

عمادة البحث العلمي

الدليل الإرشادي لبرنامج التمويل

المؤسسي

المقدمة

يعد البحث والتطوير عنصرًا حيويًا يساعد المملكة العربية السعودية لتحقيق أهدافها البعيدة المدى. ومن أهداف المملكة كما جاء في رؤية ٢٠٣٠ هو أن تكون من بين أفضل ١٠ دول في مؤشر التنافسية العالمية بحلول عام ٢٠٣٠، محسنة مرتبتها الـ ٢٥ في عام ٢٠١٥. هناك مكونان أساسيان لمؤشر التنافسية العالمية يرتبطان بشكل مباشر بالأبحاث والتطوير ويمكن للمملكة العربية السعودية أن تحسنهما فقط من خلال زيادة قدرتها التنافسية في الأبحاث والتطوير. إضافة إلى ذلك هدف آخر جاء في رؤية ٢٠٣٠ يتمثل في وجود ما لا يقل عن ٥ جامعات سعودية ضمن أفضل ٢٠٠ جامعة في التصنيف العالمي. يتطلب تحقيق هذا الهدف إجراء أبحاث عالية الجودة في جامعات المملكة.

الأولويات الاستراتيجية البحثية المعتمدة

1- Psychiatric disorders and mental illness:

Psychiatric disorders and mental illness are two major issues that are widely reported in modern life. The lifestyle and stress in modern life along with genetic make-up and mutations are major causes of these diseases. The risk of these mutation-related disorders is greatly increased by consanguineous marriages, which are very common in Taif city. The biggest and first psychiatrist hospital in the Kingdom and the Gulf countries was established in Taif city. Moreover, the largest and first military psychiatric health centre is located in Taif city. This military hospital also contains a centre for autism.

This research priority will focus on understanding the psychiatric disorders reported in the region in addition to establishing novel therapeutic and medical care strategies for the psychiatric patients. In close collaboration with those specialised governmental hospitals, this research priority makes Taif University a powerful research centre in this field. This research priority will utilise the strength of the basic medicine at Taif University to achieve its main goals. The different departments that are involved in the basic medicine research will be directed to focus on understanding psychiatric disorders from different aspects, such as the genetical and environmental causes. Furthermore, the medical departments will be involved in enhancing current medical care and investigating potential therapeutic strategies for those psychiatric patients. The focus on psychiatric disorders will improve the quality of life for those patients and increase investment in novel medical treatment for these disorders .will be involved in enhancing current

medical care and investigating potential therapeutic strategies for those psychiatric patients. The focus on psychiatric disorders will improve the quality of life for those patients and increase investment in novel medical treatment for these disorders.

Activities

1.1 Defining molecular and biological changes associated with psychiatric disorders and mental illness.

(Success will be measured by the number of publications, related to the activity, in Scopus indexed journals.)

1.2 Identifying the different causes of psychiatric disorders and mental illness.

(Success will be measured by the number of publications, related to the activity, in Scopus indexed journals.)

1.3 Innovative health and medical care strategies.

(Success will be measured by the number of publications, related to the activity, in Scopus indexed journals and the number of patents.)

1.4 Developing efficient drugs and therapies.

(Success will be measured by the number of publications, related to the activity, in Scopus indexed journals and the number of patents.)

1.5 One of the main problems with the research environment at Taif University is the lack of research staff. This activity will provide at least 10 postdoctoral researchers, 10 technicians, and research assistants. By increasing the research staff, we aim to enhance the quality of the publications and to target the top 10% of journals.

(Success will be measured by the number of research staff recruited.)

2- High altitude:

High-altitude areas represent more than 18% of the total area of Saudi Arabia and more than 10% of the Kingdom's population live in these areas. These areas are among the most diverse in the Kingdom in terms of the environment, geographical characteristics and living conditions, making it a fertile and attractive area for researchers interested in the research of high-populated areas in altitude. It is an important tourist destination for the people of the Kingdom and the Gulf States as well as the visitors to Holy Makkah and Madinah.

