

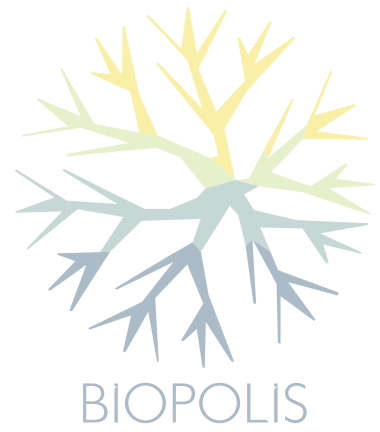


BIOPOLIS

WP5

1st Report of the Education and Training Activities

Deliverable 5.2



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Lead beneficiary

UM

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BIOPOLIS

Deliverable 5.2 (D5.2)

1st Report of the Education and Training Activities

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PP	Restricted to other programme participants (including the Commission Services)	
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SUMMARY

This deliverable (D5.2) presents the “1st Report of the Education and Training Activities”, as defined in the Work Package (WP) 5 of the Description of Action (DoA) of the BIOPOLIS Teaming Project. It covers the period from the start of the project (01/10/2019) until the end of the 2nd reporting period (30/09/2022). Activities have been developed according to the DoA, with the updates and refinements proposed in the Education and Training Strategy (Deliverable 5.1). The deliverable is organised in six sections. The 1st section describes the characteristics and importance of the education and training component in the broader context of BIOPOLIS, and it provides the objectives and contents of the deliverable. The next three sections detail the core tasks of WP5, describing the planning and implementation of activities, and its main achievements. The 2nd section describes the Doctoral Programme, which mainly involves the upgrade and further internationalisation of the Doctoral Programme in Biodiversity, Genetics and Evolution (BIODIV). Highlights include the award of 84 PhD grants from various funding sources, the enrolment of 60 new PhD students (27% of international students), and the production of 29 PhD Thesis. The 3rd section focuses on the Post-doctoral Training Programme, which aims at training young researchers towards independence, and to provide additional professional development opportunities. All junior researchers contracted by BIOPOLIS, including 104 researchers transferred from ICETA, and another 45 researchers newly contracted through a range of funds, were integrated in research groups under the supervision of senior researcher, and they were entitled to participate in training activities. Highlights include the organisation of 27 advanced courses on a range of topics, as well as workshops, seminars, and other events. The 4th section describes the Advanced Training and Continuous Development Programme, focusing on three main components: Scholarly Events; Continuous Training and Development Programme; and Training for Society. Highlights include: the organisation of 93 scientific seminars, the first joint workshop with the University of Montpellier (Evolutionary Genomics for Plant Models and Crops), and two summer schools (Mértola and Azores); the participation of technical and administrative staff in six training courses; the close collaboration with “Ciência Viva” centres (Hall of Biodiversity, and Vila do Conde); the establishment of protocols with eight schools from the region; and the training of professionals from corporations with major relevance at national (SONAE and regional (LIPOR) levels, among others. The fifth section focuses on monitoring, indicators, and review, providing the KPIs for the education and training component. Finally, the sixth section wraps up the main achievements, and it provides the education and training perspectives for the next reporting period. Overall, education and training at BIOPOLIS has been one of the most successful components of the Teaming project so far, despite the severe constraints imposed by the COVID pandemic in 2020 and 2021. This was possible by harnessing the previous experience of CIBIO in this domain, and by leveraging a wide ranging of funding. Education and training will be further expanded and upgraded in the next reporting period, with a strong focus on the internationalisation component, namely by strengthening cooperation with the university of Montpellier, on increasing the training opportunities for junior researchers and technical and administrative staff, and on promoting the interactions with external stakeholders (schools, corporations, and the public administration).

1. INTRODUCTION

1.1. The Teaming Project

The EC funded BIOPOLIS Teaming project (**Grant Agreement [GA] 857251**) supports the upgrade of CIBIO – Research Centre in Biodiversity and Genetic Resources, to a Centre of Excellence in the areas of Environmental Biology, Ecosystem Research, and Agrobiodiversity, through extensive teaming activities with the partner from the advanced country, University of Montpellier (UM), France, in collaboration with the Porto Business School (PBS), a business partner. The main proponent of the project was ICETA – Institute of Sciences, Technologies and Agri-environment of the University of Porto, the hosting institution of CIBIO, but coordination was transferred to Association BIOPOLIS in July 2021, upon revision of the Grant Agreement. Association BIOPOLIS is a new Non-Profit Scientific institution, which was created following the plan detailed in the Description of Action (DoA), and it received from ICETA all assets and liabilities of CIBIO, including human resources, equipment, and scientific and technical capabilities.

1.2. Vision, Mission, and Strategic Objectives

As stated in the GA of the Teaming project, the Vision of the Association BIOPOLIS is to become “one of the best international Centres of Excellence in Environmental Biology, Ecosystem Research, and AgroBiodiversity, with the capacity for spreading excellence towards innovation in the areas of Environment, Biodiversity and Agriculture, and thereby contributing to socio-economic development at the regional and national levels”. Building on this overarching Vision, the Mission of the association is “to advance biological understanding from genes to ecosystems, and to use this knowledge to address pressing societal challenges in the areas of environment, biodiversity and agriculture through the development of world-leading research, the establishment of long-term strategic partnerships, the engagement of stakeholders, and the transfer and exploitation of research outputs”. In the context of this vision and mission, the Association will pursue several strategic objectives, which are organized in three main axes: I) Excellence towards innovation; II) Empower economy and sustainability for a better society, and III) Internationalisation in research and training.

1.3. Education and Training in the Teaming project

As is clear from the strategic axes described above, promoting high quality education and training is a key component of BIOPOLIS activity, which will be supported by the Teaming project. Specifically, this activity contributes to five main strategic objectives detailed in the GA:

- i. Build up human and logistic capacities for developing excellent research and innovation, train researchers and practitioners, and promote knowledge transfer and the exploitation of results, establishing a state-of-the-art collaborative research platform where the best facilities and equipment are available to researchers, spin-offs and start-ups, and industrial partners.

- ii. Promote specialised jobs, economic growth, and investment at the national and regional levels, engaging with business corporations and other stakeholders, increasing capacities to develop problem-solving research, transferring knowledge to end users, and creating start-up companies.
- iii. Raise the critical mass of highly skilled researchers and international visibility of the country and region in the fields of environment, biodiversity, and agriculture at the national and regional levels, attracting the best talent worldwide, and contributing to reversing the problems associated with “brain drain”.
- iv. Improve international experience, networking capacities, and participation in cross-border science networks, connecting researchers and research institutions through strategic partnerships with internationally leading institutions worldwide, and with research institutions from least developed countries.
- v. Train a new generation of highly skilled researchers and practitioners, offering internationally recognised doctoral and post-doctoral programmes, as well as advanced training and continuous development programmes for professionals at different stages of their career.

Given the importance of these strategic objectives, the work plan of the Teaming project involves a specific work package (WP5) dedicated to “Education and Training”, the aim of which is *“To set up, implement and monitor the Education and Training Programmes of BIOPOLIS CoE, thereby contributing to training a new generation of highly-skilled researchers and providing continuous development opportunities for established researchers and practitioners”*. This WP focuses primarily on doctoral (Task 5.2) and post-doctoral (Task 5.3) training, and on advanced training and continuous development (Task 5.4). There are, however, strong connections with tasks in other WPs, namely WP2 (recruitment and management of human resources: Task 2.4 - Recruitment of research staff and Task 2.5 - Human resource management), as well as WP4 (Operationalisation of the Research Programme: Task 4.1 - Strategic research program).

1.4. Education and Training Strategy of BIOPOLIS

The initial task of WP5 (Task 5.1) involved the development of an Education and Training Strategy, under the coordination of UM in collaboration with BIOPOLIS and PBS. This Strategy was planned to be presented as Deliverable 5.1 in the early stages of the project’s implementation (Month 9; June 2020), but its production was delayed due to several constraints and impediments, namely due to the serious impacts of the COVID pandemic between March 2020 and nearly the end of 2021. Besides affecting all aspects of BIOPOLIS activity, the pandemic restrictions had a particularly serious impact on education and training activities, which in the first months of the lockdown had to be cancelled or delayed, and thereafter they were progressively adapted to online teaching models. Because of this, the Deliverable could only be submitted in September 2021, being approved by the EC in December 2021. Nonetheless, and despite the delays in the production of the Deliverable, several activities related to education and training have been implemented since the beginning of the project, building on plans and activities outlined in the Teaming proposal, and benefiting from the experience of the partners involved in the consortium.

The Education and Training Strategy of BIOPOLIS presented in Deliverable 5.1 aims at developing Doctoral and Post-doctoral programs, providing access to diversified and high-quality training to all personnel of BIOPOLIS, to serve the objectives of the Centre and personal development, and contributing to train non-academic practitioners in the fields of expertise of the Centre. The strategy benefited from extensive mutualisation and transfer of competence and best practices from the large academic community in Université de Montpellier and its Doctoral School, as well as input from the Porto Business School. In this way, the Strategy was produced considering five main components, with strong interconnections: (i) Management of the Doctoral program; (ii) Management of the Post-doctoral program; (iii) Organisation of scholarly events; (iv) Continuous training and development program; and (v) Training for society. The Strategy also considered the governance and management processes involved in the implementation of the Strategy, and it provided indicators and mechanisms for measuring impacts and undertaking future revisions.

1.5. Contents and objectives of the Deliverable

The current deliverable (5.2) aims at providing the first report on the Education and Training activities of BIOPOLIS, spanning the period from the beginning of the project (1st of October of 2019) to the month 36 of implementation (30th of September 2022). Specifically, and according to the GA, the objective of this deliverable is to report on the Doctoral programs, Post-Doctoral Training Program, and Advanced Training. The deliverable is structure in six sections, corresponding to the Introduction (Section 1), the three tasks describing the main components of the education and training programme (Sections 2 to 4), and their monitoring and evaluation (Section 5). There is also a section of concluding remarks (Section 6), which summarises the main achievements so far and sets the ambition and objectives for the next reporting period.

2. THE DOCTORAL PROGRAMME

2.1. The Context

According to Task 5.2 described in the GA, and the Education and Training Strategy (D5.1), a strong attention has been devoted by BIOPOLIS to the training of PhD students. This has been mainly carried out through the ongoing Doctoral Programme in Biodiversity, Genetics and Evolution (BIODIV), organised by the Universities of Porto (UP) and Lisbon (UL)¹. According to the Education and Training Strategy (D5.1), activities developed by BIOPOLIS are targeted at strengthening this Doctoral Programmes and to promote the attraction of international students, while fostering their internationalisation through partnerships with top-level universities from the European Union and elsewhere. Besides the Doctoral Programme, BIOPOLIS also runs in articulation with the University of Porto (Faculty of Sciences) a MSc course in Biodiversity, Genetics and Evolution, which provides initial training to students that afterwards often get into the BIODIV Doctoral Programme (Section 2.7).

2.2. Governance and Management

Upon the transference of all assets and liabilities of CIBIO, BIOPOLIS assumed all the responsibilities in the BIODIV programme that were previously attributed to ICETA, as hosting institution of CIBIO. These responsibilities include the selection of the students to be enrolled in the programme, the organisation of advanced training for first-year students, the supervision (or co-supervision) of students, and the participation in final PhD evaluation panels. Although task 5.2 indicated that “BIOPOLIS will sign a new protocol with UP to take the responsibilities of research partner in BIODIV”, this was considered unnecessary, because it was subsumed in the transference of all competences from ICETA to BIOPOLIS, and in the transference of the management of the Campus of Vairão of the University of Porto to BIOPOLIS.

The ultimate responsibility of the programme is attributed to the Director of Biopolis (Nuno Ferrand), who is also the Director of the BIODIV Programme. There is also an Executive Coordinator (Paulo Célio Alves), who ensures a close articulation between BIOPOLIS and the University of Porto, and a dedicated Advanced Training Officer (Dora Neto), who deals with all administrative aspects related students enrolled in the programme, in close collaboration with administrative staff of the University of Porto. Finally, each student is allocated to at least one of BIOPOLIS research groups (Deliverable 4.1), working closely with at least one supervisor.

2.2. PhD Grants

Going well beyond the initial plans described in Task 5.2, a total of 84 PhD grants have been awarded during the reporting period to students enrolled in the BIODIV Doctoral Programme (Table 1). To maximise the number of grants attributed and thus the number of students enrolled, BIOPOLIS

¹ [BIODIV - Doctoral Programme in Biodiversity, Genetics & Evolution](#)

followed a strategy involving the diversification of funding sources. An important component of this strategy included a bottom-up process, whereby research groups attracted talented and interested students, which were then encouraged and supported to apply to the annual PhD grants attributed by the Portuguese Science and Technology Foundation at the National level. Through these competitive calls, where applications are evaluated by independent external panels, BIOPOLIS has been able to get 51 new PhD students. Another important funding source corresponds to the structural complementary funds, with 10 PhD grants awarded. The research themes for these grants were selected considered priorities defined by BIOPOLIS direction, and the selection of students involved open calls and evaluation by senior researchers of BIOPOLIS and other institutions. Also noteworthy is the attribution of 6 PhD grants to students from Lusophone African countries, funded by the initiative CEBiCNa (Consortium of Schools of Biodiversity and Natural Sciences)², which is coordinated by BIOPOLIS Director. Finally, other funding sources, albeit smaller, included the pluri-annual funding of BIOPOLIS by FCT (3), research projects (1), and other sources (13).

Table 1. PhD Grants attributed to students enrolled in the BIODIV Doctoral Programme, during the reporting period (2019-2022), and in the scholar year before the beginning of the Teaming project (2018/19).

Funding source	ICETA-CIBIO	BIOPOLIS_CIBIO		
	2018/19	2019/20	2020/21	2021/22
National FCT Grants	15	15	15	21
Structural Funds (CCDR-N)	-	-	-	10
Research projects (FCT)	-	-	-	1
Internal Funds (FUI/FCT)	-	2	-	1
CEBICNA	-	-	-	6
Other Funds	3	3	5	5
TOTAL	18	20	20	44

2.3. Students' enrolment, internationalisation, and performance

The total number of students registered at the Doctoral Programme slightly decreased between the year before and after the beginning of the Teaming, but it is increasing steadily since then, up to a maximum of 110 in 2021/22. During the reporting period, a total of 60 new students were enrolled in the BIODIV Programme, with supervision from BIOPOLIS researchers (Table 2). The numbers remained similar in the years before and after the beginning of the Teaming project, and then increase slightly in the scholar years of 2020/21 and 2021/22. Enrolment for 2022/23 is still on-going, and so no data is available at present.

² https://www.ciencialp.pt/wp-content/uploads/2021/09/EDITAL_Biodiversidade.pdf

Over one-fourth of the students enrolled in the programme were from foreign countries, though their proportion fluctuated widely over time (Table 2). In 2019/20, there were only 14% of international students (Nepal, Spain), representing a major decline from the year before the beginning of the Teaming project. However, this number greatly increased again to 40% in 2020/21 despite the COVID restrictions (Italy, Serbia, Ecuador, Germany, Zimbabwe), and then declined to 21% in 2021/22 (Cuba, Spain, Ecuador). The wide fluctuations and small period make it difficult so far to evaluate if the Teaming project has increased the interest of foreign students for the Doctoral Programme managed by BIOPOLIS.

Concurrently with the enrolment of new students, there has been a continuous flow of students finishing their PhD studies and delivering their thesis (Table 2). However, the numbers have fluctuated around 10 thesis per year, but with a drop in 2021/22, possibly related to the delays in the field and lab work imposed by the COVID constraints. Given the increased number of students enrolled and the return to post-Covid normality, it is expected that a large number of theses will be delivered in the next years. The high quality of the thesis is illustrated by the award by the Portuguese Society of Ecology to BIODIV students of the Prize for the Best Doctoral Thesis in both 2021³ and 2022⁴.

