of admission (2023/2024 session) is to commence in November 2023.

## II. PRESENTATION OF THE STUDY PROGRAMME

### 1 – PRESENTATION OF THE STUDY PROGRAMME

The Centre for Neglected Tropical Diseases and Forensic Biotechnology (NTDFB) is an African Centre of Excellence hosted by Ahmadu Bello University in Zaria, Nigeria, implemented as part of the ACE Project supported by the World Bank in 2014. The Centre was established to drive research and innovations on novel standardized molecular diagnostic tools for the characterization of parasites in their natural habitats, develop and maintain pathogen samples and strain repositories and to develop a vaccine development facility for innovative vaccination approaches. It analyses neglected tropical diseases as a challenge for the development of sub-Saharan Africa. Therefore, its objectives include providing manpower in diagnosis, management, and prevention of neglected tropical diseases and developing vaccines for prevention of these diseases. The Centre's stated mission is to bridge the gap between academics and industry by producing manpower with adequate theoretical and practical knowledge for the development of the community. Several programmes are hosted in the Centre, such as Biotechnology and Nutrition.

The Ph.D. Biochemistry programme was created in 1980 and has since been hosted by the Department of Biochemistry in which the Biotechnology programmes are domiciled. It aims to provide specialized training and in-depth knowledge of scientific, ethical, and social considerations that inform the various fields of Biochemistry and to produce specialized skills needed in any biochemistry-related industries and institutions as well as prepare candidates for self-employment. All applicants must take an aptitude test and score 50% or above to be recommended for admission. A session with postgraduate board members is then organized for the applicants to share and discuss their proposals. The programme benefits from the equipment and facilities of the Department of Biochemistry, and the Faculty staff is teaching in several programmes. Moreover, a large majority of the faculty members are dedicated to the Biochemistry postgraduate programmes.

### 2 – PRESENTATION OF THE PROGRAMME'S SELF-EVALUATION APPROACH

Although the University has an internal quality assurance committee, no information was given about the way the self-evaluation approach was conducted. The self-evaluation report was very succinct, with a lack of essential information. However, many additional documents were requested before, during and after the visit, and most of them have been received.

## III. COMPOSITION OF THE EXPERTS PANEL

- **Anne VARENNE**, Chair of the panel, Full professor, Chimie ParisTech PSL, Paris, France
- **Olivier BOUTIN**, Full professor, Aix-Marseille University, France
- **Olivier DONARD**, Research Director, CNRS, University of Pau, France
- **Julie FINKEL**, Ph.D. Student, University of Montpellier, France

Hcéres was represented by **Zakia MESTARI**, project manager, Europe and International Department.

## IV. VISIT DESCRIPTION

- **Date of the visit:** the visit took place on Tuesday, 29<sup>th</sup> August 2023.
- **Summary of the proceedings:** before the visit took place, the self-evaluation report and some appendices had been received by the experts. Two preparatory meetings between the Director of the Hcéres Europe and International Department, the Hcéres project manager and the committee were held in Paris (28<sup>th</sup> July) and online (25<sup>th</sup> August). Following these two meetings, complementary documents and information had been asked. The on-site visit took place during one day, according to a schedule agreed between the National Universities Commission, the ACE NTDFB and the

committee. During the visit, the experts asked for many more documents to get quantitative data. Most of these documents have been received. In the end, the experts had to make repeated requests to obtain the documents needed for the evaluation.