It is scientifically proven that hypoxia in altitude has an effect on psychological changes as well as on the functions of vital organs in the human body. Taif University is establishing an altitude simulator unit through the establishment of advanced laboratories to control the pressure and oxygen percentage, which will have a great impact for those suffering from high altitude disturbances as well as those who wish to join a civil aviation or military aviation crew. In addition to the basic medicine research, environmental research is a priority for Taif University and includes agriculture and animal research.

It is worth mentioning that the global centers for altitude research are very limited globally. Moreover, there is no prestigious academic research authority specialized in altitude research in the gulf countries except in Taif University. The research strengths of Taif University are basic medicine and Chemistry research as mentioned in the previous part. We are aiming to direct our

strengths toward achieving a distinctive level in altitude research, which will make us a reference in this field in the near future.

Activities

2.1 Defining molecular and biological changes associated with different altitudes. Moreover, this activity provides a controlled low-oxygen environment, which offers a unique training opportunity for athletes and flight crew, and a medical service for those suffering from altitude sickness.

[The success will be measured by the number of people and organisations served by the facility and by the number of publications related to the activity in Scopus indexed journals, as well as by the number of patents.]

2.2 Field experiments will be conducted on private local farms in Taif city to investigate different modern techniques to increase the productivity of local crops and increase their yields using special fertilisation processes.

The optimum environmental condition, maximising the productivity of local crops, will be investigated in this activity also. In addition, an extensive investigation will focus on finding better and environmentally friendly solutions to fight field crop pests.

[The success will be measured by the number of people and organisations served by the facility and by the number of publications related to the activity in Scopus indexed journals, as well as by the number of patents.]

2.3 One of the main problems with the research environment at Taif University is the lack of research staff. This activity will provide at least 10 postdoctoral researchers, 10 technicians, and research assistants. By increasing the research staff, we aim to enhance the quality of the publications and to target the top 10% of journals.

(Success will be measured by the number of research staff recruited.)

3- Nanotechnology for Waste Management:

Nanotechnology has emerged as an effective and economic technology for boosting the properties of materials. The main target of this research priority is to direct the knowledge of nanotechnology applications at Taif University to derive innovations and discoveries in the various disciplinary strengths. This research priority will mainly focus on the following:

- a. Sustainable waste management through converting waste by-products to valuable nanomaterials for energy production applications.
- b. Sustainable water treatment and manufacturing of economic and efficient filters from plastic waste and polymeric by-products.

Activities

3.1 To convert the waste products to economic and useful products that could be involved in different applications. For example:

- a. Improve the carboneous materials' properties in flyash to be integrated into hydrogen production.
- b. Extract useful nanomaterials from sulphurich spent, which could be integrated into the proveskite solar cells.
- c. Integrated waste plastic in nanomaterials for light absorption and energy production.

(Success will be measured by the number of publications in Scopus indexed journals, the number of patents and the number of collaborations with national and international partners.).

3.2 To manufacture advanced water nanofilters for large-scale use in industry, improve the agriculture waste water quality and enhance the ground water quality by removing contaminants such as heavy metals and salinity.

(Success will be measured by the number of publications in Scopus indexed journals, the number of patents and the number of collaborations with national and international partners.).

3.3 One of the main problems with the research environment at Taif University is the lack of research staff. This activity will provide at least 10 postdoctoral researchers, 10 technicians, and research assistants. By increasing the research staff, we aim to enhance the quality of the publications and to target the top 10% of journals.

(Success will be measured by the number of research staff recruited.).