Table 2. Summary statistics of students enrolled in the Doctoral Programme BIODIV managed by BIOPOLIS, before (2018/19) and after (2019-2022) the starting of the Teaming project.

Students	ICETA-CIBIO	BIOPOLIS_CIBIO		
	2018/19	2019/20	2020/21	2021/22
Total number of students registered	94	83	101	110
New students enrolled	18	14	25	21
New international students (%)	39%	14%	40%	21%
Thesis completed^a	11	9	14	6

^a The figures provided for each scholar year correspond to PhD thesis successfully defended in exams carried out in the calendar years of 2019, 2020, 2021 and 2022 (until September).

2.4. Supervisions and co-tutelles

According to the GA, one of the objectives of Task 5.2 is to foster a co-tutelle (joint supervision) agreement between UP and UM, whereby PhD students enrolled in BIODIV and with co-supervision

³ <https://www.speco.pt/pt/noticias/premios/pde-vencedores-2021>

⁴ <https://www.speco.pt/pt/noticias/premios/premio-de-doutoramento-em-ecologia-fundacao-amadeu-dias-vencedores-da-edicao-2022>

with UM researchers will have a joint degree. Work to establish such agreement has already started, but it has proved more difficult to accomplish than anticipated, because of some diverging rules and practices between UM and UP regarding the duration (e.g., three years versus four years doctoral programmes in UM and UP, respectively), supervision and approval of theses. Despite these difficulties, one co-tutelle PhD was successfully concluded in 2022 (student: João Pedro Nogueira Marques), which allowed to identify some of the administrative problems associated with awarding a joint degree and how to overcome them. A new co-tutelle has been started in 2019/20 (student: Mónia Nakamura Mercier Real). These two co-tutelles have been used as test cases, upon which negotiations are underway to reach a compromise to achieve a joint degree.

From the on-going theses (104), in 79% there is one BIOPOLIS-CIBIO researcher acting as the main supervisor (Table 3). In addition, there are 38 and 9 theses with our researchers serving as the first or second co-supervisor, respectively. There are also many theses supervised (8) or co-supervised (75) by researchers from institutions in Europe (75) and North America (8). Among the external supervisions, there are researchers based in top European institutions, including for instance Muséum National d'Histoire Naturelle in Paris – CNRS (France), Oxford and Cambridge Universities (UK), Max Planck Institute for Evolutionary Anthropology - Department of Evolutionary Genetics (Germany), ETH Zurich (Switzerland), and University of Barcelona (Spain), among many others. It is expected that the Teaming project will foster the number of such external supervisions and co-supervisions.

Table 3. Number of theses of the BIODIV Doctoral Programme supervised/co-supervised by BIOPOLIS-CIBIO researchers, and by researchers from other national and foreign institutions.

Institutions	Supervisor	Co-Supervisor (1)	Co-supervisor (2)	Total
BIOPOLIS-CIBIO	82	38	9	129
Other Portugal	4	7	4	15
Europe	8	32	36	76
North America		5	3	8
Africa & Asia		1	1	2

2.5. Fields of Research

All PhD students supervised/co-supervised BIOPOLIS-CIBIO researchers are allocated to the three Thematic Lines (TL) and 34 Research Groups described in Deliverable 4.1 (Table 4; Annex 1a,b). Most on-going theses (53%) are associated with TL2 (Biodiversity, Ecology & Conservation), followed by TL1 (Evolution, Genetics & Genomics) and TL3 (Sustainability, Ecosystems & the Environment), with 27% and 20%, of these, respectively. Regarding the theses concluded, there are 36%, 44% and 21% aligned with TLs 1, 2 and 3, respectively. The main representation of TL2 is likely associated with the larger number of research groups (14) than either TL1 (12) or TL3 (9). This imbalance will be addressed in the next years, through a reinforcement of researchers and grants for the less represented TLs.

Table 4. Number of theses of on-going and concluded theses of the BIODIV Doctoral Programme per Thematic Line. Details in Annex 2.

Thematic Lines	On-going	Concluded	Total
1) Evolution, Genetics & Genomics	24	14	38
2) Biodiversity, Ecology & Conservation	48	17	65
3) Sustainability, Ecosystems & the Environment	18	8	26
Total	90	39	129

2.6. Doctoral Training

The BIODIV Doctoral Programme includes a first year of advanced training for all students, followed by the development of the work conducting to the production of an original thesis during the next three years. In the first year, students must obtain a number of credits corresponding to the attendance of training events (Table 5), including advanced training courses (Section 3.3, Annex 2), scientific seminars (Section 4.3.1, Annex 3), and workshops (Section 4.3.2), and lab and field practical training with experienced technicians and researchers. Training can be achieved at BIOPOLIS-CIBIO, but students can also attend external courses and other training activities. During the reporting period, a total of 27 advanced courses have been offered at BIOPOLIS-CIBIO, with numbers increasing steadily from a minimum in 2019/20 (due to the COVID pandemic), up to a maximum in 2021/22. The number of workshops and seminars/webinars have also been increasing, though the number of conferences has declined. Early in the first year, each student is allocated to a mentor/supervisor, who supports the development of the doctoral research project to be developed in the next three years. The thesis research project is publicly presented by the student and discussed with the supervisors, other researchers, and other PhD students (e.g., Annex 4). The structured training of students will be further improved in the following years, with increases in the number and quality of training events offered, and the growing involvement of UM researchers.

Table 5. Number of training opportunities for PhD students offered at BIOPOLIS-CIBIO before (2018/19) and after (2019-2022) the approval of the Teaming project. Details in Annex 2.

Students	ICETA-CIBIO	BIOPOLIS_CIBIO		
	2018/19	2019/20	2020/21	2021/22
Advanced courses	7	6	10	11
Workshops	4	0	1	5
Conferences	2	5	1	0
Seminars/webinars	1	0	1	2
TOTAL	14	11	13	18

2.7. MSc Course in Biodiversity, Genetics and Evolution

Using broadly the same governance and management structure adopted for the BIODIV Doctoral Programme, BIOPOLIS also runs a MSc course on Biodiversity, Genetics and Evolution. The degree is attributed by the Faculty of Sciences of the University of Porto, but most lecturing is made by BIOPOLIS researchers. BIOPOLIS researchers also act as supervisors or co-supervisors of most theses. For most students, this MSc course is a starting point for the development of a PhD, thus is taken as a preliminary training step for future enrolment in the BIODIV Doctoral Programme. The total number of students enrolled have been stable at around 35 before and after the Teaming project, with 16-22 students in their first year, and another 14-20 developing their dissertations (Table 6).

Table 6. Summary statistics of students enrolled in the MSc Course on Biodiversity, Genetics and Evolution managed by BIOPOLIS, before (2018/19) and after (2019-2022) the starting of the Teaming project.

Students	ICETA-CIBIO	BIOPOLIS_CIBIO		
	2018/19	2019/20	2020/21	2021/22
Total number of students registered	33	34	36	36
New students enrolled (1st Year)	16	16	22	16
Dissertations (2nd Year)	17	18	14	20
Concluded Theses	16	11	13	-

^a The figures provided for each scholar year correspond to MSc thesis successfully defended in exams carried out in the calendar years of 2019, 2020, 2021 and 2022 (until September).

3. THE POST-DOCTORAL TRAINING PROGRAMME

3.1. The Context

The training of post-doctoral researchers is one of the key tasks (Task 5.3) of work package 5, with its objectives and contents further developed in the Education and Training Strategy (D5.1). The objective is to train researchers towards independence in the first few years after their PhD, and to provide additional professional development opportunities in the context of long-term career prospects. All junior researchers (typically, PhD holders for 5 or less years, following the rules of FCT⁵) contracted by BIOPOLIS-CIBIO are entitled to participate in this training programme, irrespective of the funding source (Section 3.3). According to the Education & Training Strategy (Deliverable 5.1), the training involves free attendance of advanced courses offered at BIOPOLIS-CIBIO, with a focus on scientific theories and concepts, research tools, transferable skills, career development, soft skills, and entrepreneurial training (Section 3.4 and 3.5). Junior researchers can also apply and be supported to attend training courses in external institutions, both in Portugal and abroad. Another key component of the training is the supervision by senior researchers, both internal and external, with involvement in research projects where they develop a number of tasks, including conceiving experiments, data collection, analysis, and publication (Section 3.6). Junior researchers are encouraged and supported to spend more or less extended periods in labs abroad, with a strong involvement of the University of Montpellier, but also of other in top research institutions elsewhere.

3.2. Governance and management

The post-doctoral training follows a strong bottom-up strategy embedded in the activities and strategies of BIOPOLIS-CIBIO research groups, privileging the empowerment and autonomy of the junior researchers and their supervisors. Therefore, the governance has a rather loose structure, with a lot of freedom granted to the junior researcher to pursue her or his training path. Junior researchers are allocated to research groups (D4.1) based on their interests and projects, where they work under the supervision of one or more senior researchers (Section 3.6). Junior researchers are free to engage in the training events matching their interests, but also receive advice from the supervisor(s) and group leaders. Group Leaders then articulate with other bodies of BIOPOLIS to discuss the need and then decide on the organisation of new training events, including the leaders of thematic lines, and ultimately the Board of Directors.

3.3. Junior researchers at BIOPOLIS-CIBIO

All researchers contracted by BIOPOLIS at the junior level are entitled to participate in the post-doctoral training programme. As indicated in the GA, training involves a range of junior researchers contracted through a variety of funding sources, including the BIOPOLIS Teaming project and associated matching structural funds, but also those transferred from ICETA-CIBIO (Task 2.4) and those

⁵ https://www.fct.pt/apoios/contratacaodoutorados/empregocientifico/ceec_ind_4.phtml.en

supported by public (e.g., FCT) or private funding (e.g., Invited Chairs). Specifically, BIOPOLIS started with a workforce of 104 junior researchers, and in 2021 and 2022 it has contracted another 45 junior researchers (Table 7). These new researchers have been funded by FCT (13; through umbrella contracts with BIOPOLIS), the matching structural funds (13), research projects (9), European projects (13), and other funds (7). In every case, establishment of new contracts involved an international, open, merit-based processes, following the European Code of Conduct for Recruitment of Researchers. These contracts are typically temporary, lasting from about one year (in the case of small research projects) to six years (CEEC funding by FCT).

Table 7. Number of junior researchers at BIOPOLIS-CIBIO entitled for participating in the post-doctoral training programme, considering those transferred from ICETA and those contracted by BIOPOLIS-CIBIO.

Funding source	Transition from ICETA-CIBIO ^a	BIOPOLIS-CIBIO ^b		TOTAL
	2021	2021	2022 ^c	
FCT	59	4	9	72
Structural Funds (CCDR-N)	7	7	6	20
Research projects (FCT)	22	5	4	31
Internal Funds (FUI/FCT)	4	0	0	4
Invited Chairs	4	0	0	4
European Projects	6	8	5	19
Other Funds	2	1	6	9
TOTAL	104	25	30	159

^a Junior researchers previously contracted by ICETA-CIBIO were transferred to the Association BIOPOLIS payroll between July and December 2022.

^b New contracts with Association BIOPOLIS started to be made after the 1st July 2022.

^c Includes contracts established until September 30, and excludes several open calls that will result in new contracts until the end of 2022.

3.4. Advanced courses

The organisation of advanced courses is one of the central components of training at BIOPOLIS-CIBIO. These courses are open to the entire BIOPOLIS-CIBIO community and to researchers and other professionals from external institutions. However, they are mostly designed to support the training of first-year PhD students (Section 2.6, Table 5, Annex 2) and of junior researchers. This was considered an adequate strategy to promote the interactions between students and early-career researchers, to the benefit of both groups.

The courses organised during the reporting period have focused on a wide range of topics (Annex 2), with strong theoretical and conceptual components (e.g., Marine Island Biogeography⁶, Terrestrial Ectotherms Thermal Ecology⁷, Theoretical perspectives on biodiversity and biogeography⁸), but also on scientific tools and approaches (e.g., Systematic Reviews and Meta-analysis⁹, Estimation of Wildlife Parameters¹⁰, Museum Techniques¹¹). Also, there have been several courses targeting at the development of other professional competences and soft skills by researchers (e.g., Public speaking and presentations¹², Ethics¹³, Art & Design¹⁴). The organisation of advanced courses for the next reporting period has already started, with at least four new courses scheduled after October and until the end of 2022¹⁵.

3.5. Training on proposal writing and project management

Training events have been organised for increasing researchers' ability to write research proposals and manage scientific projects. These events were mainly directed towards junior researchers, though they were widely open to the entire BIOPOLIS-CIBIO community and beyond. Noteworthy examples of these events are summarised below:

- Online training course on the preparation of an application for the Marie Curie post-doctoral fellowship (19/07/2022 and 02/06/2022). Speakers: Richard Ladle (BIOPOLIS-CIBIO) and Juliana Stropp (IF-ERC FELLOW MNCN-CSIC, Spain).
- Information and training online workshop on collaborations and research opportunities in Africa (07/06/2022), with speakers from the Portuguese Research and Technology Foundation (<https://www.youtube.com/watch?v=eMw8gZeGtrk>).

3.6. Mentoring

All junior researchers are allocated to one of the BIOPOLIS research groups (D4.1), where they are supported and mentored by supervisors and other senior researchers. Mentoring responsibilities include sharing knowledge and skills, overseeing the junior researchers' work, helping to make contact with other researchers and assisting with career counselling. Junior researchers are typically involved in research projects of senior researchers, primarily developing tasks related to data collection and

⁶ <https://cibio.up.pt/en/events/marine-island-biogeography-patterns-and-processes/>

⁷ <https://cibio.up.pt/en/events/terrestrial-ectotherms-thermal-ecology-in-a-changing-world-theory-and-practice/>

⁸ <https://cibio.up.pt/en/events/theoretical-perspectives-on-biodiversity-and-biogeography-2/>

⁹ <https://cibio.up.pt/en/events/methods-in-research-synthesis-systematic-reviews-and-meta-analysis/>

¹⁰ <https://cibio.up.pt/en/events/quantitative-estimation-of-wildlife-population-parameters-i-2/>

¹¹ <https://cibio.up.pt/en/events/museum-techniques-in-the-21st-century-2/>

¹² <https://cibio.up.pt/en/events/public-speaking-and-presentation-for-scientists-new-course-dates/>

¹³ <https://cibio.up.pt/en/events/ethics-and-biodiversity/>

¹⁴ <https://cibio.up.pt/en/events/art-design-for-scientists/>

¹⁵ <https://cibio.up.pt/en/events/workshops-courses/>

analysis, but also participating in all steps of the research pipeline, from study design to paper writing. In this process they learn new concepts and techniques, improve their skills, and interact with experienced researchers from BIOPOLIS and elsewhere. Junior researchers are also supported by more senior researchers in the preparation of research proposals, namely the small exploratory projects (up to 50,000€) funded by FCT¹⁶. This strategy has resulted in the award of 18 exploratory projects (900,000€ of funding) to BIOPOLIS in the calls of 2021 and 2022, with an approval rate of 50%, well above the national average. Junior researchers are also encouraged to expand their collaborative networks, through participation in consortium meetings of national and European projects, participation in Cost Actions, attendance of international congresses and workshops, among other activities.

¹⁶ <https://www.fct.pt/apoios/projectos/concursos/ICDT/index.phtml.pt>

4. ADVANCED TRAINING AND CONTINUOUS DEVELOPMENT PROGRAMME

4.1. The Context

According to Task 5.4 described in the GA, BIOPOLIS-CIBIO is setting up a comprehensive Programme of Advanced Training and Continuous Development, with internal and external components. The internal component has a focus on BIOPOLIS staff and students, assuring their continuous training and updating, as well as supporting the PhD and Post-Doctoral Programmes (Sections 2 and 3). The external component targets on technicians and researchers from external stakeholders. The task is consolidating and greatly expanding similar activities developed over the past decade at ICETA-CIBIO. The development of the Programme has been following the guidelines of the Education and Training Strategy (D5.1), which has already been submitted and approved by the EC. Accordingly, the programme has been structured in three main components: i) Organisation of scholarly events; ii) Continuous training and development programs; and iii) training for society.