- **Organisation of the visit:** for safety reasons, the visit was organised in Abuja and the panel was unable to visit the Centre in Zaria. Thanks to the National Universities Commission and the Centre cooperation, most of the audience travelled to Abuja for face-to-face interviews with the committee. For instance, all the students came to Abuja, allowing the interview to be very fluid. Five members of the Centre were attending a meeting at the University of Bremen, including the Centre Leader, Prof. Y.K.E. Ibrahim, and the programme director, Prof. A. B. Sallau; they were therefore unable to take part in the interviews.
- **Cooperation of study programme and institution to be accredited:** ACE NTDFB has been cooperative throughout the process. The self-evaluation report was sent according to the agreed schedule. Most of the questions asked were answered clearly and precisely. The panel of experts is satisfied that the conclusion reached is based on available and relevant information. Moreover, the involvement of the National Universities Commission has been very helpful throughout the process.
- **People met:** the experts' committee was able to meet with 29 people from different panels:

	Session	Audience
8:00 – 9:30	Presentation of both programmes (M.Sc. and Ph.D.) and discussion	Deputy Centre Leader, deputy programmes directors and their teams
9:30 – 10:30	M.Sc. and Ph.D. academic staff	Representative panel of academics from both programmes
10:45 – 11:45	Quality assurance	Quality assurance representatives
11:45 – 12:45	Alumni	Representative panel of alumni
14:00 – 15:00	Socio-economic partners and employers	Representative panel of socio-economic partners and employers
15:00 – 16:30	M.Sc. and Ph.D. students	Representative panel of students from both programmes
16:30 – 17:30	Closing session	Deputy Centre Leader, deputy programmes directors and their teams



## V. EVALUATION REPORT

### 1. DOCTORAL POLICY

The scope of the doctorate clearly covers one scientific field, directly connected to biochemistry theme. It is connected to the five associated research units, whose quality is recognised through the constant publication in peer-reviewed journals. The doctoral policy is consistent with the one proposed by Ahmadu Bello University, and clearly described in the “Policy on quality assurance” document provided by the University. The doctoral programme is developed in coherence with graduate-level programmes from the Department of Biochemistry, in particular the M.Sc. in Biochemistry, even if there is no real graduate school. The management and pedagogical teams are the same for both M.Sc. and Ph.D. programmes. Different aspects of multidisciplinary and interdisciplinarity are well identified in the study programme, with relationships between biochemistry, biotechnology, medicine, and health. Sustainable development issues are also offered.

The structuration of the Faculty of Life Science, as well as the structuration of the Department of Biochemistry, allow the supervisors of the doctoral programme to efficiently ensure the implementation of the doctoral training programme in coordination with the University and with the research units from the same department or other departments in the University.

There are very few direct and effective partners of the doctoral programme with academic and socio-economic partnerships. Ph.D. students must follow two courses dedicated to management, entrepreneurship, and research methodology. A “Journal Club” is organised to develop scientific discussions on scientific published papers of high level. Moreover, Ph.D. students must present the progress of their work (bibliography and scientific results) at three seminars during the doctoral programme study and attend other students' seminars. In addition, basic scientific thematic courses are also addressed different aspects needed for the doctoral students' development: biotechnology, cell biology, concepts in cancers and tropical parasites.

The supervisors participate in the doctoral training programme, as it is indicated in the list of teaching staff as well as the table of the different supervisors. Research training includes courses in research ethics, research integrity and professional ethics in the mandatory course named ICT and research methodology. Doctoral students contribute in the research unit activities through their scientific production. For instance, it is possible to notice in the provided list of publications names of Ph.D. students involved: the number of publications per student is between 1 and 14, usually an average of 3, some of them being published in high-level international journals. Ph.D. students, at the University level as well as at the Department of Biochemistry level, have access to physical and digital library resources. In this library, thesis reports of doctors are available in both hard and soft copies. They are also available at the country level through the Nigerian Research and Education network.

The doctoral programme does not involve the participation of social, economic, and cultural partners. Moreover, the programme seems to be better connected to the academic sector than to the private sector for job prospects. As an illustration, most of the interviewed doctors had a position in universities, requiring a Ph.D. diploma. The programme gives doctoral student opportunities to participate in events of a scientific nature, as workshops on several scientific subjects of interest for the doctorate. For each type of action, conditions for access, validation and evaluation, particularly by doctoral students themselves, are defined and disseminated. The doctoral students have the opportunity to attend scientific congresses. They all take part in at least one national congress (for instance hosted by the Nigerian Society of Biochemistry and Molecular Biology) and some of them at an international level (for instance the International Conference on Trypanosomes in Granada, Spain). They have also the opportunity to participate in several workshops, in Nigeria and abroad (African Centre of Excellence workshop in Burkina Faso, University of Bremen for instance).

