发展中国家海洋生物技术及海洋生物多样性培训班项目简介表

<table>
<tr><td>项目名称</td><td colspan="3">发展中国家海洋生物技术及海洋生物多样性培训班</td></tr>
<tr><td>承办单位</td><td colspan="3">福建海洋研究所</td></tr>
<tr><td>举办时间</td><td>2022 年 5 月 5 日至 5 月 25 日</td><td>项目语言</td><td>英语</td></tr>
<tr><td>邀请国别</td><td>发展中国家</td><td>计划人数</td><td>25 人</td></tr>
<tr><td>培训目标</td><td colspan="3">培训内容覆盖了海洋生物多样性保护、渔业资源管理的基本原理、中国海洋保护区的建设与管理模式等，通过课堂讲座、研讨交流和云参观考察相结合的培训课程系统而全面地向参训学员介绍前沿海洋生物技术及其在相关产业中的应用，提高参训学员的海洋生物技术与海洋生物多样性理论水平和实际应用能力，为参训国增加海洋生物技术与海洋生物多样性研究与保护的从业人员人才储备，同时也将促进中国与各参训国间在海洋生物技术及海洋生物多样性保护方面的交流与合作。</td></tr>
<tr><td rowspan="5">学员要求</td><td>专业背景</td><td colspan="2">——领域或专业：从事与海洋生物、海洋生态环境研究与保护相关的海洋渔业、环境、规划、交通、旅游等部门的政府官员、技术人员和企业主管、专业人员等
——相关领域的工作年限：不少于 1 年
——其他：无</td></tr>
<tr><td>年龄</td><td colspan="2">不高于受援国法定退休年龄</td></tr>
<tr><td>身体健康</td><td colspan="2">身体健康，能够按时参加线上培训</td></tr>
<tr><td>语言能力</td><td colspan="2">学员应具备英语听、说、读、写能力</td></tr>
<tr><td>其它</td><td colspan="2">能够使用会畅通讯视频会议平台，完成项目日程</td></tr>
<tr><td>培训内容介绍</td><td colspan="3">1. 主要培训课程及内容介绍
(1) 中国国情概况：从中国的历史、地理、民族、政治、社会、经济、生活、文化、教育、媒体到扶贫做简要介绍，并从个人视角和感受讲述了改革开发四十年来自己家庭的变化，图文并茂、生动有趣。此外，课程中还使用一些我国主流媒体和社交媒体的视频，帮助受众了解真实的中国。
(2) 海洋生物多样性保护与渔业资源可持续利用：本课程包括国内外海洋生物多样性现状、海洋生物多样性的保护管理技术、典型生态系统的生物多样性（珊瑚礁、红树林、海草/藻场、河口湿地、南极）、海洋生物多样性生态功能及其对渔业资源的支撑作用、海洋渔业对海洋生物保护的影响及应对策略。
(3) 前沿海洋生物技术及其在相关产业中的应用：介绍了前沿海洋生物技术的内涵、原理和优势，并列举实例来解释和说明这些技术在海洋生物遗传性状改良、生物育种、生物医药、水产养殖病害防治以及生态修复、环境保护等生物相关产业中的应用，彰显先进海洋生物技术对推动产业技术创新、产业高质量发展所发挥的重要作用。
(4) 海洋生物多样性与海洋生态系统保护和管理：生物多样性涵盖基因多样性、物种多样性和生态系统多样性。海洋生态系统为全球提供着供给、调节、文化和支持等服务和产品。保护和管理海洋生态系统及生物多样性是 21 世纪全球重大问题，必须在海洋空间规划、海洋生态修复、海洋保护区建设以及海岸带综合管理等方面加强国际合作，保证全球海洋的可持续发展。
(5) 海洋生物育种前沿理论与技术：介绍了海洋生物育种的基本原理与方法，包括选择育种、杂交育种、多倍体育种等技术，对分子标记辅助育种、基因组育种及基因编辑等新兴技术在海洋生物中的应用进行介绍，并案例介绍国内外海洋生物遗传与育种的最新动态和现状。
(6) 海洋生物资源开发技术与应用：介绍了食品加工技术与生物技术应用于海洋生物资源的开发，包括冻品、干制品、罐制品、腌制品、鱼糜制品、鱼粉鱼油等海洋食品加工技术，以及海洋生物酶技术、发酵技术、细胞工程技术、蛋白质工程技术、基因技术等海洋生物技术的最新研究现状和未来发展趋势。
(7) 水产加工副产物高值化生物技术：介绍了鱼类明胶和胶原肽生产的生物技术、胶原肽的功能和应用；利用鱼类加工副产物制备可食膜的生物技术工艺，可食膜的应用；鱼</td></tr>