4.2. Governance and Management

The Direction of BIOPOLIS is responsible for overseeing the planning and implementation of the advanced training and continuous development programme. Given the strong links with the Doctoral and Post-Doctoral Programmes, the Director assumes the ultimate responsibility for the programme, working closely with a senior researcher appointed as Executive Coordinator. The daily implementation of the programme is under the responsibility of an Education & Training officer, who works closely with a Communication & Dissemination Officer. Building on the strong bottom-up culture of BIOPOLIS-CIBIO, there is also a strong contribution of research groups for setting training activities each year. Specifically, enquiries are sent twice a year to all Group Leaders, who are invited to propose the organisation of courses, workshops, and seminars, among other training events. The proposals received are evaluated and selected, with financial support provided if needed (e.g., travel expenses and fees of external lecturers).

4.3. Scholarly Events

4.3.1. Scientific seminars

As planned in the Strategy, during the reporting period there was a total of 93 scientific seminars, with a total of attendees across seminars well above 1,000 (Table 8, Annex 3). Attendance to these seminars is strongly advised to the entire BIOPOLIS-CIBIO community; in the case of PhD students, attendance to these seminar award credits to complete the first-year training program. Many of the seminars were made by BIOPOLIS-CIBIO senior researchers (21) and PhD students (26), but there were also other seminar types, including welcome seminars of new BIOPOLIS-CIBIO researchers (1), invited seminars by external researchers (36) and casual seminars (11). The target was to have at least one seminar per

week, except during holiday periods, though this was not possible due to COVID lockdown periods. Nonetheless, efforts were made to organise the seminars through videoconference (2020 and most of 2021), and then in hybrid format, with both in-person attendance at the auditorium of Campus de Vairão and broadcasting through videoconference. Some of the seminars have been recorded and are available online in the BIOPOLIS-CIBIO YouTube channel¹⁷. Despite these efforts, the annual number of seminars has not recovered yet to the level before the COVID pandemic (mainly in 2019), though work is underway to attain and then surpass such level in the short term.

Table 8. Number of scientific seminars organised at BIOPOLIS-CIBIO before (2018-19) and after (2020-2022) the approval of the Teaming project. Details in Annex 3.

Seminars	ICETA-CIBIO		BIOPOLIS_CIBIO		
	2018	2019	2020	2021	2022 ^a
Senior	5	13	9	10	2
Student	5	17	10	8	8
Casual	9	25	1	1	9
Invited	-	2	7	15	12
Welcome	-	3	-	1	-
Total	19	61	27	35	31

^a Seminars organised until July, as the new seminar cycle will only start with the beginning of the scholar year (October)

4.3.2. PhD Days

According to the Strategy, each here there will be a general training event organised for PhD students, promoting the exchange of ideas, learning of new techniques and approaches, and the acquaintance with soft skills that are important for career development. In these two-day events, PhD students (second and third year) have presented their research through short talks and posters. Social events have also been organised to promote integration and networking. The talks are be broadcasted by videoconference and the posters displayed on an internet platform, so that UM researchers can participate. Two PhD Days (BIODIV Annual Meetings) have been organised since the beginning of the Teaming project, in 2021¹⁸ and 2022¹⁹, with 2020 missing due to the constraints imposed by the COVID pandemic.

4.3.3. Periodic Workshops

BIOPOLIS started during the reporting period the organisation of high-profile, in-person training workshops, in close collaboration with the University of Montpellier and other international

¹⁷ <https://www.youtube.com/c/CIBIOInBIO>

¹⁸ <https://biodiv.pt/en/phd-programme/annual-meeting-2021/>

¹⁹ <https://biodiv.pt/en/phd-programme/annual-meeting-2022/>

institutions. These workshops are aimed at complementing the advanced courses (Section 3.4) offered by BIOPOLIS, by bringing top scientists and opening the course to both in-house and international students. Besides training, these workshops are also designed to strengthen collaborative networks and boost research agendas on hot and emerging topics at BIOPOLIS. The first such workshop was carried out on 9-13 May 2022, about Training and Research Workshop on “Evolutionary Genomics for Plant Models and Crops”²⁰ (Annex 5). This workshop presented major on-going research topics in plant evolutionary genomics, covering both methodological and biological questions, fundamental and applied perspectives, model plants and crops. Each theme (day) was covered by 2 talks given by international specialists and a round table with both speakers moderated by an in-house researcher from the field. This workshop model was tested for the first time at BIOPOLIS-CIBIO, and it was considered a successful example to be followed in future organisations. A second edition of this course will take place in 15-19th of May 2023. Another high-profile workshop is already being planned for January/February 2023, in articulation with UM, focusing on Invasion Biology.

4.3.4. Summer Schools

Summer schools could not be organised in the first two years of the Teaming project implementation (2020, 2021), due to the travelling constraints imposed by the COVID pandemic. In 2022, however, it was possible to organise two summer schools, one of which took place in the BIOLOGICAL Station of Mértola (Annex 6), and the other in the BIOPOLIS-CIBIO pole of Azores:

- **Spring School of the Biological Station of Mértola** (28th of March – 8th April 2022). This field school was organised in a close collaboration between BIOPOLIS-CIBIO and the University of Montpellier, involving 35 students and 4 professors from UM. Participants were based in Mértola and developed field work each day to carry out their studies, whose themes and methodologies had been previously developed. The research themes were mainly focused on environment and biodiversity, involving for example various methods and sampling techniques in study areas such as the Guadiana River, Ribeira de Carreiras River, Guadiana Nature Park, and Mértola village.
- **Azores Summer School in Marine Island (Palaeo)Biogeography**²¹ (6th to 16th of July 2022). This summer school was carried out in the Santa Maria Island (Azores Archipelago, Portugal), and involved 16 students enrolled, with 56% PhD students, 25% MSc students, and 19% professionals in the field. The objective was to provide participants with remarkable tools and unconventional knowledge from various research areas that, baffled together, will enable the interpretation of large and fine-scale marine biogeographic processes and patterns in island systems.

²⁰ <https://cibio.up.pt/en/events/training-and-research-workshop-in-evolutionary-genomics-for-plant-models-and-crops/>

²¹ <http://azss.uac.pt/en/azores-summer-school/>

4.4. Continuous training and development programs

During the reporting period, BIOPOLIS-CIBIO provided its personnel access to continuous training and development, contributing to the development of the Centre as well as personal development of its staff. A particular attention during the reporting period was given to the training of administrative and technical staff, to foster their ability to deal with the increased challenges and activities associated with the Teaming project. Noteworthy examples of staff training are provided below:

- **COST Academy - 10th Grant Holder Managers Seminar** (21/06/2022, Brussels; 1 project manager; 6 hours). Participation at this seminar aimed at addressing the management challenges of an increasing participation in COST Actions by BIOPOLIS-CIBIO researchers. The main points addressed were: (1) proposals for improvements in management platforms, (2) sharing experience in performing tasks, (3) exchange of practices in project management, and (4) give feedback about improvements made by COST.
- **Quality Management Systems - Implementation of NP EN ISO 9001:2015** (28/03/2022; 8 h; Lab Manager and Quality Officer). Given the importance of the Quality System to BIOPOLIS-CIBIO, staff members participated in three training sessions: (1) Dangerous Goods Regulations, (2) "Quality Management Systems - Implementation of NP EN ISO 9001:2015", and (3) "Environment, Safety, Hygiene, and Health at Work - basic concepts". The training covered the general concepts related to quality management; the content of the NP EN ISO 9001:2015 standard; and how to act to boost the implementation of quality management systems.
- **IATA DGR Cat.6** (23-27/05/2022; 40 hours; Lab Manager and Quality Officer). Participation in this event aimed at providing training on the packaging and delivery of potentially dangerous goods. This is of utmost importance in the context of BIOPOLIS-CIBIO labs, which have to deal with the reception and delivery of biological samples from and to around the world.
- **ERCEA Grant Management Workshop for Portuguese Host Institutions** (30/09/2022; 2 project managers). Staff members participated in the training "Grant Management Event for Finance/Project Administrators in Host Institutions", organised by the European Research Council Executive Agency (ERCEA) in collaboration with the Portuguese ERC National Contact Point. The event mainly focused on H2020, and novelties of the Horizon Europe Program.
- **SCIENCE RETREATS' 5-day "Low-Cost Film Making" workshop** (18-22/10/2021; 1 Communication Officer). This event provided training on the production of short scientific documentaries. The aim of this participation was to improve the ability to translate discoveries, ideas, and innovative research to life on screen, thereby increasing the visibility and impact of BIOPOLIS-CIBIO research and innovation among the scientific community, stakeholders, and the general public.
- **Post-graduation course in "Operations Management"** (February – December 2022; 1 Quality Officer). In articulation with Porto Business School, a partner of the Teaming project, BIOPOLIS-CIBIO is supporting a post-graduation course of one Quality Officer. In the scope of this course,

the officer will design a project management model in R&D at BIOPOLIS Association, in articulation with our administration and financial staff, setting the foundations for future improvements in operation processes.

4.5. Training for Society

During the reporting period, BIOPOLIS-CIBIO started a number of activities targeted at the training of stakeholders' staff and at the general public. Part of these activities overlap the advanced training courses (Section 3.3), seminars (Section 4.3.1) and workshops (Section 4.3.2), which are open to external participants. There has also been a strong overlap between these training events and communication & dissemination activities.

4.5.1. Rapid biodiversity surveys (BIOBLITZ)

BIOPOLIS-CIBIO organised BIOBLITZ events, providing training to citizen scientists and other interested persons on biodiversity surveys and the identification of plant and animal species.

These events involved close interactions between BIOPOLIS-CIBIO scientists, using the platform iNaturalist to register observations for the focal regions. These events have seeded the interest of citizens for the natural world, and in many cases have resulted in a long term collection of biodiversity data by citizen scientists. The following examples are noteworthy:

- Bioblitz at Tapada da Ajuda, University of Lisbon (14-16 May 2021), MUNICIPALITY OF Lisbon, with over 100 participants and 702 species recorded until now²².
- Bioblitz at Herdade de Vale de Perditos (9-10 April 2022), municipality of Serpa, with 40 participants and 306 species recorded until now²³.

4.5.2. Ciência Viva

BIOPOLIS-CIBIO researchers participate regularly in training sessions and other events organised by the Ciência Viva²⁴ program of the Ministry of Science and Higher Education, with a particularly close collaboration with the Hall of Biodiversity – Ciência Viva Center²⁵ and the Ciência Viva Centre of Vila do Conde (CCVVC)²⁶. BIOPOLIS-CIBIO is an associated member of CCVVC since March 2022²⁷, and two of its researchers have been designated as President of the Direction and Executive Director, respectively. This is very relevant, because Vila do Conde is the municipality hosting the headquarters

²² <https://www.inaturalist.org/projects/bioblitz-da-tapada>

²³ <https://www.inaturalist.org/projects/vp-bio>

²⁴ <https://www.cienciaviva.pt/en/>

²⁵ <https://mhnc.up.pt/galeria-da-biodiversidade/#english>

²⁶ <https://viladoconde.cienciaviva.pt/>

²⁷ <https://viladoconde.cienciaviva.pt/3335/associados>

of BIOPOLIS-CIBIO, thus greatly increasing the collaboration with local authorities, and providing training opportunities for students and the general public.

4.5.3. Collaboration with schools

BIOPOLIS signed protocols with eight schools located close to Campus de Vairão (Annex 7), to support the development of educational activities. The objectives include the support to continuing professional development of teachers in the fields of BIOPOLIS-CIBIO research. Also, the protocols aim at bringing schools closer to sources of knowledge and technology, targeting at both teachers and students. These protocols have been signed towards the end of the reporting period, and it will only start to be implemented in the scholar year of 2022/23. Nevertheless, it is expected that they will provide opportunities to involve teachers and students in the improvement of scientific education and culture.

4.5.4. Training of corporate professionals

During the reporting period, BIOPOLIS-CIBIO started to engage with private corporations in the training of their professionals on themes such as biodiversity conservation, ecosystem services, and sustainability, among others. The training was made considering the needs of corporations, and it resulted either from acquisitions of services to BIOPOLIS-CIBIO or from collaborations towards the development of new invited chairs or joint research projects. Until now there were two main corporations involved in this programme: SONAE SGPS²⁸, one of the largest corporations in Portugal, with nearly 50,000 employees and activities ranging from food retail²⁹, through fashion and retail in electronics and household appliances³⁰, to telecommunications³¹, among others³²; LIPOR³³, the corporation undertraining waste management and recovery in the metropolitan area of Porto. Examples of training courses carried out during the reporting period for these two companies are given below:

- SONAE (targets: producers linked to food retail and sustainability professionals)
 - Training modules (3) on nature and biodiversity in 2021 and 2022, in the context of the business strategy of SONAE (15 people):
 - General concepts of nature and biodiversity, natural capital, and ecosystem services (1.5 h).
 - Drivers, pressures, risks, and opportunities – market, legislation, and financing (1.5h).
 - Mitigation hierarchy and solutions for a positive impact (1.5h).

²⁸ <https://www.sonae.pt/en/>

²⁹ <https://mc.sonae.pt/en/our-businesses/>

³⁰ <https://www.worten.pt/>

³¹ <https://www.nos.pt/>

³² <https://www.sonae.pt/en/investors/business-areas/>

³³ <https://www.lipor.pt/en/>

- Training sessions (2) on nature and biodiversity in the Academy of the SONAE Producers Club in 2021 (1 h; 23 people) and 2022 (1h; 20 people).
- Training session (1) on habitat improvement for pollinators and other insects, in the Academy of the SONAE Producers Club in 2021 (1 h; 10 people).
- Training session (1) on deforestation in 2021, in the Working Group on Nature and Biodiversity of SONAE (1 h, 10 people).
- LIPOR (targets: sustainability professionals, other collaborators of the company, the general public)
 - University LIPOR (23-27 November 2021) – Guardians of the Future. On-line training for technicians of LIPOR and the general public.
 - Training session (3-4 March 2022) “Pollinators: a key for sustainability” (3-4 March 2022)

4.5.5. Production of training materials

The production of training materials is another component that started to be developed during the reporting period. Specifically, BIOPOLIS-CIBIO produced the Portuguese version of UNESCO Biodiversity Learning Kits, initially available online in English, French and Spanish. This Portuguese version designated Kit Pedagógico sobre Biodiversidade (Vols. I and II) is now available online³⁴. This activity was developed in the framework of the UNESCO Chair Life on Land, awarded to BIOPOLIS-CIBIO Director, in collaboration with Fundação Belmiro de Azevedo and Camões I. P. Printed versions will be distributed by Portuguese-speaking African countries, namely through the structure of the Network of TwinLabs of BIOPOLIS-CIBIO in Africa, in an action complemented by a training programme for high school teachers, to be coordinated by BIOPOLIS-CIBIO and in conjunction with Camões I. P.

³⁴ <http://www.unescoliveonland.com/en/news/biodiversity-learning-kits/>

5. MONITORING, INDICATORS, AND REVIEW

The implementation of the Education and Training Strategy has been regularly monitored and evaluated by the Education and Training Officer, the Board of Directors, and other officers and researchers of BIOPOLIS involved in the governance and management of each programme (Sections 2.2, 3.2 and 4.2). Monitoring has been based on key performance indicators (KPIs), which have been defined together with its corresponding targets in the DoA of the revised GA (Part B, Table 2.1b), and in the Education and Training Strategy (D5.1; Table 1). Short-, medium- and long-term targets have been defined for each KPI, with periods adjusted to account for the one-year extension of project's implementation: short term – Years 1 to 3 (01/10/2019 to 30/09/2022); Medium term – Years 4 to 7 (01/10/2022 to 30/09/2026); and Long Term – Years 8 to 10 (01/10/2026 to 30/09/2029).