International partnerships are developed at the Department of Biochemistry level, mainly with the International Centre for Research and Development in Livestock in the sub-humid Zone (CIRDES), Bobo-Dioulasso, Burkina Faso; Kwame Nkrumah University of Science and Technology in Ghana; Bremen University in Germany; Centre for Science & Technology of the Non-Aligned and Other Developing Countries in India; and the University of Johannesburg in South Africa. For all this cooperation, signed agreements are provided with fully detailed Ph.D. mobility and research discussions. However, no evidence can be found proving that there are active exchanges following these agreements. Therefore, there is no effective incoming and outgoing student mobility. All students in the programme come from Nigeria. Considering international students' aspects, it appears that mobility was possible in the past. It must be underlined, as it has been explained during the visit, that both financial aspects and safety context have stopped any international exchange.

**In conclusion, the policy and strategy of the Biochemistry PhD programme is very well positioned at university level and at the level of the Department of Biochemistry, in perfect consistency with the other programmes offered. The PhD programme is well structured, with basic scientific courses needed by the students, as well as courses on ethics and entrepreneurship that are open to the job market. The connection with research units, research activities and further integration in the academic position is very well done. The programme would benefit from more efficient international partnerships for research activities and for student mobility (research activities and participation in international conferences); but this point is limited by the local context (funding limitations and internal security issues). In the end, the programme appears to be scientifically relevant, functional, and highly structured. Additional openings towards the international and socio-economic world would enable it to reach the best international standards.**

## 2. TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS

The training objectives, contents, and methods are clearly defined by the doctoral training programme in the student handbook provided in hard and soft copies by Ahmadu Bello University. The requirements for graduation and procedures for assessing competencies acquired by Ph.D. students are also detailed in this document, which is provided to the students. The training objectives, contents, methods, and procedures for assessing competencies appeared clear to the interviewed students. The competency-based approach of the Ph.D. training is ensured by an “ICT and Research Methodology” course as well as by several mandatory seminars to assess their progress and the understanding of their own research subject: proposal defence, progress report, final report and their research thesis. They also can value their competencies as young researchers by being recruited as research assistants and supervising undergraduate work. However, the creation of an official portfolio emphasizing their competencies is not organized.

The admission requirements to the Ph.D. training program are clearly defined and communicated to the students through the student’s handbook as well as on the University School of Postgraduate Studies website. However, they don’t include funding policies. Although some students can benefit from their advisor’s funding (e.g., African Academy of Science, NIH USA, TETFund, Fulbright) or be eligible to have their own funding (World Bank, University of Maiduguri Fellowship), 74% of the Ph.D. students enrolled in the programme over the last five years did not have any grant nor scholarship. The University enables safe housing on the campus and tries to facilitate the recruitment of foreign students through collaborations (Burkina Faso, Cameroon) and waiving written tests. However, the safety issues in Nigeria make the recruitment of foreign students more difficult: over the last five years, no foreign Ph.D. student was enrolled in the programme. Over the same period, the diversity of hosted people in terms of gender was not balanced: only 26% of enrolled Ph.D. students were females. Ph.D. students have access to various specialized labs and research equipment to carry out their research, notably a “Multi-User Science laboratory”. They also have access to equipped lecture and seminar rooms, an online library, virtual teaching platforms, computers, and free Wi-Fi on the campus.