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	酱油的生物制备技术及营养；利用鲍鱼加工副产物提取功能性食品的生物技术，鲍鱼内脏提取物的应用。 (8) 中国海洋生物多样性保护现状及对策：介绍了海洋生物多样性的重要性及面临的威胁和成因；中国的海洋生物多样性及保护现状；海洋生物多样性保护的环境友好策略与思路；中国的海洋自然保护区建设与管理；中国生物多样性公约框架下的贡献和角色变化。 (9) 石斑鱼人工繁殖与杂交育种技术：介绍了石斑鱼生物学、全球石斑鱼产业发展状况、石斑鱼人工繁殖及苗种培育技术、石斑鱼杂交育种技术、石斑鱼健康养殖及病害防治技术。 (10)滨海湿地生态系统：生物多样性与蓝碳：介绍了滨海湿地生态系统的结构和功能。聚焦滨海湿地生态系统的生物多样性、蓝色碳汇功能，及其在减缓气候变暖中的作用。我还将介绍蓝碳的核算方法和监测技术，和已经建立的基于滨海湿地生态系统修复的蓝色碳汇交易体系，展示蓝碳在经济领域的最新动态和现状。 (11)携手抗疫，共建人类命运共同体：介绍了全球疫情最新动态，分享中国抗疫成功经验、抗疫英雄的感人故事、厦门多措并举抗击疫情和后疫情时代的中国智慧、中国答案。 2. 参观考察活动介绍 参观考察主要是考察厦门市环东海域海洋珍稀物种中华白海豚和文昌鱼保护区、厦门市海洋生态系统及生物多样性的研究与科普基地--下潭尾滨海湿地生态公园。 3. 培训班学员需准备的材料 为方便与中国专家的交流，请准备好贵国与培训主题相关的交流材料：①基本国情：政府涉海部门的管理机构与管理方式、海域的基本概况、海洋资源状况；②海岸带管理、生物多样性保护和海洋保护区的发展概况；③海洋领域的相关政策、法律法规；④国际合作：海洋领域相关产业的主要合作国、合作现有方式和管理模式等。
举办地点	福建省厦门市　　参观考察城市　　福建省厦门市
备注	1. 本次培训使用会畅通讯视频会议平台进行线上培训。 2. 培训期间，请参训学员遵守活动时间和培训纪律，保证出勤率。 3. 参训学员至少在开班前十天与承办单位联系，以便提前调试上课软件及网络环境。 4. 课前准备：需提前 15 分钟进入会畅通讯视频会议平台准备上课。将个人姓名改为英文（姓名-国别名称）。 5. 纪律要求：在项目实施过程中，请严格遵守项目日程安排。 6. 参训学员需按照日程安排准备专题培训相关材料，按照要求提交相关电子素材。 7. 培训活动配备线上英语同传/交传。
承办单位简介	福建海洋研究所位于中国东南沿海经济特区厦门市，是福建省科学技术厅所属全额拨款事业单位，是一所公益性海洋综合研究开发机构，拥有建筑面积 3671 平方米的科研办公楼，配备齐全的实验室和科研设备以及一艘排水量 800 吨的“延平 2 号”海洋科学考察船。在服务于政府海洋管理与社会海洋开发建设过程中，积累了丰富的海水养殖、海岸带综合管理、海洋渔业管理和海洋经济可持续发展等方面的技术和专业经验。 福建海洋研究所自 2005 年开始承担中华人民共和国商务部对外援助培训项目，已圆满完成海洋领域“海洋生物实用养殖技术”、“海岸带综合管理”、“海洋渔业管理”、“海洋管理与蓝色经济发展”、“海洋产业经济”、“海洋新技术”和“海洋空间规划”等专题共 122 期多/双边培训/研修/研讨班，其中包括 2021 年已实施的四期线上培训项目，积累了较为丰富的线上培训经验。项目工作语言包括英语、葡萄牙语、法语、西班牙语、阿拉伯语和泰语等语种，共有全球 5 大洲 107 个发展中国家、葡萄牙和 1 个区域性国际组织（阿拉伯联盟）的 3311 位部级和司局级官员及技术人员（其中包括 8 位正部级和 26 位副部级官员）参加培训项目活动，培训项目受到各参训国官员的极大欢迎和高度肯定。
承办单位联系方式	联系人：关颖（女士），王晓勤（女士） 办公电话：0086-592-6032030 手机：0086-15159299891（关），0086-15060728798（王） 传真：0086-592-6032030 微信号： anyway123_（关），wang396216（王） QQ 号：923176337（关），349088017（王） 电子邮件地址：923176337@qq.com（关），349088017@qq.com（王）

Training Course on Marine Biotech and Marine Biodiversity for Developing Countries

Project Description

<table>
<tr><td>Full Name</td><td colspan="3">Training Course on Marine Biotech and Marine Biodiversity for Developing Countries</td></tr>
<tr><td>Organizer</td><td colspan="3">Fujian Institute of Oceanography</td></tr>
<tr><td>Holding Time</td><td>May 5 to May 25, 2022</td><td>Language</td><td>English</td></tr>
<tr><td>Invited countries</td><td>Developing Countries</td><td>Planned Number of Participants</td><td>25</td></tr>