The KPIs for the current reporting period are presented comparatively in relation to the baseline considered in the revised GA and the targets for the short-term period (Table 8). In many cases it was possible to reach or even surpass the targets established. Falling short of a few targets was mainly a consequence of constraints associated with the COVID pandemic, specially in 2020 but also to some extent in 2021, which resulted in the cancellation or delay of training events, both in-house and external. Travel restrictions also constrained the mobility of students and researchers, limiting their training opportunities in labs from foreign institutions, including the University of Montpellier. Despite these problems, contingency measures have been applied to overcome the problems, mainly by turning to on-line training events, including the scientific seminars, advanced courses, conferences, and workshops, among others. With the return to post-covid normality in 2022, there was a return to the in-person training model, though in many cases a hybrid model was used (i.e., both on-line and in person). On-line and hybrid models have been very useful to greatly expand the audience of the events, permitting the participation of researchers from other poles of BIOPOLIS-CIBIO (Azores, Lisbon), from the TwinLabs in Africa, and from foreign universities, including the UM. It also facilitated the participation of top speakers from across the world, which avoided wasting time with travel to and from Campus de Vairão.

Table 8. Key Performance Indicators used to monitor the Education and Training component of BIOPOLIS.

KPI	Baseline *	Short Term Performance (Y1-3)	
		Target	Achieved
I. EXCELLENCE TOWARDS INNOVATION			
(ii) Build up Human and logistic capacities			
I2.1. Annual No. of private or public academic and business using the platform facilities	5	8	22
I2.2. Annual No. of courses for technology and knowledge updating	1	4	5

KPI	Baseline *	Short Term Performance (Y1-3)	
		Target	Achieved
II. EMPOWER ECONOMY AND SUSTAINABILITY FOR A BETTER SOCIETY			
(iv) Develop Solutions to Societal Challenges			
<i>II4.2. No. of students from low- and middle-income countries enrolled in post-graduation</i>	4	5	8
(v) Enhance appreciation of science, biodiversity, and ecosystems by the society			
<i>II5.3. No. of non-academic people involved in scientific outreach activities or enrolled in exchange training programmes with business and industry</i>	8	15	4
<i>II5.4. No. of joint activities with regional and local authorities on societal issues</i>	2	4	5
<i>II5.5. No. of outreaching events organised for the general public and number of participants</i>	2/2000	4/6000	2/6654
(vi) Promote specialised jobs, economic growth and investment			
<i>II6.2. No. of stakeholders enrolled in the CoE's Affiliates Programme</i>	3	10	0
III. INTERNATIONALIZATION IN RESEARCH AND TRAINING			
(vii) Raise Critical Mass and international visibility			
<i>III7.3. Percentage of the staff enrolled in mobility programs</i>	1%	2%	1%
(viii) Improve international experience and networking capacities			
<i>III8.3. % of post-graduation students from other nationalities</i>	10%	15%	25%
(ix) Train a new generation of Highly Skilled Researchers			
<i>III9.1. No. of students annually enrolled in the CoE's post-graduation programmes</i>	10%	15%	20
<i>III9.2. No. of doctoral thesis submitted per year</i>	24	35	10
<i>III9.3. No. of employees from national or international organizations trained at BIOPOLIS</i>	6	12	26

Monitoring and evaluation also involve enquiries to those involved in the Programmes, evaluating the levels of satisfaction, and requesting suggestions for improvement. Enquiries started to be made by the coordinators of the advanced courses and workshops, which are then used to make the changes required to increase cost-effectiveness and levels of satisfaction. Also, regular meetings have been organised with PhD students, to assess their satisfaction and identify potential problems, providing the basis to improve the Doctoral Programme. In the next reporting period, more thorough enquiries to participants in the programmes will be made, providing critical information to improve the education

and training activities. The key results of these enquiries will be provided in the “2nd Report of the Education and Training Activities” (D5.3), which is due in September 2024 (Month 60). A major revision of the Education and Training Strategy (D5.6) will be produced according to the project’s timeline in September 2025 (Month 70).

6. CONCLUDING REMARKS

Education and Training activities were successfully implemented during the first three years of the BIOPOLIS Teaming project, benefiting from the previous experience of CIBIO, but in many cases going well beyond past achievements. By and large, the activities have closely followed the DoA in WP5 of the Teaming project, largely meeting its objectives, with the update and adjustments provided in the Education and Training Strategy (Deliverable 5.1, September 2021). Although there were some deviations and delays, mostly due to the impacts of the COVID pandemic in 2020 and 2021, and the associated travel restrictions and limitations to organise in-person events, these have now been largely overcome. During the reporting period, an important part of the work focused on doctoral training (Task 5.2), mainly involving the upgrade and further internationalisation of the Doctoral Programme in Biodiversity, Genetics and Evolution (BIODIV). Highlights included the award of 84 PhD grants from various funding sources, the enrolment of 60 new PhD students (27% of international students), and the production of 29 PhD Thesis. Also important was the work devoted to the training of post-doctoral researchers (Task 5.3), aiming at training towards independence and career development the large number of young researchers contracted by BIOPOLIS. In fact, during the reporting period there were 104 junior researchers transferred from ICETA to BIOPOLIS, and 45 junior researchers newly contracted, all of which were entitled to participate in training activities. Highlights of this effort included the organisation of 27 advanced courses on a range of topics, as well as workshops, seminars, and other events, and the allocation of junior researchers to research groups and their mentoring by more senior researchers. Finally, the work also focused on the development of the Advanced Training and Continuous Development Programme, including three main components: Scholarly Events; Continuous Training and Development Programme; and Training for Society. Highlights of the work included: the organisation of 93 scientific seminars, the first joint workshop with the University of Montpellier, and two summer schools; the participation of technical and administrative staff in six training courses; the close collaboration with “Ciência Viva” centres (Hall of Biodiversity, and Vila do Conde); the establishment of protocols with eight schools from the region; and the training of professionals from corporations with major relevance at national (SONAE and regional (LIPOR) levels, among others. The Education and Training component of BIOPOLIS has been duly monitored and evaluated (Task 5.5), providing information that will be used to improve activities in the next reporting period.

During the next Education and Training reporting period (1st of October 2022 to 30th of September 2024), activities will continue to be implemented according to the objectives and content of WP5 and the Education and Training Strategy (D5.1). In general, these activities will follow the model already adopted in the first triennium, though with improvements and expansions benefiting from the experience gained so far. Specifically, the following developments are expected in the next two years_

- Task 5.2. Management of the Doctoral Programme. This is one of the most successful components of the Education and Training work during the first three years. Improvements will however be

sought in two main aspects. First, efforts will be made to further reinforce the links with the University of Montpellier, mainly by consolidating the programme of co-tutelles, and by increasing the number of co-supervisions between BIOPOLIS and UM researchers. Second, efforts will be made to further internationalise BIODIV, both by increasing the number of students from low- and middle-income countries, and by fostering the attractiveness of the Doctoral Programme for students from scientifically advanced countries. The first goal will build to a large extent on the CEBiCNa initiative for lusophone African countries (see Section 2.2), with the first PhD grants attributed in 2022 for students starting their studies in 2022/23, and new grants attributed yearly for another four years. Receiving these students in BIODIV raises considerable pedagogic and logistic challenges, which will be addressed in the next two years. The second goal will be built on the increasing notoriety provided by BIOPOLIS and its senior researchers, and the attractiveness of the Doctoral Programme for students from other European countries and elsewhere. Also, it will benefit from the opening of calls for PhD grants funded by a variety of sources, to which any student from the EU can apply. At present, BIODIV is by far the largest and most successful Doctoral Programme in the fields of biodiversity, genetics, and evolution in Portugal, and it is expected that over time, and with the support of the BIOPOLIS Teaming project, it will become a reference at the European level.

- Task 5.3. Creation and Management of the Post-Doctoral Training Programme. Implementation of this programme in the first triennium was faced with the challenges of offering training opportunities for a large number of junior researchers (about 150), during a period of severe constraints resulting from the COVID pandemic. Without such constraints, it is expected that the training for junior researcher will be significantly expanded during the next two years. This will involve a significantly increase in offer of in-person and hybrid training events at Campus de Vairão, including advanced courses, seminars, workshops, and conferences, among others. Also, BIOPOLIS will offer more opportunities for junior researchers to attend courses and other events abroad, particularly where training can be complemented with networking activities. Another component that will be significantly boosted through financial support will be the training of junior researchers in labs from UM and other top research institutions elsewhere, as this was one of the activities most severely affected by travel restrictions during the COVID pandemic. Finally, training regarding career development will be reinforced, namely through courses organised together with the Porto Business School, and the increase in the involvement of junior researchers in collaborative research projects with the public administration and business corporations, which may involve temporary placement in such institutions. Overall, it is expected that this programme will strongly contribute to train a new generation of junior researchers, who may either chose to stay in academia and develop into successful senior researchers, or to seek other professional opportunities and contribute with their skills and creativity to the public and private sectors.
- Task 5.4. Creation and Management of an Advanced Training and Continuous Development Programme. According to the Education and Training Strategy, this Programme has three main components that are dealt with separately below:

- Scholarly Events. During the next two years, BIOPOLIS will expand the organisation of scholarly events. The activities will be broadly the same as those developed in the first triennium, but with a strong focus on enhancing the high-profile workshops and the summer schools, in collaboration with UM and other top institutions. Two workshops are already in the planning phase for 2023 (2nd edition of the workshop on “Evolutionary Genomics for Plant Models and Crops” and one workshop on “Invasion Biology”). Calls for workshop proposals will be made to the BIOPOLIS community, in articulation with UM researchers, and financial supported will be granted to those selected. The programme of summer schools will also be expanded, benefiting from the conditions at the field stations currently being established by BIOPOLIS in Mértola (Biological Station of Mértola) and in the National Park of Peneda Gerês (Scientific Branda, municipality of Arcos de Valdevez) (see Deliverable 3.2). Interest for organising field courses and summer schools at these field stations has already been expressed by a number of top research institutions, including the University of Montpellier, the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, and the Laboratory of Ornithology of the University of Cornell, among others. These scholarly events will be used to further reinforce the training associated with the Doctoral and Post-doctoral Programmes.
- Continuous training and development programs. Training of internal administration and technical staff is a key priority for the next reporting period, given the major increases in the workforce and the growth in the number and diversity of activities associated with the implementation of the Teaming project. A major component of the training will be organised together with the Porto Business School, with the support of UM, focusing on aspects such as project management, quality management, lab organisation and management, among other topics. Attention will also be given to reinforcing the training of lab and field technicians, to keep pace with technological developments and to make the most of the wealth of new scientific equipments to be purchased by BIOPOLIS (see Deliverable 3.2). Identification of training needs and opportunities for administration and technical staff will be made by the newly appointed Human Resources coordinator, who will start working at Biopolis on the 1st of October of 2022.
- Training for Society. This component of Education and Training includes a wide range of activities, which have targeted at widely different publics. During the next two years, the intentions is to focus on two main components, which will be consolidated and expanded. First, it intention is to increase the interaction with high school children and their professors, building on the interactions with Ciência Viva of Vila do Conde and the recently signed protocols with schools from the region. These training activities will focus on increasing the appreciation of science and biodiversity, potentially contributing for attracting and new generation of natural scientists. The se cond focus will be on the training of professionals from business corporations and the public administration, on themes related to biodiversity conservation and sustainable use, ecosystem services and

sustainability. These activities will be partly undertaken in the scope of the affiliates programme (WP7), and they will have the dual objective of increasing scientific and technical skills for professionals in charge of sustainability departments and natural resource management, but also to develop stronger networks that can lead to Invited Chairs and other collaborative research programmes. Overall, it is expected that this training component will greatly increase BIOPOLIS notoriety and societal impact.

Education and training during the next two years will be duly monitored and evaluated, trying to permanently improve the efficiency and cost-effectiveness of different activities. This will be done through enquiries and personal discussions with those involved in the process, to identify the positive and negative aspects of each activity. Information will then be used to improve the next activities, and ultimately to upgrade the Education and Training strategy. Although this revised strategy is only due as a deliverable in September 2025, it will be regularly reviewed and update, aiming at a continuous improvement and impact of the activities. In case substantial changes to the strategy are needed, these will be timely communicated to the EC, namely in the scope of the Implementation Reports.

ANNEXES

ANNEX 1a. List of PhD theses (on-going) and allocation to Research Groups and Thematic Lines

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Carlos Ariel Yadró García (2022). Mediterranean honeybees (<i>Apis mellifera</i>): a genome-wide approach to dissecting neutral and adaptive patterns of genetic	EVOLGEN	1		
Diogo Filipe Coutinho Lima (2021). A genomic approach to establish the origins of humanity's best friend	ECOGEN	1		
Ana Beatriz Silva Amorim (2021). Contact and admixture in the Okavango River Basin: a key region for understanding migration and ethnogenesis in pre-colonial southern Africa	HUMANEVOL	1		
Marcela Alvarenga de Almeida Simões (2021). Evolution and adaptive potential of seasonal camouflage in stoats (<i>Mustela erminea</i>)	EVOCHANGE	1		
Mariana Jorge Meneses Correia Ribeiro (2021). The value of captive wildlife in the conservation of species: Genetic diversity and selection in the emblematic sable antelope (<i>Hippotragus niger</i>)	ECOGEN	1		
Tiago Jorge Moreira Lourenço (2021). Function characterization of peroxidases as novel determinants for iodine regulation in plants	PLANTBIO	1		
Joaquim Filipe Polónia de Faria (2020). In the Blood: Influence of endoparasites on host behavior and interactions	AP	1		
João Vasco de Almeida Pessanha Côrte-Real (2020). Unraveling entry and reverse transcription of lentiviruses in the European rabbit	IMED	1		
Marta Ciccarella (2020). Inferring sex-biased admixture processes in human populations with Approximate Bayesian Computations: the case of Atlantic Slave Trade admixture in Cape Verde and São Tomé e Príncipe	HUMANEVOL	1		

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Cristiana Isabel Jorge Marques (2019). The Colour of Cooperation: linking color polymorphism to mutualistic behavior in the Caribbean sharknose cleaning goby (<i>Elacatinus everyone</i>)	EVOLGEN	1		
Inês da Costa Miranda (2019). The evolution and adaptive potential of seasonal coat color variation in the least weasel.	EVOCHANGE	1		
David Azevedo da Silva (2019). Grapevine as a host model for the study of population level genomic variation in the modulation of the hologenome	PLANTBIO	1		
Deepa Singh Shrestha (2019). Exploring the genetic diversity, biogeography, and nutraceutical properties of Nepalese Amaranths (<i>Amaranthus</i> spp.)	PLANTBIO	1		
Daniel Filipe Branco Gaspar (2018). Genomic and bioinformatics methodologies for the identification of genetic markers in sheep	ARCHEN	1		
Javier Lobon Rovira (2018). Phylogeny, Systematics, and Evolution of Dwarf Geckos (genus <i>Lygodactylus</i> Gray, 1864)	AP	1		
Selma Sussana Ndeenda Kosmas (2018). Molecular ecological inferences on large carnivores and their prey in ecosystems of Southern Angola	ECOGEN	1		
Maria Carolina Pacheco de Freitas (2017). Genome wide patterns of selection and demographic changes in Eurasian wolves, and their influence on the selection of livestock guarding dog breeds	ECOGEN	1		
Sara Isabel de Oliveira Freitas (2017). Characterization of grapevine diversity and functional inference of berry color and aromatic typicity using whole-genome sequencing	PLANTBIO	1		
Armando Cinturão Semo (2016). Genetic diversity of human populations from Mozambique: implications for the Bantu expansion // Estudo da Diversidade Genómica dos Povos de Moçambique: Contribuição para a Reconstrução da História das Expansões Bantu	HUMANEVOL	1		