The procedures for supervising doctoral students are very clear. Each Ph.D. student gets three to five Ph.D. supervisors. Each student gets at least a “major” supervisor as well as “middle” and “minor” ones depending on their topic of research. Students’ progress is assessed through three seminars along the Ph.D. students’ training: a proposal defence, a progress report and a final report. These seminars are presented to a panel of postgraduate academic board members, contemporaries, students, and invited academics from outside the department and programme. The rules and criteria for defending a doctoral thesis are well-defined. The Ph.D. candidate must complete the coursework detailed in the student handbook, present the three seminars previously mentioned and orally demonstrate a good mastery of basic theoretical biochemistry, as well as successfully defend their research thesis in front of a panel of internal and external examiners. The students are encouraged to publish at least two peer-reviewed articles in A-ranked journals.

Each student has a logbook monitoring the advisory roles of the supervisors, and a postgraduate board oversees the activities of the supervisors of each student. Moreover, the University has a clear and defined zero-tolerance policy for discrimination and harassment. However, there is no official prevention procedure including measures to promote the best supervision practices, reduce discrimination and stereotypes and prevent conflict and harassment. In any case of conflict between a Ph.D. student and its advisor, a board of the postgraduate school can be referred to, as well as students’ representatives. The doctoral students benefit from good material conditions, as listed by the programme.

The Department of Biochemistry can sometimes sponsor national and international workshops and conferences. The faculties of the programme also have different partnerships (USA, Japan) which can allow their students to

go abroad. However, the lack of funding and difficulties in getting visas for international conferences limit this outgoing mobility. As previously mentioned, safety issues happening in Nigeria limit the incoming mobility. The official language of the country being English, the Nigerian students are native in this language and the program is in English. Additionally, language support for foreign non-English-speaking students is provided. Although the doctoral training programme includes partially remote training relying on digital teaching tools, this proportion of online classes is for convenience and is not meant to promote access for doctoral students to international mobility schemes or involved in field research.

**In conclusion, the Ph.D. programme in Biochemistry offers high-quality education and supervision for Ph.D. students. Students have access to material support (several laboratories and research equipment, computers, free Wi-Fi) and three to five supervisors who work in a coordinated and complementary way together and with the students. The rules and criteria for defending a Ph.D. thesis are well-defined and exposed to the students. The programme is very clear and consistent for students in Biochemistry. However, the creation of an official portfolio emphasizing their competencies is not organised. Several academics involved in the programme have received grants that can be beneficial for some of their students. Nevertheless, the programme could benefit from having more financial support for its students as well as an increased mobility of the students (outgoing and incoming), which is highly limited by the political and safety issues in Nigeria.**

### 3. ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORATE

There is no information on how the doctorate measures its attractiveness. It appears that most of the applicants come from the M.Sc. in Biochemistry, or other M.Sc. in the same department of the Faculty of Life Science. The visibility of the doctorate is mainly provided through the website of the Department of Biochemistry, which provides access to basic information on the requirements for the recruitment procedures and proposed courses.

The doctoral student's training pathway is conducted by at least three supervisors, with one experienced researcher being the main supervisor. The students meet with them monthly, and they are easily reachable for scientific discussions. Moreover, regular monitoring is clearly foreseen through the organisation, for each Ph.D. student, of three seminars (one each year). The first is dedicated to the presentation of the research work and main objectives, the second one to the progress of the work, and the last one to a detailed presentation of the concluding progress of the work.

The job-market is analysed basically through one criterion: whether the graduate student works in a public institution or a private company. No more detailed information is provided. Moreover, a simple document is sent to alumni with several questions on their perception of the programme. No information has been provided concerning the results and the consequences of the reception of these documents. No information is available on the Ph.D. holders' career pathways.

The Department of Biochemistry has an alumni platform hosted by the alumni office of the department which is responsible for engaging, connecting, and integrating all graduates in Biochemistry. The discussion with some Ph.D. holders indicates that they all communicate together through social networks. Moreover, most of Ph.D. holders belong to the "Biochemistry Society of Nigeria" which seems to be an efficient network.