<tr><td>Training objectives</td><td colspan="3">The training contents will be involved with the fundamental theory of marine biodiversity protection, fisheries resources management as well as the construction and management patterns of China’s marine protected areas, etc. The training course is going to introduce advanced marine biotechnology and its application in related industries to the participants in a systematic and comprehensive way with the activities combining lectures, discussion & communication as well as virtual field trips. The training course is aimed at improving participants’ theoretical level and practical application capacity in Marine Biotech and Marine Biodiversity so as to enlarge Marine Biotech and Marine Biodiversity research and protection talent pool of recipient countries, moreover, to promote the communication and cooperation in Marine Biotech and Marine Biodiversity protection between China and the recipient countries.</td></tr>
<tr><td rowspan="5">Requirements for trainee</td><td>Professional background</td><td colspan="2">-Field or specialty: governmental officials, technicians, enterprise supervisors and professional personnel engaging in the areas related to marine biology and marine ecology and environmental research and protection such as marine fishery, environment, planning, transport and tourism, etc.
- Years of working in related fields: no less than one year
- Others: None</td></tr>
<tr><td>Age</td><td colspan="2">Not higher than the legal retirement age in the recipient country</td></tr>
<tr><td>Physical Health</td><td colspan="2">Ability to attend online training course activities on time</td></tr>
<tr><td>Language Ability</td><td colspan="2">Fluency in listening, speaking, reading, and writing in English</td></tr>
<tr><td>Others</td><td colspan="2">Able to use the Bizconf Video platform to complete the project schedule</td></tr>
<tr><td>Training Course Content</td><td colspan="3">1. Main training courses and content introduction
(1) Introduction of China’s National Conditions: mainly introduces China's history, geography, ethnicity, politics, society, economy, lifestyle, culture, education, media and poverty alleviation. It seeks to contextualize changes that have taken place in the last 40 years of reform and opening up with personal stories, pictures and words. On top of that, the course uses videos from Chinese mainstream media and social media to help audiences understand the real China.