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Paulo Jorge de Andrade Dias Pereira (2016). The genomic architecture of life history evolution in the Eurasian shad	EVOLGEN	1		
Diana Carina da Costa Lobo (2016). A genome-wide perspective on the evolutionary trajectory of wolves in human-dominated landscapes	ECOGEN	1		
Pedro Jorge Lobo Martins Coelho (2015). Biomechanical performance differences between scorpion ecomorphotypes	AP	1		
Carlos Magno Martins Vila-Viçosa (2014). Phylogeographic inference of Galliferae (Spach) Gurke subsection (<i>Quercus</i> L. Fagaceae) in the Western Mediterranean Region	PLANTBIO PRECOL	1		
Vânia Filipa Pereira da Costa (2013). Genomic diversity of zebu cattle <i>Bos indicus</i>	AGRIGENOMICS	1		
Pablo Vicent Castelló (2022). A comprehensive approach to integrated phenotypic evolution: deciphering the diversification of a transcontinental lizard radiation	PHENEVOL		2	
Adam Joseph Doncheff Marques (2021). ANTHROPHIBIANS: adaptive genomic and macrobiotic responses of amphibians in anthropogenic landscapes	BIODESERTS		2	
Beatriz Sofia Gomes Alves (2021). Epidemiological investigation in populations of European wildcats (<i>Felis silvestris</i>), sympatric domestic cats (<i>Felis catus</i>) and their hybrids, representing different gradients of conservation and disturbance: a multi-disciplinary and transboundary approach.	CONGEN		2	
Gonçalo Marques Vila Ferraz (2021). On the path of the elusive sandgrouse: a multi-scale framework for the conservation of two endangered steppe land birds.	CONGEN		2	
Lekshmi Bhuvanendran Pillai Sreelatha (2021). Optimization of camouflage constraints in wall lizards	FBIO		2	

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Prem Alberto Daswani Aguilar (2021). Understanding the evolution of color polymorphisms in lizards	FBIO		2	
Sara Raquel Nunes da Silva Sampaio (2021). Connectivity, trophic ecology, and conservation of the threatened Pyrenean Desman (<i>Galemys pyrenaicus</i>)	CONGEN		2	
Laura Torrent Alsina (2021). Emerging from the darkness: Ecosystem services provided by bats in Equatorial Guinea	BATECO		2	
Cristian Pizzigalli (2021). Investigating ecological networks in extreme climate environments: Landscape genomics and adaptive genetic variation in desert populations of crocodiles and baboons	BIODESERTS		2	
Myxomatosis in the Iberian hares: epidemiology, risk factors and genetic basis of host susceptibility	CONGEN		2	
Genomics in Nguni cattle of Namibia	BIOEVOL		2	
Frederik Lennart Tunn Feldmann (2021). The genetic structure in populations of crustacean decapod crabs in oceanic islands: contrasting evolutionary and biogeographic patterns.	BIOISLE		2	
Livia Sinigaglia (2021). The genetic structure in populations of marine gastropods in oceanic islands: contrasting evolutionary and biogeographic patterns.	BIOISLE		2	
Maria João Figueiredo Paúl (2021). A cross-system framework for understanding how intraspecific diversity is structured across space	BIODESERTS		2	
Nahla Lucchini (2021). Integrating biogeography, morphology, and eco-physiology to unveil patterns of diversification in European vipers and predict species persistence under future climate change.	PHENEVOL		2	
Bárbara Inês de Noronha Bastos (2021). Daily heterothermy in arid adapted rodents, its genetic background, and climatic relevance	BIODESERTS		2	

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Carolina Pilar Reyes Puig (2021). Linking comparative tools and mechanistic niche models to understand the consequences of size variation on species' vulnerability to global change	PHENEVOL		2	
Inês Dinis de Freitas (2020). Dynamics of heterogeneous hybrid zones in a changing world: integrating gene flow, phenotypic variation, and mechanistic modeling in Iberian vipers	PHENEVOL		2	
Carme Tuneu Corral (2020). Bats and rice: Improving food security and rural welfare in Madagascar	BATECO		2	
Ana Isabel Antunes Pereira (2019). Garbage dumps or primary care clinics? Cleaning stations as hubs for the maintenance and recovery of microbial	MARCHANGE		2	
Catarina de Jesus Covas Silva Pinho (2019). Big and small – How do we fit all? An integrative framework for investigating character displacement	CONGEN		2	
Costanza Piccoli (2019). Disentangling the evolution of the mantellid frogs of Madagascar to unveil the determinants of species diversification	BIOEVOL		2	
Mónia Nakamura Mercier Real (2019). Wolf demography in human-dominated landscapes: Insights for wolf conservation in the Anthropocene	CONGEN		2	
Ivo Matias Lopes da Costa (2019). Fine-scale swimming strategies and metabolic performance of ectothermic blue sharks under environmental gradients	MARCHANGE		2	
Patrícia Beltrão dos Santos (2019). Effects of environmental fluctuations and cognition on animal sociality	BE		2	
Frederico Maria Chaves Fernandes Neto Barroso (2019). Winners and losers in a changing environment: A functional approach to the ecology and conservation of crocodylian communities	FBIO		2	
Marco André Ferreira Dinis (2019). Does the dry-climate hypothesis explain the evolution of viviparity in Salamandra?: Understanding and predicting ecological and climatic constraints of Salamandra reproductive modes in heterogeneous contact zones	BIODESERTS		2	

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Lara Valéria Couto Baptista (2018). The genetic structure in populations of marine organisms in remote islands: a study of bryozoans and gastropods in the Azores (NE Atlantic)	BIOISLE		2	
Yuri Simone (2018). The effects of an evolutionary trade-off on scorpion diversity and feeding ecology	PHENEVOL		2	
Luís Filipe Ferreira Pereira (2018). Macroecological consequences of local adaptation to climate change	MARCHANGE		2	
Ignazio Avella (2018). Studying snakebite risk and venom composition to reduce human-snake conflict under climate change scenarios for the Mediterranean region	BIOSESERTS		2	
Diogo Filipe ângelo Ferreira (2018). Chocolate bats: Promoting sustainable cacao through bat ecosystem services	BATECO		2	
Andre Vicente Liz (2018). Comparative phylogeography of the Sahara-Sahel: integrating spatial and temporal approaches to un understand biodiversity dynamics deserts and arid regions.	BIOSESERTS		2	
Ninda Lara Baptista (2018). Patterns and processes of amphibian diversification in Angola	BIOEVOL		2	
Mariana Cravo Pato e Mota (2018). The Primates of Mayombe National Park: Current situation and future perspectives for the species in Cabinda, Angola.	BE		2	
Luís Miguel de Jesus Mota Fernandes Lajas (2018). Reintroduction of carnivore species in Gorongosa National Park, Mozambique	CONGEN		2	
Nina Guerra Serén (2017). How (will) ectotherms cope with changing environments? A test with a model organism under contrasting ecological pressures	FBIO		2	
Fulvio Licata (2017). A multidisciplinary approach to assess the impact of the invasive Asian toad on native ecosystems in Madagascar.	BIOEVOL		2	
Mariana Pimentel Marques (2017). Islands in a sea of sand: diversity and conservation of South-western African Inselberg herpetofauna	TROPBIO		2	

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Ana Cristina Ribeiro Gomes (2017). Phenotypic influences on social structure and mate choice	BE		2	
Pedro Miguel Sobreiro Horta (2017). On the story of mixing: Knowledge trends on relevance, patterns, and drivers of adaptive introgression	BATECO		2	
Combining ecological networks and metabarcoding to evaluate the resilience of mountain agroforestry ecosystems to climate change	BATECO		2	
Tuberculosis in Asian elephant: a one health perspective	CONGEN		2	
Characterizing host-parasite dynamics in Caribbean reef fish	MARCHANGE		2	
Understanding the role of evolution and adaptation in invasive marine invertebrates using genomic tools	MARCHANGE		2	
Rebuilding a unique ecosystem in Africa. Reintroducing big mammals and the follow-up of their expansion dynamics. Analysing patterns of biological diversity	CONGEN		2	
Small mammals distribution and genetic diversity along altitudinal gradients in Costa Rica	CONGEN		2	
Estruturação e diversidade genética em populações de bugio ruivo (<i>Alouatta guariba clamitans</i>) após epizootia de febre amarela no sul do brasil	CONGEN		2	
Digital technology and the social monitoring of climate change	ECOCHANGE			3
Conserving large trees in humanized landscapes: using easy-to-access remote sensing techniques to prioritize conservation actions	ECOCHANGE			3
Fire-smart landscape management toward sustainable mountains under climate change and rural transition scenarios	ECOCHANGE			3
Understanding biodiversity patterns to advance the conservation of Europe's fresh waters	APPLECOL			3
Acorn dispersal by vertebrates as an ecological restoration tool in forest ecosystems	AGRODIV			3

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Ecological and evolutionary implications of anthropogenic food subsidies on wildlife: The White-stork as a case study	AGRODIV			3
Movement, behavior, and microclimate habitat requirements of endangered grassland birds in a warming world	AGRODIV			3
Linking ecological networks with community modeling frameworks toward targeted conservation monitoring of forest ecosystems under landuse change scenarios	ECOCHANGE			3
Arqueobotânica do vale do Douro	ENVARCH			3
Memória ecológica: impacte das dinâmicas históricas da ocupação humana nos padrões atuais de biodiversidade na região do Douro	LPDM			3
Eixo ADV – Tua e Sabor – Parque Arqueológico do Côa. Identificação do sentido de ligação no âmbito da paisagem, biodiversidade e património.	LPDM			3
The fire regulation ecosystem service in fire-prone landscapes: valuation and prediction under global change scenarios	ECOCHANGE			3
Adaptation to novel Portuguese environments by the red eared slider - genetic, epigenetic, and ecological factors	APPLECOL			3
Improving socio-environmental modeling through data and metadata quality assessment and management: challenges and opportunities	ECOCHANGE			3
Assessing interactive effects of climate and land use changes on Mediterranean farmland bird species	APPLECOL			3
Integrating biodiversity conservation and ecosystem service supply across scales to improve the management of freshwater ecosystems	ECOCHANGE			3
Sasha Vasconcelos. Linking agricultural management, host-parasitoid interactions and natural pest control in Mediterranean olive farms: a molecular-based food web approach	APPLECOL			3

Students / PhD Thesis Title	Research Group	TL1	TL2	TL3
Virginia Pimenta. Human-carnivore conflicts: risk assessment of wolf depredation on livestock and its management implications.	APPLECOL			3

ANNEX 1b. List of PhD theses (concluded) and their allocation to Thematic Lines

Student / Year of Conclusion/ PhD Thesis Title	TL1	TL2	TL3
Ana Mafalda Sousa Ferreira (2021). The evolution and molecular bases of seasonal coat color variation in hares: gene expression and the shared contribution of ancestral polymorphism and introgression.	1		
Bárbara Rosa Fonseca Santos (2021). Host-microbiota associations: Characterization of the bacterial diversity in amphibians across Species, Life Stages, and Habitats		2	
Bruno André Santos Marcos (2021). Fire disturbance and functional dynamics of terrestrial ecosystems — A remote sensing framework to analyse severity, recovery, and resilience			3
Daniela Filipa Gonçalves Martins Rosado (2021). To be or not to be diseased: microbial dynamics and dysbiosis in farmed European seabass and gilthead seabream		2	
Evandro Pires Lopes (2021). Cape Verde marine invertebrates - Use of innovative methodologies to better understand the Cabo Verde Archipelago	1	2	
Filipa Matos Silva Martins (2021). Towards Next-generation Biodiversity Monitoring: Improving Freshwater Quality Assessment using DNA Metabarcoding		2	3
Francesco Belluardo (2021). Studying systematics and within-island diversification to unveil the evolution of Madagascar's biodiversity	1		
Frederico da Costa Santarém (2021). Ecotourism development for biodiversity conservation and local economic development in remote regions: a multi-scale approach in the Sahara-Sahel			3
Joana Lopes Vieira Bernardino (2021). Improving impact monitoring and mitigation of bird collisions with power lines	1		3
Joana Maria Laranjeira Rocha (2021). Life in Deserts: a genomic history of adaptation and introgression in North-African foxes	1		
Leili Khalatbari (2021). Lasts of their kind? Biogeography, ecology, and action plan for the conservation of the critically endangered Asiatic cheetah		2	
Margarida Ladeira Felício Gonçalves (2021). Evolutionary history of Hippotragus genus: integration within African phylogeography	1		

Student / Year of Conclusion/ PhD Thesis Title	TL1	TL2	TL3
Mário Rui Mota Ferreira (2021). Modeling biodiversity patterns and processes to support conservation in stream networks			3
Tereza Jacinta Vasconcelos de Almeida (2021). MHC class I and class II lineages in the oldest vertebrates with human-like adaptive immunity	1	2	
Claudia Meneghesso (2020). Upwelling and Biodiversity in a Climate Change context		2	
Francisco Nicolau Loureiro de Amorim (2020). Ecological impacts of changing riverine habitats on terrestrial species: A case study with bats in a semi-arid region		2	
Helena Isabel Rio Maior Palma de Oliveira (2020). Behavioral and ecological determinants of large carnivore persistence in human-dominated landscapes: The case of wolves in northwest iberia		2	3
Kevin Patrick Mulder (2020). Identifying local adaptation in large amphibian genomes	1		
Luís de Oliveira Rijo Gordinho (2020). Divergent selection and reproductive isolation: an empirical study on reed buntings		2	
Malgorzata Anna Gazda (2020). Genetic Basis of Simple and Complex Traits with Relevance to Avian Evolution	1	2	
Manuel Peixoto de Magalhães Lopes Lima (2020). Combining phylogeny, systematics, and ecology to advance the conservation of freshwater mussels			3
Vanessa Cristina Alves Mata (2020). Advancing metabarcoding techniques for the study of trophic interactions and ecosystem services in small vertebrates		2	3
Walter Cocca (2020). Studying the processes of species diversification using the adaptive radiation of the mantellid frogs of Madagascar (Anura: Mantellidae) as a model system	1	2	
Marisa Graziela Cerqueira Vedor (2019). Behavior		2	
Gholamhosein Yusefi (2019). Conservation Biogeography of Terrestrial Mammals in Iran: Diversity, Distribution, and Vulnerability to Extinction		2	

Student / Year of Conclusion/ PhD Thesis Title	TL1	TL2	TL3
Nasser Ali Thabit Al Aرامي (2019). Genetic Diversity, Origin, and Conservation of Arabian Native Domestic Ruminants (Goat and Sheep)	1		
Beatriz Tomé Neto Queirós (2019). Patterns and factors shaping host-parasite relationships: insights from haemogregarine parasites and their reptile hosts	1		
Marco Sannolo (2019). Reptiles under the sun: using lacertid lizards to study thermal and water ecology in ectotherms		2	
Teresa Luísa Ferreira da Silva (2019). Biodiversity, Evolution, and Conservation of Threatened Desert Ungulates		2	
Patrícia de Sousa Pereira (2019). Is the European rabbit (<i>Oryctolagus cuniculus</i>) a good animal model to study HIV-1 pathogenesis and virus-host interactions?	1		
Sandra Raquel da Silva Oliveira (2019). Inferring the demographic history of southern Angola: a key region for understanding human settlement in Southern Africa	1		

ANNEX 2. List of advanced courses organised by BIOPOLIS-CIBIO before (2019) and after (2020-2022) the beginning of the Teaming project.