**In conclusion, during the evaluated period, no foreign students were admitted, as all the Ph.D. students are Nigerian due to safety and economic reasons. Thus, there is no significant recruitment outside the Ahmadu Bello University, as most of the students come from the M.Sc. in Biochemistry, in the same department. The lack of foreign students is due to safety and economic reasons, although the campus is very safe since it is located near a military zone. The fact that the majority of students come from the University is explained by the danger of the road leading to Zaria. The visibility is ensured through the website of the Department. Doctoral supervision is of very high quality, with at least three supervisors involved and regular seminars to discuss research progress. Doctoral students have access to all the necessary facilities, from scientific equipment to online library services. They are also well integrated into their laboratory and ecosystem. Professional integration is mainly in academic positions and there is no evidence of integration in the private sector. In general, the analysis of the career of Ph.D. students is not sufficiently developed.**

### 4. MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE DOCTORATE

The doctoral supervision policy defined by the institution meets clear and shared criteria. Indeed, the Head of Department ensures that supervision of each research student is assigned to appropriately qualified supervisors

who ensure the validity of research data obtained by a student. As recommended by the National University Commission, supervisors never have more than ten students (M.Sc. students included) at the same time. The doctoral training offers some training on research methods, ethics, and animal models in the "ICT and Research Methodology" course. The institution's human resources policies consider needs in terms of recruitment, promotion, and recognition by adopting a procedure of recruitment of appropriately qualified staff (Policy on Quality Assurance document). Moreover, newly recruited members of staff are mentored, and teaching staff get different trainings during their career (e.g., pedagogy training). Although the doctoral supervisors are encouraged by the institution to go to national and international workshops and conferences and to go to regional and international laboratories for research visits (payment for publication processing charges, sponsorships, support for grants writing and applications), the incoming and outgoing mobility are limited because of difficulties to get visas and economic/safety issues in Nigeria. Some doctoral supervisors have financial resources, which they monitor and control about their objectives and results. These grants, scholarships, and fellowships can be public or private and come mostly from the TETFund but also from the World Bank, the Fogarty International Centre/National Institutes of Health (USA), the Mac Arthur Foundation (USA), the Chan Zuckerberg Initiative and the African Academy of Science and Erasmus+. This grant sourcing is either a prompt response to competitive grant applications (TETFund) or joint research grants with collaborating partners (Erasmus+). Thanks to the increasing number of publications of the department (327 over the last five years), the doctorate contributes to the institution's capacity-building efforts.

At the end of each course, the students can fill in a "staff and resource assessment form" to evaluate the course, the lecturer, and the resources. However, the lecturer only gets some feedback in cases of negative evaluations. No positive feedback is given to the lecturer, and supervisors don't analyse the results of the evaluation.

**In conclusion, the doctorate is supported by the institution's human resources policy and shares the same objectives and values in terms of pedagogy, student supervision, ethics and integrity in research. However, although outgoing and incoming mobility is encouraged, it is limited by national and regional issues. In addition, the programme could benefit from the implementation of more collective and efficient evaluation procedures, where supervisors are involved in the analysis of the results of student evaluations (whether positive or negative) and take these evaluations into account.**

## VI. CONCLUSION

The documents required for the evaluation were provided, including the general framework documents for Ahmadu Bello University and the Department of Biochemistry, as well as the program syllabus, lists of students recruited, grants obtained by professors. All these factual elements were confirmed during the visit. People interviewed during the on-site visit showed that there was very good cohesion and understanding between the staff, the academics, and the students. Two important elements that were highlighted and explained during the visit were the context of Nigeria at the moment. Firstly, the country's economic situation is difficult, mainly due to the 2023 economic crisis, and this has a direct impact on the funding of the programme. Secondly, the safety situation is also complicated, making international mobility and exchanges difficult. It is important to take these two factors into account and to weigh the evaluations directly affected by these points.