4- Taif roses:

Taif roses are unique roses that do not exist anywhere except in Taif city. They possess special features and characteristics. They are being used currently for multiple purposes, such as manufacturing perfumes. The ways of manufacturing and investment in these roses are traditional and do not follow scientific principles. This research priority will focus on developing the agriculture of Taif roses and boosting the extraction of their oil to be used for multiple purposes. The activities that will be associated with this priority are as follows:

- a. Increasing the productivity of flowers and oil (yield and quality) of *Rosa damascena* Miller var. *trigintipetala* Dieck.
- b. Extraction of essential oil from Taif roses and other plants from Taif city and KSA.
- c. Recycling of wetted waste of Taif roses to obtain economic products.

Activities

4.1 Field experiments will be conducted on private local farms in Taif city to investigate different modern techniques to increase the productivity of roses and increase their oil yield using special fertilisation processes and proper pruning methods.

The optimum environmental conditions to maximise the productivity of flowers and oil yield will be investigated in this

activity also. Moreover, extensive investigation will focus on the physiological and biochemical mechanisms that have been linked to decreased flowering in Taif roses.

(Success will be measured by the number of publications in Scopus indexed journals, the number of patents and the number of collaborations with national and international partners.).

4.2 Enhance the production of Taif roses by producing 'NEW PRODUCTS', such as food oil, cosmetics, perfumes and antioxidants, design industrial devices that can be used for oil extraction and implement new technologies to improve extraction performance so that it costs less and is better for the environment.

(Success will be measured by the number of publications in Scopus indexed journals, the number of patents and the number of collaborations with national and international partners).

4.3 Searching for a way to use the waste of the Taif roses industry to obtain economic products. New technologies and techniques will be investigated and proposed.

(Success will be measured by the number of publications in Scopus indexed journals, the number of patents and the number of collaborations with national and international partners.).

4.4 One of the main problems with the research environment at Taif University is the lack of research staff. This activity will provide at least 10 postdoctoral researchers, 10 technicians, and research assistants. By increasing the research staff, we aim to enhance the quality of the publications and to target the top 10% of journals.

(Success will be measured by the number of research staff recruited.).

5- Research support services:

This priority will focus on improving the quality of research production. It will provide all researchers with necessary support regarding language editing and proofreading, statistical analysis, patent registration, and publication awards. This overlaps with all aforementioned priorities. Language editing and proofreading are essential for non-native English speakers. Furthermore, professional statistical support is vital for all researchers. Patent registration support is a fundamental service that guides researchers to register their innovative discoveries and market these products. Moreover, Taif University will use the strategic fund from the Ministry to encourage researchers to publish their work in the top 10% journals to increase its number of published works.

Activities

5.1 Language editing and proofreading services are essential for manuscripts written by non-native English scientists. By providing these services, the manuscripts written by the scientists at Taif

University should have a better chance of being accepted for publication in the top of 10% journals. The success of these services will be measured using the number of manuscripts accepted for publication.

5.2 Researchers often make mistakes when performing statistical analysis, resulting in reduced research quality and validity. These services will address this problem to enhance the quality of publications produced by researchers at Taif University. The success of these services will be measured by the number of manuscripts accepted for publication in the top 10% of journals.

5.3 At present, there is no support service for patent registration. As a result, the number of patents registered under Taif University is very low. This service will address this problem, and its success will be measured by the number of patents registered through this activity.

5.4 This activity will aim to increase the number of publications in the top 10% of journals. The success will be measured by the number of publications in the top 10% of journals.

برنامج التمويل المؤسسي (١) :

آلية التقديم والضوابط:

- ١- سوف يتاح التقديم من خلال المنظومة البحثية للباحثين في الفترة من السادس من يوليو ٢٠٢٠م الى السادس من أغسطس ٢٠٢٠م
- ٢- يحق لكل عضو هيئة تدريس (أستاذ مساعد، أستاذ مشارك، أستاذ) المشاركة في مجموعتين كحد أقصى سواء كرئيس مجموعة او باحث مشارك.
- ٣- تتكون المجموعة من ثلاثة باحثين بحد ادني (من ضمنهم رئيس المجموعة) الى خمسة باحثين بحد اقصى (من ضمنهم رئيس المجموعة).
- ٤- يجب ان يكون ثلاثة باحثين بحد أدني من جامعة الطائف ويمكن إضافة باحثين اثنين بحد اقصى من خارج الجامعة على ان ينتموا الي جامعة دولية تنتمي الي أفضل ٢٠٠ جامعة عالمية حسب تصنيف شانغهاي الدولي. مع مراعاة احضار خطاب رسمي موقع من الباحث الدولي بالموافقة على المشاركة في المشروع البحثي.
- ٥- يجب على رئيس المجموعة ان يكون قد نشر أربعة أبحاث سابقة في مجالات ذات تصنيف ومعامل تأثير في قواعد بيانات Web of Science ISI على ان تكون واحدة منهم على الاقل كباحث اول في مجلة مصنفة Q1 في ذات قواعد المعلومات. ويجب ارفاق المعلومات الخاصة بذلك في المنظومة البحثية.
- ٦- يتم دعم المجموعات البحثية المجتازة للتدقيق والتحكيم الخارجي بمبلغ ٥٠٠,٠٠٠ ريال سعودي.

المخرجات :

- ١- ورقة علمية باللغة الإنجليزية في مجلة مصنفة Q1 وتكون ضمن افضل ١٠٪ من المجالات في التخصص حسب تصنيف Web of Science ISI.
- ٢- ورقة علمية باللغة الإنجليزية في مجلة مصنفة Q1 حسب تصنيف

Web of Science ISI. ويمكن استبدال هذه الورقة ببراءة اختراع مسجلة باسم الباحث الرئيسي وجامعة الطائف.

٣- ورقة علمية باللغة الإنجليزية في مجلة مصنفة Q2 حسب تصنيف

Web of Science ISI.

برنامج التمويل المؤسسي (٢) :

الدية التقدم والضوابط:

١- سوف يتاح التقديم من خلال المنظومة البحثية للباحثين في الفترة من الأول الى الخامس عشر من يوليو ٢٠٢١ م .

٢- يجب على رئيس المجموعة ان يكون قد نشر أربعة أبحاث سابقة في مجلات ذات تصنيف ومعامل تأثير في قواعد بيانات Web of Science ISI على ان تكون واحدة منهم على الاقل كباحث اول في مجلة مصنفة Q1 في ذات قواعد المعلومات. ويجب ارفاق المعلومات الخاصة بذلك في المنظومة البحثية.

٣- يسمح للباحث (كرئيس او مشارك) المشاركة بمجموع اربع مشاريع بحثية تشمل المشاركة بالتمويل المؤسسي السابق. مثال: اذا شارك باحث (كرئيس او مشارك) بالمجموعات البحثية في التمويل المؤسسي السابق بمشروع واحد، يحق له المشاركة في هذه المبادرة بعدد ٣ فقط. في حال الباحث لم يشارك في المجموعات البحثية في التمويل المؤسسي السابق، يحق له المشاركة في هذه المبادرة بعدد ٤ مشاريع.

٤- يكون دعم كل مجموعة بحثية ٥٠ الف ريال .

٥- يكون عدد الافراد المشاركين في المشروع البحثي من ٣-٥ أعضاء. ثلاثة أعضاء كحد ادنى الى خمسة أعضاء كحد اقصى ويشمل الباحث الرئيس. (٣ أعضاء كحد ادنى من جامعة الطائف و ٢ من خارج الجامعة كحد اقصى بدون شروط .

٦- تكون المدة الزمنية للمشروع البحثي ٨ أشهر.

المخرجات :

١- يكون المخرج العلمي المطلوب من المشروع البحثي هو ورقة علمية من نوع original research وتكون منشورة في مجلة تدرج في تصنيف Web of Science ومصنفة من ضمن مؤشري التصنيف SSCI و SCIE.