Advanced Courses	Year
Spatial conservation prioritization: concepts, methods, and applications	2019
Movement Ecology	2019
Introduction to R	2019
Island marine biogeography: a comprehensive overview	2019
Multivariate statistics for Ecology and Evolution	2020
Ecological niche modelling - from theory to practice	2020
Marine island biogeography: patterns and processes	2020
Theoretical perspectives on biodiversity and biogeography	2020
Gene prediction and annotation of whole genomes	2020
Art & Design for Scientists	2021
Conservation Project Management	2021
How do viruses work? Principles and methods for their study	2021
Museum Techniques in the 21st Century	2021
Theoretical perspectives on biodiversity and biogeography	2021
Habitat Suitability Models using citizen science and social media data on invasive alien species	2021
Remote sensing tools and applications to ecology, biodiversity, and natural resources	2021
Public speaking and presentations for scientists	2021
Ecosystem services: from concepts to applications	2021
Quantitative estimation of wildlife population parameters I	2021
Conservation Project Management	2021
How do viruses work? Principles and methods for their study	2021
Museum Techniques in the 21st Century	2021
Theoretical perspectives on biodiversity and biogeography	2021
Habitat Suitability Models using citizen science and social media data on invasive alien species	2021

Advanced Courses	Year
Remote sensing tools and applications to ecology, biodiversity, and natural resources	2021
Public speaking and presentations for scientists	2021
Ecosystem services: from concepts to applications	2021
Quantitative estimation of wildlife population parameters I	2021
Ecological Niche Modelling from theory to Practice	2022
Methods in Research Synthesis: Systematic Reviews and Meta-Analysis	2022
Terrestrial Ectotherms Thermal Ecology in a Changing World: Theory and Practice	2022
Spatial Conservation Prioritization: Concepts, Methods, and Applications	2022
Models in invasion ecology: challenges and applications	2022
Museum Techniques in the 21st Century	2022
How do Animal Viruses work? Principles and Methods for their Study	2022
Theoretical Perspectives on Biodiversity and Biogeography	2022

ANNEX 3. List of Scientific Seminars organised before (2018-2019) and after (2020-2022) the Teaming project

Count	Type	Date	Seminar	Speaker	Affiliation
173	Casual	8-jul-22	Rubber Agroforest, an alternative sustainable farming practice for Thai smallholder farmer	Sara Bumrungsri	Division of Biological Science, Faculty of Science, Prince of Songkla University
172	Senior	8-jul-22	Unveiling the distribution of life on earth	Henrique Miguel Pereira	BIOPOLIS/CIBIO-InBIO
171	Casual	8-jul-22	Vertical stratification of insectivorous bats in 100-meter altitude in agricultural areas of central Thailand	Supawan Srilopan	Division of Biological Science, Faculty of Science, Prince of Songkla University
170	Casual	1-jul-22	Establishing the European Reference Genome Atlas (ERGA) of Biodiversity	Camila Mazzoni	Leibniz Institute for Zoo and Wildlife Research (IZW) and Berlin Center for Genomics in Biodiversity Research (BeGenDiv)
169	Casual	1-jul-22	What drives biodiversity?	Jochen Wolf	Ludwig Maximilian University of Munich (LMU München)
168	Casual	8-jun-22	The importance of continuing specimen collection in Ornithology: the megadiverse amazon as a case in point	Dr Alexandre Aleixo	Finnish Museum of Natural History (LUOMUS)
167	Invited	3-jun-22	DIVERSITY AND INCLUSION – Are you in?	Paula Alexandra Costa	Freelance
166	Invited	20-mai-22	Bird colouration in a changing world	David López-Idiáquez	CEFE - CNRS - University of Montpellier
165	Invited	20-mai-22	Exploring the Abundance-Suitability relationship at large spatial scale	David Ferrer	Instituto de Investigación en Recursos Cinegéticos (IREC)
164	Casual	16-mai-22	Stress and survival in vertebrates: transgenerational effects of stress, environmental context, and why it matters	Dr Kirsty MacLeod	Bangor University
163	Student	13-mai-22	A meta-analysis of biocontrol potential and herbivore pressure in olive crops: does integrated pest management make a difference?	Sasha Vasconcelos	BIOPOLIS/CIBIO-INBIO

Count	Type	Date	Seminar	Speaker	Affiliation
162	Invited	11-mai-22	Studying the social lives of birds and fish in the wild	Lysanne Snijders	Behavioural Ecology Group, Wageningen University & Research
161	Casual	26-abr-22	Island Tales: an overview of island life	Ana M. C. Santos	Terrestrial Ecology Group (TEG-UAM), Universidad Autónoma de Madrid
160	Casual	26-abr-22	Trends in biodiversity studies on protected areas	Sonia Llorente-Culebras	Terrestrial Ecology Group (TEG-UAM), Universidad Autónoma de Madrid
159	Student	22-abr-22	Aggression and dominance in a social species, the common waxbill	Patrícia Beltrão	OK
158	Invited	20-abr-22	Two stories on adaptive evolution in Ethiopian frogs	Stephane Boissinot	New York University Abu Dhabi, United Arab Emirates
157	Student	8-abr-22	Exploring the invasion dynamics and impacts of the invasive Asian common toad in Madagascar	Fulvio Licata	BIOPOLIS/CIBIO-INBIO
156	Student	1-abr-22	Maternal allocation strategies and offspring fitness in the cooperatively breeding sociable weaver: integrating climate, predation and helper effects	Rita Fortuna	BIOPOLIS/CIBIO-INBIO
155	Senior	25-mar-22	Marine forests under climate change: drivers and responses	Cátia Monteiro	BIOPOLIS/CIBIO-INBIO
154	Casual	18-mar-22	Identification of cultural ecosystem services using social media content	Felipe Alexandre Santos	Federal University of Alagoas
153	Student	18-mar-22	Phenotypic influences on social structure and mate choice	Ana Cristina Gomes	BIOPOLIS/CIBIO-INBIO
152	Student	11-mar-22	Microclimate refugia as a dynamic spatiotemporal area in a context of temperature constrain as tested in a threatened grassland bird	Rita Ramos	BIOPOLIS/CIBIO-INBIO
151	Student	11-fev-22	Trust your guts? The effect of gut section on diet composition and impact of <i>Mus musculus</i> on islands using metabarcoding	Catarina J. Pinho	BIOPOLIS/CIBIO-INBIO

Count	Type	Date	Seminar	Speaker	Affiliation
150	Invited	11-fev-22	Potential distributions of shark species under global warming projections	A. Márcia Barbosa	Freelance
149	Invited	10-fev-22	Mechanistic niche modelling for biogeography and conservation	Urtzi Enriquez-Urzelai	Czech Academy of Sciences, Institute of Vertebrate Biology
148	Invited	4-fev-22	Ecology of Russell's Viper (<i>Daboia russelii</i>) in an Indian Rural Community and Its Implications for Snakebite Risk	Xavier Glaudas	School of Animal, Plant and Environmental Sciences, University of the Witwatersrand
147	Invited	21-jan-22	Human-mediated impacts on the evolution of the kelp <i>Undaria pinnatifida</i> : a large-scale and genome-wide approach	Dr. Louis Graf	Sungkyunkwan University
146	Invited	19-jan-22	Detecting inversions across the species range of the rough periwinkle (<i>Littorina saxatilis</i>)	James Reeve	University of Gothenburg
145	Invited	14-jan-22	Philandering females and social networks: how is variation in female extra-pair behaviour in socially monogamous species maintained?	Julia Schroeder	Department of Life Sciences, Imperial College London
144	Student	7-jan-22	Insights about the evolutionary mechanisms of poxviruses: Myxoma virus in <i>Lepus</i> , a case study	Ana Águeda Pinto	BIOPOLIS/CIBIO-INBIO
143	Invited	7-jan-22	From diploid to haploid and back again: the evolutionary ecology of sex	Dr. Stacy A. Krueger-Hadfield	Department of Biology, University of Alabama at Birmingham
142	Student	19-nov-21	Studying systematics and within-island diversification to unveil the evolution of Madagascar's biodiversity	Francesco Belluardo	BIOPOLIS/CIBIO-INBIO
141	welcome	19-nov-21	Exploring different facets of macroecological research in an age of big data: trends, gaps and opportunities	Fernanda Alves-Martins	BIOPOLIS/CIBIO-INBIO
140	Invited	18-nov-21	Making rewilding Investible	Dr Paul Jepson	Ecosulis Ltd
139	Invited	12-nov-21	Public Speaking and Audience Engagement	Hugo Sampaio	Invited Professor at Universidade Lusófona de Cabo Verde Senior

Count	Type	Date	Seminar	Speaker	Affiliation
					Communication and Management Consultant
138	Student	12-nov-21	Lasts of their kind? Biogeography, ecology and action plan for the conservation of critically endangered Asiatic cheetah	Leili Khalatbari	BIOPOLIS/CIBIO-INBIO
137	Senior	5-nov-21	Challenges and opportunities for the conservation of bats and their ecosystem services in Madagascar's agricultural landscapes	Ricardo Rocha	BIOPOLIS/CIBIO-InBIO
136	Casual	29-out-21	Genomic analysis of cannabis and hop sex chromosomes	Djivan Prentout	LBBE, University Lyon
135	Senior	29-out-21	Biodiversity in fragmented landscapes: from terrestrial to insular forest patches	Ana Filipa Palmeirim	BIOPOLIS/CIBIO-InBIO 15h30
134	Senior	15-out-21	Separate sexes and sex chromosomes in plants	Gabriel Marais	CIBIO-InBIO
133	Student	23-jul-21	PUTTING A PRICE ON THE MENU: EVALUATING BAT AND BIRD ECOSYSTEM SERVICES IN AFRICAN COCOA FARMS	Diogo F. Ferreira	BIOPOLIS/CIBIO-InBIO/UP
132	Invited	23-jul-21	UNDERSTANDING BIRDS, BATS AND ECOSYSTEM SERVICES IN AFRICAN FORESTS AND COCOA FARMS: FINDINGS TO DATE, PITFALLS, AND A PATH FORWARD	Luke.L.Powell	CIBIO-InBIO, University of Glasgow, Biodiversity Initiative
131	Student	9-jul-21	UNRAVELLING THE DRIVERS OF BIRD CARCASS REMOVAL BY VERTEBRATE SCAVENGERS AT TRANSMISSION POWER LINES	Joana Bernardino	BIOPOLIS/CIBIO-InBIO/UP
130	Senior	2-jul-21	VIRUS ATTACHMENT TO CELLS: INSIGHTS INTO EVOLUTION AND HOST TROPISM OF LAGOVIRUSES	Ana M. Lopes	BIOPOLIS/CIBIO-InBIO/UP
129	Invited	18-jun-21	iBioGen: TOWARDS A METHODOLOGICAL HARMONISATION IN ISLAND BIODIVERSITY GENOMICS	Anna Papadopoulou	Department of Biological Sciences, University of Cyprus
128	Invited	11-jun-21	DOMESTIC CATS AND BIODIVERSITY - AN INTERNATIONAL WILDLIFE LAW PERSPECTIVE	Arie Trouwborst	Tilburg University

Count	Type	Date	Seminar	Speaker	Affiliation
127	Student	28-mai-21	DOG INTROGRESSION IN IBERIAN WOLF GENOME ENLIGHTENS POTENTIAL MECHANISMS OF BEHAVIORAL ADAPTATION OF WILD POPULATIONS IN HUMAN-MEDIATED LANDSCAPES	Diana Lobo	BIOPOLIS/CIBIO-InBIO/UP
126	Invited	28-mai-21	LIVING WITH LEOPARDS – COEXISTENCE WITH PASTORALIST COMMUNITIES IN NORTHERN KENYA	Jenny Anne Glikman	Instituto de Estudios Sociales Avanzados (IESA-CSIC), San Diego Zoo Wildlife Alliance
125	Invited	21-mai-21	SYSTEMATICS, BIOGEOGRAPHY AND EVOLUTION OF ARABIAN REPTILES	Salvador Carranza	Institute of Evolutionary Biology (CSIC-UPF)
124	Student	21-mai-21	UNRAVELLING THE EVOLUTION OF ADAPTIVE WINTER COLOUR VARIATION IN THE LEAST WEASEL	Inês Miranda	BIOPOLIS/CIBIO-InBIO/UP
123	Invited	14-mai-21	UAV4SEA: TECHNOLOGY DEVELOPMENT FOR DRONE-BASED COASTAL OBSERVATIONS	Débora Borges	CIIMAR-UP
122	Invited	7-mai-21	APPLYING REDUCED REPRESENTATION METHODS FOR THE CONSERVATION OF ENDANGERED SPECIES Larissa Souza Arantes, Leibniz Institute for Zoo and Wildlife Research (IZW) May 07, 2021 - 15h30 ONLINE	Larissa Souza Arantes	Leibniz Institute for Zoo and Wildlife Research (IZW)
121	Invited	30-abr-21	BIODIVERSITY AND PERCEPTION ALTERITY	Aurélien Miralles	Muséum National d'Histoire Naturelle, Paris
120	Invited	23-abr-21	THE RETURN OF THE IBERIAN LYNX. SIX YEARS OF REINTRODUCTION IN PORTUGAL Pedro Sarmiento, Instituto da Conservação da Natureza e das Florestas (DRCNF-Alentejo)	Pedro Sarmiento	Instituto da Conservação da Natureza e das Florestas (DRCNF-Alentejo)
119	Student	23-abr-21	DEVELOPING, TESTING AND DEPLOYING NEW TOOLS AND METHODS FOR ECOPHYSIOLOGICAL AND FIELD RESEARCH AND CONSERVATION: AN APPLIED FOCUS ON SQUAMATES AND CROCODILIANS	Frederico M. Barroso	BIOPOLIS/CIBIO-InBIO/UP

Count	Type	Date	Seminar	Speaker	Affiliation
118	Invited	16-abr-21	UNRAVELLING THE GENETIC STORY OF MARINE CONTAGIOUS METASTASES	Alicia L. Bruzos	Genomes and Disease Lab, Universidade de Santiago de Compostela
117	Senior	26-mar-21	DOCUMENTING AND COMMUNICATING GLOBAL CHANGE TO PROMOTE SUSTAINABILITY. AN EXAMPLE BASED IN THE PREDICTED IMPACTS CAUSED BY SEA LEVEL RISE IN AFRICA	José Carlos Brito	CIBIO-InBIO
116	Invited	19-mar-21	BUSY ABOUT THE TREE OF LIFE: REFERENCE GENOMICS FOR BIODIVERSITY	Mark Blaxter	Tree of Life, Wellcome Sanger Institute
115	Senior	12-mar-21	HOW CAN LIZARDS PHYSIOLOGY COPE WITH CLIMATE CHANGE?	Anamarija Zagar	National Institute of Biology, Slovenia
114	Invited	26-fev-21	CURRENT KNOWLEDGE ON THE EVOLUTION, DIVERSITY AND CONSERVATION OF THE CABO VERDE FLORA	Maria M. Romeiras	Linking Landscape, Environment, Agriculture and Food (LEAF), Instituto Superior de Agronomia, Universidade de Lisboa
113	Invited	5-fev-21	GRAPHIC DESIGN MEETS SCIENCE - SHORT COURSE ON THE ELEMENTS AND PRINCIPLES OF DESIGN	Vasco Batista	Freelance Graphic Designer / Former Researcher in Biology
112	Senior	29-jan-21	ETHICS AND BIODIVERSITY	Carlos Almeida Pereira	
111	Student	29-jan-21	CONQUERING THE SAHARA: INTEGRATIVE PHYLOGEOGRAPHY UNVEILS INTENSE PLIO-PLEISTOCENE DIVERSIFICATION IN <i>Acanthodactylus</i> LIZARDS André Vicente Liz, CIBIO-InBIO/UP January 29, 2021 - 14h45 ONLINE	André Vicente Liz	BIOPOLIS/CIBIO-InBIO/UP
110	Senior	22-jan-21	GENOMIC VARIATION AND SIGNALS OF POSITIVE SELECTION IN MOZAMBIQUE	Magdalena Gayà	BIOPOLIS/CIBIO-InBIO