The structure of the Ph.D. Biochemistry programme and its integration within the Department of Biochemistry, as well as Ahmadu Bello University, benefit from more than twenty years of significant operating experience. As a result, the entire process of graduating from a Ph.D. is very well explained and accessible to students, from the recruitment process and operation during the thesis to the defence and graduation criteria. During the doctoral studies, it is also noted that the supervision of Ph.D. students is of a high standard by the various supervisors. Moreover, students have access to the various resources they need for their work: research equipment, analytical materials, and bibliographic resources. All of these factors show that this programme is operating very satisfactorily, with doctorates of a very high standard. Therefore, the programme is very well established in the university and Nigerian landscape.

However, the university's external outreach is not entirely satisfactory. As explained above, these elements need to be weighed against the economic and safety contexts. First, it was noted that the programme is more directed towards the academic job market than the private sector. This point was justified in part by an internal orientation in the Department of Biochemistry, in which the Ph.D. Biotechnology is more private companies-oriented and the Ph.D. Biochemistry more research-oriented. Nevertheless, it seems important that the students in this Biochemistry programme should be more aware of the socio-economic world, for instance by involving more partners from private companies. Similarly, the international dimension is limited. Some agreements exist with foreign universities, but the impact on real incoming and outgoing mobility is fragile, near non-existent. The students' participation in international scientific congress could be improved and more systematized. In addition, it is important to point out that some academics in the department have obtained grants from various organisations, thereby increasing the programme's financial resources. However, this results in a low number of students receiving grants, which is a negative point. Finally, the follow-up of Ph.Ds. after graduation is fairly basic, as is the alumni network. It would be interesting to develop this following-up more systematically, to increase links with the socio-economic world.

The programme appears to be scientifically relevant, functional, and highly structured. Additional openings towards the international and socio-economic world would enable it to reach the best international standards.

### STRENGTHS

- Very well-structured programme in terms of procedures and functioning
- Well integrated in Ahmadu Bello University and in the Department of Biochemistry with a consistent strategy at the University level and at the Department level
- High quality of supervisors and supervision during the three-year programme
- Access to various scientific equipment and to the library
- Several professors and doctorate students received grants

### WEAKNESSES

- Low involvement of the socio-economic partners
- Few grants for the doctoral students
- Not sufficiently developed alumni network and follow-up of the graduated
- Low international congress participation
- Attractiveness of the programme, in the national and international context, mainly in West Africa

## RECOMMENDATIONS

- Develop an effective international cooperation to promote mobility for Ph.D. students and congress participation to enhance contact opportunities and networking
- As most students come from the M.Sc. programme in Biochemistry at Ahmadu Bello University, develop the attractiveness of the Ph.D. programme at the national level by offering better access to participation in national congresses and workshops
- Increase the involvement of the socio-economic world by allowing partners to take part in courses and by including them in workshops, physically at the University; actively involve those partners in defining students' research topics
- Implement tools to increase scholarships possibilities and to make institutions aware of the need for student scholarships and not only research grants
- Develop an efficient alumni network to enhance the attractiveness of the programme and improve formal discussions between students and alumni during workshops and seminars

## VII. COMMENTS OF THE INSTITUTION



# ACENTDFB



**AFRICA CENTRE OF EXCELLENCE FOR NEGLECTED TROPICAL DISEASES AND FORENSIC BIOTECHNOLOGY**  
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**CENTRE LEADER:** Prof. Y.K.E. Ibrahim, B.Sc. Pharm., M.Sc. Pharm. (ABU), Dr. Sc.hum. (Heidelberg)

Friday 09, 2024

Ref: ACENTDFB/Accreditation/PhD Biochem/01

Maria Bonnafous-Boucher  
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### Response to the Draft Report on PhD Biochemistry Accreditation

In our response, we looked at each of the six sections of the draft report, namely: Presentation of the Study Programme; Composition of the Expert Panel; Visit Description; Evaluation Report and Conclusion

#### **I. Study Programme Identity Sheet (Page 2)**

The information provided in this section aptly describes the PhD Biochemistry program of the Department.