(2) Protection of Marine Biodiversity and Sustainable Utilization of Fisheries Resources: this course will focus on the marine biodiversity status, and the technologies on the protection and management of marine biodiversity in typical ecosystems (coral reef, mangroves, sea grass/weed bed, wetland and estuaries, Antarctic), ecological function of marine biodiversity and its support to fisheries resources, the influences of marine fisheries on the protection of biodiversity and their countermeasures.
(3) Advanced Marine Biotechnology and Its Application in Related Industries: this course will explain the connotation, principles and advantages of cutting-edge marine biotechnology, and give examples to show and illustrate the application of these technologies in biological related industries such as marine biological genetic trait improvement, biological breeding, biomedicine, aquaculture disease prevention and control, ecological restoration and environmental protection, highlighting the important role of these advanced technologies in promoting industrial technological innovation and high-quality industrial development.</td></tr>
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	(4) Conservation and Governance of Marine Biodiversity and Ecosystems: Biodiversity consists of genetic diversity, species diversity and ecosystem diversity. Marine ecosystems have provided the world with provision, regulation, culture and support services and products. Conservation and governance of marine ecosystems and biodiversity is a global issue and mission in the 21 century and calls for international cooperation in the areas of marine spatial planning, marine ecological restoration, the development of marine protected area and integrated coastal and oceanic management for sustainable development. (5) Frontier Theory and Technology of Breeding in Marine Organisms: This course will focus on the breeding theory and technology for marine aquatic animals, such as selective breeding, crossbreeding, polyploidy, markers assistant selection (MAS), genome selection and gene editing. Through the case analyses, the participants will acknowledge the trends and industry status on genetic breeding on marine organisms in the world. (6) Technology Development and Application of Marine Biological Resources: introduces the application of food processing technology and biotechnology in the development of marine biological resources, such as processing technology of sea foods including frozen food, dried products, canned products, salted products, surimi-based products, fish meal, fish oil, etc.,the newest research on marine biotechnology including marine bio-enzyme technology, fermentation technology, cell engineering technology, protein engineering, genetic technology and so on, as well as the future development trend. (7) High-Valued Biotechnology of Processed Aquatic By-products: introduces the biotechnology to produce gelatin and collagen peptide with fish extracts; biotechnology to prepare edible films with fish processing by-products, and the application of edible films; biological preparation offish sauce and its nutrition; biotechnology of extracting function foods from abalone processed by-products, and the application of extracts from abalone viscera. (8) Status and Countermeasures of Marine Biodiversity Conservation in China: introduces the significance, threats and causes of marine biodiversity; marine biodiversity status and its conservation in China; environmentally friendly strategy and thoughts of marine biodiversity conservation; construction and management of marine natural reserve in China; Contributions and roles changing of China in the framework of the *Convention on Biological Diversity*. (9) Artificial Propagation and Cross-breeding Technology of Grouper: introduces biology of grouper, state of the global grouper industry, artificial propagation and larval rearing technology of grouper, cross-breeding technology of grouper, health-culture of grouper and disease prevention and control technology. (10) Coastal Wetland Ecosystems: Biodiversity and Blue Carbon: In this course, lecturer will focus on the structure and function of coastal wetland ecosystems. Especially, lecturer will introduce the biodiversity of coastal wetland ecosystem, blue carbon sink, and their role in mitigating climate change. Lecturer will also introduce the techniques for assessing and monitoring the blue carbon sink. The establishment, status and development of blue carbon trading systems based on coastal ecosystem restoration will also be shown. (11) Fight Against COVID-19 Together for a Shared Future: introduces global latest updates about COVID-19, shares China's successful experience in fighting against COVID-19, moving stories about heroes who fight against COVID-19, multiple measures taken by Xiamen to combat COVID-19 and China's wisdoms and answers in the post-COVID-19. 