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109	Senior	8-jan-21	SOLVING THE MYSTERY OF THE MOST MISIDENTIFIED MARINE ORGANISM IN THE WORLD	Rui Faria	BIOPOLIS/CIBIO-InBIO
108	Senior	8-jan-21	AN OMICS-BASED APPROACH TO UNRAVEL ALKALOID AND LEAF BIOLOGY IN THE ANTICANCER PLANT <i>Catharanthus roseus</i>	Rogério Ribeiro	BIOPOLIS/CIBIO-InBIO
107	Student	18-dez-20	HOW ALOSA ADAPTED TO LIFE ON A LAKE - PATHWAYS OF ADAPTATION TO A COMPLETE FRESHWATER LIFECYCLE	Paulo Pereira	BIOPOLIS/CIBIO-InBIO/UP
106	Student	4-dez-20	ISLANDS IN A SEA OF SAND: DIVERSITY AND CONSERVATION OF SOUTH-WESTERN AFRICAN INSELBERG HERPETOFAUNA Mariana Marques, CIBIO-InBIO/UP December 04, 2020 - 14h45 ONLINE	Mariana Marques	BIOPOLIS/CIBIO-InBIO/UP
105	Senior	4-dez-20	FORAGERS WITHOUT HISTORY? A MULTIDISCIPLINARY APPROACH TO THE HISTORY OF KHOE-KWADI SPEAKERS IN SOUTHERN AFRICA	Anne-Maria Fehn	
104	Student	27-nov-20	HOW DO PREDATORS SHAPE THE DISTRIBUTION AND ACTIVITY PATTERNS OF DIFFERENT PREY SPECIES?	Filipe Rocha	BIOPOLIS/CIBIO-InBIO/UP
103	Senior	27-nov-20	GLOBAL BIODIVERSITY CHANGE: A 6th MASS EXTINCTION OR A MORE BIODIVERSE WORLD?	Henrique Pereira	Martin Luther University Halle-Wittenberg,
102	Senior	13-nov-20	GEOHERITAGE OF SANTA MARIA ISLAND (AZORES): THE ROAD TO THE PALAEO-PARK SANTA MARIA	Sérgio Ávila	CIBIO-Açores
101	Student	6-nov-20	FORTIFIED STORAGE AREAS IN THE LATE IRON AGE IN NW IBERIA: EVIDENCE FOR SURPLUS PRODUCTION AND CONTROLLED REDISTRIBUTION? Luís Seabra, CIBIO-InBIO/UP November 06, 2020 - 14h45 ONLINE	Luis Seabra	BIOPOLIS/CIBIO-InBIO/UP
100	Senior	6-nov-20	TO CHANGE OR NOT TO CHANGE? REPEATED EVOLUTION OF SEASONAL COAT COLOUR POLYMORPHISM ACROSS SPECIES	José Melo Ferreira	

Count	Type	Date	Seminar	Speaker	Affiliation
99	Student	30-out-20	MHC CLASS I AND CLASS II LINEAGES IN THE OLDEST VERTEBRATES WITH HUMAN-LIKE ADAPTIVE IMMUNITY	Tereza Almeida	BIOPOLIS/CIBIO-InBIO/UP
98	Invited	30-out-20	BIOLOGICAL STATION OF MÉRTOLA, A NATURAL LABORATORY FOR ENVIRONMENTAL SUSTAINABILITY: INTEGRATING BIODIVERSITY, AGROECOLOGY AND WILDLIFE MANAGEMENT	Rosinda Pimenta, Câmara Municipal de Mértola	
97	Student	23-out-20	ADDRESSING PATTERNS OF VENOM VARIATION IN WESTERN MEDITERRANEAN VIPERS	Ignazio Avella	BIOPOLIS/CIBIO-InBIO
96	Senior	23-out-20	NATURE CONSERVATION IN THE DIGITAL AGE: CONSERVATION CULTUROMICS AND ECOLOGY	Richard J. Ladle	BIOPOLIS/CIBIO-InBIO
95	Student	16-out-20	EVOLUTIONARY HISTORY OF HIPPOTRAGUS GENUS: INTEGRATION WITHIN AFRICAN PHYLOGEOGRAPH	Margarida Gonçalves	BIOPOLIS/CIBIO-InBIO/UP
94	Invited	17-jul-20	WEBINAR: METABARCODING WITH MinION: SPEEDING UP THE DETECTION OF INVASIVE AQUATIC SPECIES USING ENVIRONMENTAL DNA AND NANOPORE SEQUENCING	Bastian Egeter	BIOPOLIS/CIBIO-InBIO
93	Student	10-jul-20	WEBINAR: THE ROLE OF CULTURAL SERVICES FOR SUSTAINABILITY IN THREATENED DESERTS	Frederico Santarém	CIBIO-InBIO/UP
92	Invited	10-jul-20	WEBINAR: THE INFLUENCE OF TOPOGRAPHY AND CLIMATE ON BIODIVERSITY – INSIGHTS FROM AN INSULAR MONTANE CLOUD FOREST Brent Emerson, Instituto de Productos Naturales y Agrobiología (IPNA-CSIC) July 10, 2020 - 15h30 Online	Brent Emerson	Instituto de Productos Naturales y Agrobiología (IPNA-CSIC)
91	Senior	26-jun-20	WEBINAR: DNA-BASED MONITORING OF BROWN BEARS AND OTHER LARGE CARNIVORES IN NORWAY	Alexander Kopatz	Norwegian Institute for Nature Research (NINA)
90	Invited	19-jun-20	WEBINAR: THE EVOLUTION OF HUMAN-COMMENSALISM IN HOUSE SPARROWS	Mark Ravinet	University of Nottingham, United Kingdom

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89	Invited	12-jun-20	WEBINAR: GENETIC RESTORATION OF MEDITERRANEAN HUMAN-ALTERED LANDSCAPES	Antonio R. Castilla	Centro de Ecologia Aplicada "Prof. Baeta Neves" (CEABN)
88	Invited	21-fev-20	WHAT Anolis LIZARDS CAN TEACH US ABOUT HOW EVOLUTION WORKS	Nathalie Feiner	Lund University
87	Student	14-fev-20	GRAPEVINE AS A HOST MODEL FOR THE STUDY OF POPULATION LEVEL GENOMIC VARIATION IN THE MODULATION OF THE HOLOGENOME	David Silva	CIBIO-InBIO
86	Invited	14-fev-20	SOIL FUNGI METABARCODING IN A MEDITERRANEAN FOREST SITE	Paulo Oliveira	PLANTBIO, CIBIO-InBIO & University of Évora
85	Senior	7-fev-20	The Black Francolin. Reawakening the Memory and Assessing the Origin of a Prized Courtly Bird in the Mediterranean.	Giovanni Forcina	AGRIGENOMICS
84	Student	7-fev-20	ADVANCING METABARCODING TECHNIQUES FOR THE STUDY OF TROPHIC INTERACTIONS AND ECOSYSTEM SERVICES IN SMALL VERTEBRATES	Vanessa Mata	CIBIO-InBIO
83	Casual	6-fev-20	TROPICAL FORESTS IN THE ANTHROPOCENE: FROM ECOLOGICAL RESPONSES TO MANAGEMENT	Prof. Jos Barlow	Universidade Federal de Lavras, Brasil & Lancaster University, UK
82	Senior	24-jan-20	UNVEILING THE EFFECTS OF INDIVIDUAL VARIATION IN EPIDEMIOLOGY, ECOLOGY AND EVOLUTION	Gabriela Gomes	CIBIO-InBIO
81	Senior	24-jan-20	WHAT MAKES YOU STRONGER DOESN'T MAKE YOU FASTER: EXPLORING THE ORIGIN AND THE CONSEQUENCES OF A FUNCTIONAL TRADE-OFF IN SCORPIONS	Yuri Simone	CIBIO-InBIO
80	Casual	18-dez-19	SPECIATION AND SEXUAL SELECTION AS PROCESSES TO MAINTAIN MITONUCLEAR COADAPTATION	Geoffrey E. Hill	Auburn University, Alabama, USA
79	Student	13-dez-19	MYXOMA VIRUS LEAP FROM RABBIT TO HARE: UNRAVELLING THE MECHANISMS BEHIND VIRUS HOST SPECIES JUMP	Ana Águeda Ferreira	

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78	Casual	3-dez-19	GALICIAN WILD PONIES: IMPLICATIONS FOR CONSERVATION OF WOLVES AND PRIORITY HABITATS	Laura Lagos Abarzuza	Centro de Investigaciones Científicas Avanzadas (CICA), Universidade da Coruña, España
77	Movie Session	29-nov-19	SOCOTRA, THE ISLAND OF DJINNS by Jordi Esteva	Raquel Vasconcelos	CIBIO-InBIO
76	Student	22-nov-19	BEHAVIOUR AND HABITAT PREFERENCES OF TWO PELAGIC SHARKS AT RISK FROM COMMERCIAL EXPLOITATION AND CLIMATE CHANGE	Marisa Vedor	CIBIO-InBIO
75	Casual	8-nov-19	MALE-BIASED MORTALITIES IN AFRICAN ELEPHANTS: THE BIG, THE SMALL AND THE DEADLY	Armanda Bastos	University of Pretoria
74	Senior	8-nov-19	UNRAVELING THE ADAPTIVE IMMUNE GENETIC DIVERSITY IN THE EUROPEAN BARN OWL - FROM METHODOLOGICAL TO BIOLOGICAL PERSPECTIVES	Arnaud Gagher	CIBIO-InBIO, Marchange
73	Student	8-nov-19	THE INHERITANCE OF MIGRATORY BEHAVIOUR IN QUAILS	Pedro Andrade	CIBIO-InBIO
72	Casual	31-out-19	THE IMPORTANCE OF MUSEUM COLLECTIONS FOR UNDERSTANDING VERTEBRATE BIODIVERSITY	Simon Loader	Department of Life Science, Natural History Museum, London, UK
71	Casual	25-out-19	ECOSYSTEM SERVICES OF BATS AND THEIR ROLE AS PEST SUPPRESSORS IN VINEYARDS: FROM THEORY TO APPLICATION	Unai Baroja	Ibáñez de Maeztu, Department of Zoology and Animal Cell Biology, University of the Basque Country
70	Casual	24-out-19	GENOMICS-LEAD BIODIVERSITY DISCOVERY IN A TROPICAL BIOME: IMPLICATIONS FOR SPECIATION AND CONSERVATION	Craig Moritz	The Australian National University
69	Casual	21-out-19	SELECTIVE AND HISTORICAL FACTORS IN THE POSTGLACIAL RADIATION OF THE SONGBIRD GENUS Junco: CHANGE IN SEXUAL SIGNALING OUTRUNS MORPHOLOGICAL DIVERGENCE ACROSS AN ECOLOGICAL GRADIENT	Guillermo Friis	New York University, Abu Dhabi

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68	Welcome	18-out-19	PARASITES OF LIZARDS: VIRULENCE, BIO-INDICATORS OF CLIMATE CHANGE, AND BEHAVIOURAL RESPONSE TO INFECTIONS	Rodrigo Megía-Palma	CIBIO-InBIO
67	Student	18-out-19	EVOLUTIONARY MECHANISMS OF RAPID DIVERGENCE AND LOCAL ADAPTATION IN HARES	Mafalda Sousa Ferreira	CIBIO-InBIO
66	Invited	15-out-19	DECONSTRUCTING EVOLUTION THROUGH THE POPULATION PALAEOGENOMIC WINDOW	Thomas Gilbert	The GLOBE Institute, University of Copenhagen, Denmark
65	Senior	11-out-19	SPECIES BOUNDARIES IN <i>Micromeria</i> (LAMIACEAE) FROM THE CANARY ISLANDS: INSIGHTS FROM AN AMPLICON SEQUENCING APPROACH	Manuel Curto	University of Natural Resources and Life Sciences, Vienna
64	Casual	13-set-19	PETROGLYPH SITES SITUATED IN THE NEGEV DESERT, ISRAEL: WEATHERING PROCESSES & CONSERVATION	Ariel Kushmaro,	Ben Gurion University, Israel
63	Casual	13-set-19	HOOK, LINE AND INFECTION: THE WEEDS OF AQUACULTURE	Jo Cable	Cardiff University, Wales, United Kingdom - Marine Ecology, Diversity and Change
62	Casual	5-jul-19	CHEETAHS: BIOLOGY AND CONSERVATION	Laurie Marker	Cheetah Conservation Fund
61	Invited	5-jul-19	THE INTERACTION BETWEEN SPATIAL, SOCIAL AND GENETIC PROCESSES IN A COLONIZING POPULATION: THE REINTRODUCED ASIATIC WILD ASS	Shirli Bar David	Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel
60	Student	5-jul-19	SCREENING FRESHWATER MACROINVERTEBRATE COMMUNITIES USING A MULTI-MARKER METABARCODING APPROACH	Filipa MS Martins	CIBIO-InBIO/UP FCUP
59	Senior	28-jun-19	UNVEILING GEOGRAPHICAL, ECOLOGICAL, AND EVOLUTIONARY RELATIONSHIPS OF A NEOTROPICAL SPECIES COMPLEX OF BI/UNISEXUAL LIZARDS ENDEMIC FROM AMAZON (SQUAMATA: GYMNOPHTHALMIDAE: LOXOPHOLIS)	Tuliana Oliveira Brunes	Zoology Department, Institute of Biosciences, University of São Paulo, Brazil
58	Student	28-jun-19	GENETIC BASIS OF SIMPLE AND COMPLEX TRAITS WITH HIGH IMPORTANCE FOR AVIAN EVOLUTION	Małgorzata Anna Gazda	CIBIO-InBIO/UP FCUP

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57	Student	12-jun-19	THE ASIAN TOAD INVASION OF MADAGASCAR: CHRONICLES OF A PHD	Fulvio Licata	CIBIO-InBIO/UP FCUP
56	Casual	11-jun-19	RISK FACTORS IN THE INCIDENCE OF JOHNE'S DISEASE (PARATUBERCULOSIS) June 11, 2019 – 12h00 CIBIO-InBIO's Auditorium, Campus de Vairão	Kostas A. Triantaphyllopoulos	Dept. Animal Science & Aquaculture, Agricultural University of Athens, Greece
55	Senior	7-jun-19	UNRAVELING EVOLUTION OF SOUTH AMERICAN FORESTS: HIGH DIVERSITY AND MULTIPLE EVOLUTIONARY HISTORIES	Henrique Batalha Filho	Universidade Federal da Bahia, Brazil
54	Student	7-jun-19	MAPPING CULTURAL ECOSYSTEM SERVICES IN CONFLICT AREAS, CIBIO-InBIO/UP	Frederico Santarém	CIBIO-InBIO/UP FCUP
53	Casual	4-jun-19	THE DEMOGRAPHIC HISTORY OF AFRO-DESCENDANT QUILOMBO POPULATIONS IN THE VALE DO RIBEIRA REGION (SÃO PAULO, BRAZIL)	Regina C. Mingroni Netto	Instituto de Biociências, Universidade de São Paulo, Brazil
52	Casual	31-mai-19	THE CHALLENGE OF CONSERVING LARGE CANIVORES IN INDIA	Yadvendradev V. Jhala	Wildlife Institute of India
51	Senior	31-mai-19	THE ECOLOGY, GENETICS AND CONSERVATION OF THE AFRICAN WILD ASS (<i>Equus africanus</i>)	Patricia D. Moehlman & Albano Beja-Pereira	Tanzania Wildlife Research Institute, Tanzania; CIBIO-InBIO, Portugal
50	Student	31-mai-19	Effects of social and environmental breeding conditions on maternal egg investment: a long-term assessment in a cooperatively breeding avian species	Rita Fortuna	CIBIO-InBIO/UP FCUP
49	Senior	24-mai-19	THE ROLE OF VOLES IN AGROECOSYSTEMS – FROM PEST MANAGEMENT TO BIODIVERSITY CONSERVATION	Joana Paupério	APPLECOL, CIBIO-InBIO
48	Student	24-mai-19	TEN YEARS AFTER - A LOOK INTO THE EFFECTS OF HABITAT FRAGMENTATION ON MEDITERRANEAN FARMLAND BIRDS	João Faria	CIBIO-InBIO/UP FCUP
47	Casual	23-mai-19	USING SIMULATIONS AND EXPERIMENTS TO PREDICT HOW EARLY LIFE STAGES ARE SENSITIVE TO CLIMATE CHANGE	Ofir Levy	School of Zoology, Tel-Aviv University, Israel