#### **II. Presentation of the Study Programme (Page 3)**

An error was observed in this sentence. Second paragraph, Line 1-2: The Ph.D Biochemistry programme was created in 1980, **but it has been hosted by the ACE NTDFB since the presentation of the ACE Project supported by the World Bank In 2014.** It should be modified to read: **The Ph.D Biochemistry programme was created in 1980 and has been hosted by the Department of Biochemistry in which the Biotechnology programmes are domiciled.**

#### **IV. Visit Description (Pages 3-4)**

The report under this section is accurate. We have no contesting issue.

#### **V. Evaluation Report (Page 5)**

##### **1. Doctoral Policy**

While the report is largely correct, there is an error in the name of one of the collaborating partners.

Paragraph 6, line 1-2: International partnership are developed at the Department of Biochemistry level, mainly with **Bobo-Dioulasso Polytechic Institute in Burkina Faso**. It should read: **International partnership are developed at the Department of Biochemistry level, mainly with International Centre for Research and Development in Livestock in the sub-humid Zone (CIRDES), Bobo Dioulasso, Burkina Faso, .....**

#### **VI. Conclusion (page 9)**

The conclusion which is drawn from the self-assessment submission we made and the interactions held by the Panel with the various stake holders is valid and unbiased, and a true reflection of the status of the PhD program.

Not only did the report describe the state of the program, it identifies weaknesses, points out the explanation offered and in many cases, offers remedial actions to addresses the observed deficiencies.

We generally appreciate the frankness in the report and we find the suggestions/ recommendations very useful. We believe that these suggestions will help us to improve the quality of the Biochemistry PhD degree program.

Yours sincerely,



YKE Ibrahim, Dr.sc.hum

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cc., Zakia Mestari



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International evaluation and accreditation

## ACCREDITATION DECISION

**Ph.D. Biochemistry**

Department of Biochemistry

Ahmadu Bello University

Zaria, Nigeria

**March 2024**

## SCOPE OF THE ACCREDITATION GRANTED BY HCÉRES

HCÉRES has based its evaluation process on a set of objectives that study programmes must pursue to ensure recognised quality within France and Europe. These objectives are divided up into four accreditation criteria.

The Accreditation Commission issues an opinion about the accreditation of the study programme after examining the file. The Hcéres President takes the decision based on the Commission's opinion and the final evaluation report of the programme. This accreditation decision, taken in plenary session, is the result of a collegial and reasoned process.

The decision issued by Hcéres regarding the accreditation of the study programme corresponds to the awarding of a label to the evaluated entity.

This decision is independent of the accreditations carried out by the French State and therefore does not entail recognition in France of the institution or the diplomas delivered by it.

**Decision No. EI-2024-9 on the accreditation of the M.Sc. Biochemistry, Ahmadu Bello University, Zaria, Nigeria**

**The President of the High Council for the Evaluation of Research and Higher Education,**

Considering the Research Code, in particular Articles L. 114-3-1 to L. 114-3-6;

Considering the Decree No. 2021-1536 of 29<sup>th</sup> November 2021 on the organisation and operation of the High Council for the Evaluation of Research and Higher Education;

Considering the Board's deliberation of 29<sup>th</sup> September 2022 on the accreditation criteria for international study programmes (except doctorates/PhDs);

Considering the Decision No. 2023-9 of 16<sup>th</sup> March 2023 on the international accreditation procedure of the High Council for the Evaluation of Research and Higher Education;

Considering the agreement No. DEI\_2023\_CONV17 – NUC, signed on 14<sup>th</sup> June 2023 for the evaluation/accreditation of study programmes delivered by Africa Centres of Excellence;