2. Virtual field trip introduction Investigation and visits on Xiamen marine rare species conserve of Chinese white dolphin and lancelet in east coastal sea area of Xiamen City & Xiamen Marine Ecosystem and Biodiversity Research and Science Knowledge Promotion Base--Xia Tanwei Coastal Wetland Ecological Park. 3. Materials to be prepared by participants In order to have better communication with Chinese professionals, please prepare communication materials related to training theme, for example, 1. Basic national condition: administrative organs and managerial methods of governmental maritime sectors; fundamental profile of sea areas and marine resources; 2. Development situation of the coastal management,

	biodiversity protection and marine protected zone; 3. Marine-related policies, laws and regulations;4. International cooperation: the main cooperative countries, present cooperation methods and management modes in marine-related industries		
Host City	Xiamen City, Fujian Province	Cities to visit	Xiamen City, Fujian Province
Notes	1. This program uses the Bizconf Video platform for online training. 2. During the training course, participating officials are invited to observe training course sessions time and ensure attendance. 3. Testing sessions will be arranged by the organizer. Participants are expected to contact the organizer for the test sessions 10 days before the training course begins. 4. Preparation before the training course: Enter the Bizconf Video classroom 15 minutes in advance. Change personal title to First name/Last name-Country style. 5. Disciplinary requirements: Please strictly abide by the training course schedule. 6. Participants are required to prepare relevant materials for the training course according to the schedule, and submit relevant electronic materials as required. 7. Training course activities are equipped with professional English translation.		
About the Organizer	Fujian Institute of Oceanography (FJIO), located in Xiamen city – a special economic zone lying in the southeastern coast of China, is a full-funding public institution affiliated to Fujian Provincial Department of Science & Technology, as well as a non-profit comprehensive maritime research and development institution. Its scientific research building (also the administration building) covers a building area of 3,671 m² with fine-equipped laboratories and scientific research facilities. In addition, FJIO owns "Yan Ping No.2" oceanographic research vessel with a displacement of 800 tons. In the process of offering the main service to the governmental marine management and social marine development, FJIO has accumulated rich technology and professional experience in the fields of Mariculture, Integrated Coastal Management, Marine Fisheries Management as well as Marine Economic Sustainable Development. Since 2005 when FJIO started to undertake the China-Aid training programs sponsored by the Ministry of Commerce, PRC, FJIO has successfully organized more than 122 bilateral or multilateral training courses/ seminars/ workshops of China-Aid training programs, including 4 online training programs held in 2021, accumulating important experience for online training. The programs organized by FJIO focus on the following program topics - Mariculture Technology, Integrated Coastal Management, Marine Fisheries Management, Marine Management and Blue Economic Development, Marine-related Industries, Marine New Technology and Marine Spatial Planning. The working languages include English, Portuguese, French, Spanish, Arabic, Thai and so far. There are more than 3311 ministerial or director-general level officials and technical personnel (including 8 ministerial level and 26 vice-ministerial level officials) from 108 developing countries along with Portugal and 1 regional international organization (League of Arab States) of 5 continents worldwide, participating FJIO's training programs. The above programs organized by FJIO have been all popular with the participants and received high reputation.		
Contact of the Organizer	Contact person: Guan Ying (Ms.) / Wang Xiaoqin (Ms.) Office Phone: 0086-592-6032030 Cell phone: 0086-15159299891 (Guan) / 0086-15060728798 (Wang) Fax: 0086-592-6032030 WeChat ID: anyway123_(Guan) /wang396216(Wang) QQ: 923176337(Guan) / 349088017(Wang) Email address: 923176337@qq.com(Guan) / 349088017@qq.com (Wang)		