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46	Casual	20-mai-19	THE BIRDS, THE BATS AND THE CHOCOLATE TREES: TOWARDS SUSTAINABLE AGRICULTURE THROUGH DNA METABARCODING	Luke L. Powell	Durham University, University of Glasgow & Biodiversity Initiative (Scotland)
45	Welcome	17-mai-19	WHERE, WHO AND WHY? THREATS TO WIDESPREAD NEOTROPICAL VERTEBRATES	Sofia Marques Silva	MarChange, CIBIO-InBIO
44	Casual	9-mai-19	HERITABILITY ESTIMATES IN RECENTLY ADMIXED POPULATIONS: INSIGHTS FROM THE GREENLANDIC POPULATION	Georgios Athanasiadis	Bioinformatics Centre, University of Copenhagen, Denmark
43	Student	26-abr-19	CONSERVATION BIOGEOGRAPHY OF THE TERRESTRIAL MAMMALS IN IRAN: DIVERSITY, DISTRIBUTION, AND VULNERABILITY TO EXTINCTION	Gholam Hosein Yusefi	CIBIO-InBIO/UP FCUP
42	Student	12-abr-19	REPTILES UNDER THE SUN: USING LACERTID LIZARDS TO STUDY THERMAL AND WATER ECOLOGY IN ECTOTHERMS	Marco Sannolo	CIBIO-InBIO/UP FCUP
41	Casual	10-abr-19	ELEPHANT FRIENDLY TEA: AN EXAMPLE OF WILDLIFE SCIENCE-BASED COMMERCIALIZATION TO SAVE AN ENDANGERED SPECIES	Scott Mills & Lisa Mills	University of Montana (USA)
40	Student	5-abr-19	ECO-EVOLUTIONARY IMPLICATIONS UNDERLYING THE EMERGENCE OF A NOVEL REPRODUCTIVE MODE IN FIRE SALAMANDERS	André Lourenço	CIBIO-InBIO/UP FCUP
39	Welcome	5-abr-19	CONSERVING EVOLUTIONARY PROCESSES	Jeffrey Hanson	BIODESERTS, CIBIO-InBIO
38	Casual	3-abr-19	GRAPEVINE PALAEOGENOMICS: INSIGHTS INTO GRAPE DOMESTICATION, EVOLUTION, AND THE HISTORY OF WINE	Nathan Wales	University of York, UK
37	Casual	29-mar-19	HOW CAN BIODIVERSITY GAIN FURTHER POLITICAL IMPORTANCE?	Humberto D. Rosa	Director for Natural Capital, DG Environment, European Commission
36	Student	29-mar-19	HOW (WILL) ECTOTHERMS COPE WITH CHANGING ENVIRONMENTS? A TEST WITH A UNIQUE MODEL ORGANISM UNDER CONTRASTING ECOLOGICAL PRESSURES	Nina Serén	CIBIO-InBIO/UP FCUP
35	Casual	25-mar-19	DIVERGENCE AND GENE FLOW DURING A RADIATION OF CRYPTIC SPECIES: INSIGHTS FROM Chorthippus GRASSHOPPERS	Ricardo J Pereira	Division of Evolutionary Biology, Faculty of Biology II, LMU, Germany

Count	Type	Date	Seminar	Speaker	Affiliation
34	Senior	22-mar-19	PORTUGUESE NATURAL HISTORY COLLECTIONS: PAST, PRESENT AND FUTURE	Luis Ceráco	Museu de História Natural e da Ciência, University of Porto
33	Student	22-mar-19	EFFECTS OF OLIVE FARM INTENSIFICATION ON PHYTOPHAGOUS INSECTS AND THEIR NATURAL ENEMIES	Sasha Vasconcelos	CIBIO-InBIO/UP FCUP
32	Senior	15-mar-19	INFERRING THE EVOLUTIONARY HISTORY OF SPECIES WITH POPULATION GENOMICS	Vítor Sousa	cE3c, FCUL, University of Lisbon
31	Senior	8-mar-19	REDUCED NEARSHORE WARMING ASSOCIATED WITH EASTERN BOUNDARY UPWELLING SYSTEMS	Rui Seabra	MarChange, CIBIO-InBIO
30	Casual	28-fev-19	QUANTIFYING SPECIES RECOVERY AND CONSERVATION SUCCESS: APPLYING THE IUCN GREEN LIST OF SPECIES FRAMEWORK TO ARIDLAND ANTELOPES	David Mallon	Division of Biology and Conservation Ecology, Manchester Metropolitan University, UK
29	Casual	28-fev-19	DISTINGUISHING THE VICTIM FROM THE THREAT: SNP-BASED METHODS REVEAL THE EXTENT OF INTROGRESSIVE HYBRIDIZATION BETWEEN WILDCATS AND DOMESTIC CATS IN SCOTLAND AND INFORM FUTURE IN SITU AND EX SITU MANAGEMENT OPTIONS FOR SPECIES RESTORATION	Helen Senn	Head of Conservation & Science, Royal Zoological Society of Scotland
28	Student	28-fev-19	PROACTIVE COMMON WAXBILLS MAKE FEWER MISTAKES IN A COGNITIVE ASSAY, THE DETOUR-REACHING TASK	Ana Cristina Gomes	CIBIO-InBIO/UP FCUP
27	Senior	22-fev-19	OF VIKINGS AND THEIR CONTEMPORARIES: MOBILITY IN EARLY MEDIEVAL NORTHERN EUROPE	Anders Götherström	Archaeological Research Laboratory, Department of Archeology and Classical Studies, University of Stockholm, Sweden
26	Casual	21-fev-19	THE MIDDLE PLEISTOCENE CRANIUM FROM GRUTA DA AROEIRA (ALMONDA KARST SYSTEM): IMPLICATIONS FOR OUR UNDERSTANDING OF THE HUMAN EVOLUTION PROCESS	João Zilhão	Department of History & Archeology, University of Barcelona, Spain

Count	Type	Date	Seminar	Speaker	Affiliation
25	Senior	15-fev-19	SCIENCE-BASED CONSERVATION FOR TROUBLING SPECIES: INSIGHTS FROM WOLVES IN PORTUGAL	Francisco Álvares	CONGEN, CIBIO-InBIO
24	Student	15-fev-19	DESIGNING LANDSCAPES OF COEXISTENCE FOR WOLVES AND PEOPLE	Helena Rio Maior	CIBIO-InBIO/UP FCUP
23	Senior	8-fev-19	BUILDING COLLABORATIVE NETWORKS OF TEMPERATURE LOGGERS AT THE GLOBAL SCALE	Fernando P. Lima	MARCHANGE, CIBIO-InBIO
22	Casual	1-fev-19	LEVINSANALYSIS - A LOOP ANALYSIS R PACKAGE	Daniel Pereira,	University of Parma & University of Ferrara, Italy
21	Senior	11-jan-19	A SONG OF FROST AND FIRE - CURRENT GLOBAL CHANGE RESEARCH IN ANGOLA	Manfred Finckh	SASSCAL Project, Biodiversity, Evolution and Ecology of Plants, University of Hamburg (Germany)
20	Casual	10-jan-19	PEER COMMUNITY IN: A FREE PUBLIC SYSTEM FOR PEER-REVIEWING AND HIGHLIGHTING PREPRINTS	Denis Bourguet	CBGP, Montpellier, France
19	Senior	14-dez-18	AN INCLUSIVE VIEW OF COMMUNITY ECOLOGY MADE POSSIBLE BY eDNA SAMPLING	Taylor Wilcox	National Genomics Center for Wildlife and Fish Conservation, USA
18	Student	14-dez-18	EVOLUTION OF THE ADAPTIVE IMMUNITY - A NEW PERSPECTIVE GIVEN BY CHONDRICHTHYAN FISHES (SHARKS, RAYS AND CHIMAERAS) AS BASAL JAWED VERTEBRATES	Tereza Almeida	CIBIO-InBIO/UP FCUP
17	Casual	12-dez-18	IMPORTANCE OF WATER CONSTRAINTS: INSIGHT FROM SNAKES ECOPHYSIOLOGY	Olivier Lourdais	CEBC-CNRS, Chizé, France
16	Casual	11-dez-18	TEMPORAL EVOLUTION IN SELFING POPULATIONS: EVOLUTIONARY MECANISMS, ADAPTATION AND SELECTION FOOTPRINT	Laurène Gay	Team GE ² POP, UMR AGAP 1334 - Montpellier, France
15	Casual	4-dez-18	LAKE FISH MONITORING AND OTHER ADVENTURES WITH ENVIRONMENTAL DNA	Lori Lawson Handley	University of Hull, UK
14	Student	30-nov-18	UNDERSTANDING SPECIATION: A MULTIDISCIPLINARY ASSESSMENT OF HYBRID ZONES USING A LIZARD SPECIES COMPLEX AS MODEL	Guilherme Caeiro Dias	CIBIO-InBIO/UP FCUP

Count	Type	Date	Seminar	Speaker	Affiliation
13	Casual	22-nov-18	THE REPRODUCTIVE BIOLOGY OF THE ITALIAN WALL LIZARD, <i>Podarcis siculus</i> . THE CONTINENTAL AND LARGE ISLANDS PATTERN	Marco AL Zuffi	Museum Natural History, University of Pisa, Italy
12	Student	22-nov-18	REGULATORY CHANGES IN PTERIN AND CAROTENOID GENES UNDERLIE BALANCED COLOR POLYMORPHISMS IN THE WALL LIZARD	Pedro Andrade	CIBIO-InBIO/UP FCUP
11	Casual	6-nov-18	ALIENS AND HUMANS: BIOLOGICAL INVASIONS IN THE ANTHROPOCENE	Franz Essl & Berta Martin-López	University of Vienna, Austria & Leuphana University of Lüneburg, Germany
10	Senior	30-out-18	TUBERCULOSIS IN WILD UNGULATES: NEW APPROACHES TO UNRAVEL THE EPIDEMIOLOGY OF INTRA- AND INTER-SPECIES TRANSMISSION	Nuno Santos	CONGEN, CIBIO-InBIO
9	Senior	26-out-18	USING MODELS TO UNDERSTAND NUTRIENTS TRANSFER IN HYDROSYSTEMS	Léonard Bernad-Jannin	CCIAM, cEc3, University of Lisbon
8	Student	26-out-18	ASSESSING AND MITIGATING THE IMPACTS OF LINEAR INFRASTRUCTURES ON BIODIVERSITY: FROM GREY DATA TO IMPROVED MANAGEMENT DECISIONS	Joana Bernardino	CIBIO-InBIO/UP FCUP
7	Casual	25-out-18	KEYSTONE EFFECTS OF AUSTRALIA'S TOP PREDATOR	Mike Letnic	Centre for Ecosystem Science/ University of New South Wales, Australia
6	Casual	25-out-18	CHROMREP: AN INTEGRATIVE APPROACH LINKING CHROMOSOMAL EVOLUTION AND BIODIVERSITY IN REPTILES FROM MADAGASCAR	Marcello Mezzasalma	Natural History Museum, London (UK)
5	Casual	24-out-18	THE STORY OF RABBIT IN AUSTRALIA WITH AN EMPHASIS ON THEIR ADAPTION AND IMPACTS IN ARID AUSTRALIA	Mike Letnic	Centre for Ecosystem Science/ University of New South Wales, Australia
4	Senior	19-out-18	ROAD AND RAIL ECOLOGY IN SWEDEN	Jan Olof Helldin	Swedish Biodiversity Centre, Swedish University of Agricultural Sciences

Count	Type	Date	Seminar	Speaker	Affiliation
3	Student	19-out-18	ASSESSMENT OF BIOLOGICAL INVASIONS IN REPTILES OF MEDITERRANEAN ISLANDS: A BIOGEOGRAPHIC, GENETIC AND ECOLOGICAL PERSPECTIVE	Iolanda Silva Rocha	CIBIO-InBIO/UP FCUP
2	Casual	12-out-18	CORK OAK GENOMICS: SEQUENCING THE GENOME AND OTHER OMICS STUDIES	Marcos Ramos	CEBAL
1	Senior	12-out-18	GENES "GOING IN AND OUT" OF GENOMES AND THEIR PHENOTYPIC CONSEQUENCES	Filipe Castro	CIIMAR/Faculty of Sciences, University of Porto

BIODIV 1st year - Oral Presentations

Thesis Seminar/Thesis Project

September 30, October 7 & 14, 2022

September 30, 2022

ZOOM Link: <https://videoconf-colibri.zoom.us/j/95855852525>

30 September 2022 - 14h00 | Diogo Filipe Coutinho Lima;

"A genomic approach to establish the origins of humanity's best friend"

Supervisor(s): Greger Larson, Maria Raquel Barata Godinho, Laurent Frantz.

30 September 2022 - 14h25 | Mariana Jorge Meneses Correia Ribeiro;

*"The value of captive wildlife in the conservation of species: Genetic diversity and selection in the emblematic sable antelope (*Hippotragus niger*)"*

Supervisor(s): Maria Raquel Barata Godinho, Klaus-Peter Koepfli, Bettine Jansen van Vuuren.

30 September 2022 - 14h50 | Lekshmi Bhuvanendran Pillai Sreelatha;

"Optimization of camouflage constraints in wall lizards"

Supervisor(s): Miguel Angel Carretero Fernandez, Zbyszek Boratyński, Ossi Joonas Nokelainen.

30 September 2022 - 15h15 | Adam Joseph Doncheff Marques;

"ANTHROPHIBIANS: adaptive genomic and microbiotic responses of amphibians in anthropogenic landscapes"

Supervisor(s): Guillermo Velo Antón, Antton Alberdi, Vanessa Alves Mata.

30 September 2022 - 15h40 | Clara Figueiredo Vázquez;

*"Determinants of genetic diversity: integrating demography, ecology and life-history variation in a polymorphic system, *Salamandra salamandra*."*

Supervisor(s): Guillermo Velo-Antón, José Fernando Melo Ferreira, Wieslaw Babik.

30 September 2022 - 16h05 | Gonçalo Marques Vila Ferraz;

"On the path of the elusive sandgrouse: a multi-scale framework for the conservation of two endangered steppe land birds."

Supervisor(s): João Paulo Campbell Alves da Silva, Paulo Célio Pereira Martins Alves, Francois Mougeot

Communication, Advancement and Engagement Unit (CA&EU)

ANNEX 5. Photo gallery of the Training and Research Workshop on “Evolutionary Genomics for Plant Models and Crops”.

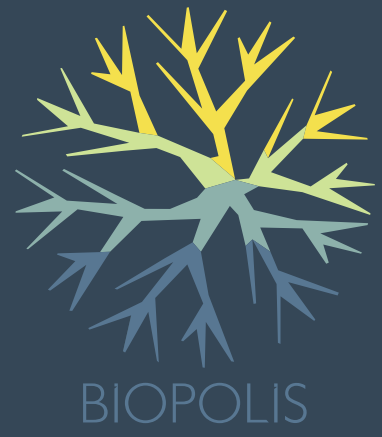


ANNEX 6. Photo gallery of student activities during the Spring School in Mértola.



ANNEX 7. List of schools that signed partnerships on Education, Scientific Training and Communication with BIOPOLIS-CIBIO.

School	Target audience
Agrupamento de Escolas de Paredes	Students, Teachers
Agrupamento de Escolas Dr. Carlos Pinto Ferreira, Junqueira	Students, Teachers, Families
Agrupamento de Escolas de Barroselas	Students, Teachers, Families
Agrupamento de Escolas João de Araújo Correia	Students, Teachers, Families
Agrupamento de Escolas D. Pedro IV	Students, Teachers, Local community
Agrupamento de Escolas Manoel Oliveira	Students, Teachers
Agrupamento de Escolas de Vallis Longus	Students, Teachers, Local community
O Agrupamento de Escolas de Lousada Este	Students, Teachers



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