Considering the opinion issued by the Accreditation Commission on 29<sup>th</sup> February 2024;

**Decides:**

**Article 1**

Noting that the Ph.D. Biochemistry meets the four accreditation criteria, voted by the Board of the High Council on 29<sup>th</sup> September 2022, as follows:

**ACCREDITATION CRITERION 1 – DOCTORAL POLICY**

The policy and strategy of the Biochemistry Ph.D. programme is very well positioned at university level and at the level of the Department of Biochemistry, in perfect consistency with the other programmes offered. The Ph.D. programme is well structured, with basic scientific courses needed by the students, as well as courses on ethics and entrepreneurship that are open to the job market. The connection with research units, research activities and further integration in the academic position is very well done.

The programme would benefit from more efficient international partnerships for research activities and for student mobility (research activities and participation in international conferences); but this point is limited by the local context (funding limitations and internal security issues). In the end, the programme appears to be scientifically relevant, functional, and highly structured. Additional openings towards the international and socio-economic world would enable it to reach the best international standards.

**ACCREDITATION CRITERION 2 – TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS**

The Ph.D. programme in Biochemistry offers high-quality education and supervision for Ph.D. students. Students have access to material support (several laboratories and research equipment, computers, free Wi-Fi) and three to five supervisors who work in a coordinated and complementary way together and with the students. The rules and criteria for defending a Ph.D. thesis are well-defined and exposed to the students.

The programme is very clear and consistent for students in Biochemistry. However, the creation of an official portfolio emphasizing their competencies is not organised. Several academics involved in the programme have received grants that can be beneficial for some of their students. Nevertheless, the programme could benefit from having more financial support for its students as well as an increased mobility of the students (outgoing and incoming), which is highly limited by the political and safety issues in Nigeria.

### ACCREDITATION CRITERION 3 – ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORAL PROGRAMME

During the evaluated period, no foreign students were admitted, as all the Ph.D. students are Nigerian due to safety and economic reasons. Thus, there is no significant recruitment outside the Ahmadu Bello University, as most of the students come from the M.Sc. in Biochemistry, in the same department. The lack of foreign students is due to safety and economic reasons, although the campus is very safe since it is located near a military zone. The fact that the majority of students come from the University is explained by the danger of the road leading to Zaria. The visibility is ensured through the website of the Department.

Doctoral supervision is of very high quality, with at least three supervisors involved and regular seminars to discuss research progress. Doctoral students have access to all the necessary facilities, from scientific equipment to online library services. They are also well integrated into their laboratory and ecosystem. Professional integration is mainly in academic positions and there is no evidence of integration in the private sector. In general, the analysis of the career of Ph.D. students is not sufficiently developed.

### ACCREDITATION CRITERION 4 – MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE DOCTORAL PROGRAMME

The doctorate is supported by the institution's human resources policy and shares the same objectives and values in terms of pedagogy, student supervision, ethics and integrity in research. However, although outgoing and incoming mobility is encouraged, it is limited by national and regional issues. In addition, the programme could benefit from the implementation of more collective and efficient evaluation procedures, where supervisors are involved in the analysis of the results of student evaluations (whether positive or negative) and take these evaluations into account.

#### **Article 2**

The Ph.D. Biochemistry, Ahmadu Bello University, Zaria, Nigeria, is accredited for a period of 5 years.

#### **Article 3**

The decision is accompanied by the following recommendations and comments:

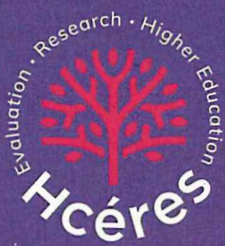
make efforts to systematise and formalise internal quality assurance indicators, which would enable informed management and ensure that the quality of the programme is maintained over the long term.

#### **Article 4**

This decision will be published on the Hcéres website.

Paris, 15<sup>th</sup> March 2024.

The acting President  
signed  
Stéphane Le Bouler



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