



7.2. Institutional Values and Best Practices

Distinctiveness

DISTINCTIVENESS OF UNIVERSITY

विश्वविद्यालयस्य विशिष्टता
DISTINCTIO UNIVERSITATIS



RANI DURGAVATI UNIVERSITY
JABALPUR, M.P.



BIO-DESIGN
INNOVATION
CENTRE



| DIC | ACIC | UBA | IIC^{***}

DIC IS ISO 9001:2015 CERTIFIED
&
A THREE-STAR RATING IN THE
MoE's-IIC



DISTINCTIVENESS OF RANI DURGA VATI UNIVERSITY



Rani Durgavati University, Jabalpur, has a unique distinction in Madhya Pradesh: "Bio-Design and Innovation Centre and Atal Community Innovation Centre". The Ministry of Human Resources and Development (Currently the Ministry of Education, Govt. of India) had invited projects from prominent institutes across India like IITs, PSUs, and more. In this regard, the project on 'Bio-Design Innovation Centre' was presented to MoE by Rani Durgavati University with a vision to provide a platform for young ignited minds for Innovation and inventing newer products. Among India's foremost educational and technical institutions, Rani Durgavati became the first University in Madhya Pradesh to have a Bio-Design and Innovation Centre in 2015 and has been the only one to date because of its ecological and social importance and tribal research. With this selection, RD University has given Jabalpur and Madhya Pradesh a new identity by associating with the country's leading institutions and Central Universities for DIC. The main motive of this project is to create products from organic materials (medicinal plants, microorganisms, mushrooms, blue-green algae, etc.) and innovations to improve environmental and ecological balance by utilising things of organic origin. The duration of this project was initially 5 years, which continued for 6 years, and the sanctioned amount was about 10 crore rupees. The success of this centre can be evaluated by the fact that it has three extensions. This project has been the cradle for many budding inventors who have succeeded at various levels. Since its inception, the Bio-Design Centre has trained more than 500 minds via various certificate and diploma courses. The respected Chief Minister of Madhya Pradesh has honoured two students of the centre who started their start-up.



The DIC provides an umbrella where students with an idea can come and develop it into a viable prototype and products with the research facilities of the DIC. DIC also provides seed funding for students to propel their ideas. DIC has six Patents and more than 25 research publications with high Impact Factors. The centre is preparing a unique community for the tribals of Central India that will research traditional healing practises, the use of medicinal plants, healing records, and the mode of preparation of plant properties. This centre also has two patents related to ethnobotanical research that have identified novel bioactive compounds.



DISTINCTIVENESS OF RANI DURGAVATI UNIVERSITY



Every year, students of DIC present their models at various national-level exhibitions, including an exhibition at Rashtrapati Bhavan India. Educationalists, inventors, and investors highly appreciate these models. The Honourable Governor of Madhya Pradesh, Mrs. Anandiben Patel, has visited DIC and highly appreciated DIC for its work and the culture of Innovation.

The DIC has become a central location for collaborative efforts at all local, regional, and national levels. At the local level, with its three-spoke centre, MoUs, and collaboration with neighbouring colleges and research laboratories, DIC has played an essential role in changing the mindset of students at nearby colleges to create new concepts. The DIC, R. D. University, Jabalpur, is also selected in the Unnat Bharat Abhiyan (UBA) Scheme, which is inspired by the vision of transformational changes in the rural development process by leveraging knowledge institutions to help build the architecture of an inclusive India. Therefore, this centre has adopted five tribal villages named Kakarhata, Amkhera, Duman, Chakdehi, and Gadheri in Panagar panchayat, Jabalpur (M.P.). To achieve the mission and vision of the UBA, the DIC Centre, with its innovative approaches, is assisting these villages in solving problems persisting in the fields of health, agriculture, and domestic affairs through this distinct centre known as DIC. Along with colleges, DIC has served as a vital link in bringing the concept of Innovation to the school level by linking schools with Atal Tinkering Labs in three prominent schools in Jabalpur and encouraging students towards higher education in science. The Initiatives and works of DIC have been given a three-star rating by the Institute Innovation Council (IIC- MIC) during the years 2020–21.



DISTINCTIVENESS OF RANI DURGA VATI UNIVERSITY

The Bio-Design and Innovation Centre has played a pivotal role in bringing about a paradigm shift in Innovation and design. Another area of distinctiveness is the Incubation Centre (M.P. Higher Education, Bhopal) and the Atal Community Innovation Centre (ACIC) at NITI, Ayog, New Delhi. ACIC is envisaged to serve the unserved or underserved areas of the tribes near Jabalpur concerning start-ups and the innovation ecosystem. ACIC plays a crucial role in reaching the innovators at the bottom of the pyramid and giving them equitable opportunities, especially by reducing the lab-to-land distance and creating a space for pre-incubating ideas and solutions. ACIC aims to create a formal approach to identifying and scaling up these innovations, using solution-driven design thinking supported by the public-private partnership (PPP) model.

Grassroots Innovations (G.I.) refer to products and services emerging from innovations brought about by people at the bottom of the pyramid, basically tribes from economically disadvantaged sections and socially excluded areas. The heart of grassroots Innovation is enabling local communities to convert or upgrade their ideas into products and services by blending creativity, science and technology, design, and risk-seeking approaches. Local communities are well-versed in their community's needs and local resource constraints. They are innately motivated to solve those problems using different ideas and tools built through knowledge of the area and experience over time. These two centres of RD University play a vital role in shaping students of the university as per various government policies, such as the National Education Policy-2020 and Make in India, and creating entrepreneurs rather than job seekers.



Along with it, these centers are helping the nearby tribes in protecting and preserving their native knowledge and experience by utilizing their heritage in the field of traditional plant-based medicines and models.



BIO-DESIGN INNOVATION CENTRE (DIC)



ABOUT



The Bio-Design Innovation Centre, Rani Durgavati University, Jabalpur, was established under the National Initiative for Design Innovation (NIDI) scheme initiated by the Ministry of Education (MoE), New Delhi. Bio-Design is the integration of design with biological systems, often to achieve better ecological performance. In contrast to a design that mimics nature or draws on biology for inspiration, Bio-Design incorporates living organisms into design as building blocks, material sources, energy generators, digital storage systems, and air purifiers, just to name a few possibilities. Bio-Design is both opportunistic and logical in recognising the tremendous power and potential utility of organisms and their natural interaction with larger and ever-changing ecosystems around them. Bio-Design can also be a means of communication and discovery, a way to provoke debate and explore the potential opportunities and dangers of manipulating life, particularly through synthetic biology, for human purposes.

BIO-DESIGN INNOVATION CENTRE (DIC)



VICE CHANCELLOR MESSAGE



Prof. Kapil Deo Mishra
Vice Chancellor
R.D. University

I am immensely proud of DIC RDVV's remarkable achievements in promoting innovation and design. DIC's primary objective of fostering student creativity and ingenuity has been accomplished with great success. The institute's noteworthy feat of showcasing its model at prestigious platforms like Rashtrapati Bhavan and Governor's House reflects the calibre and dedication of its students and faculty. DIC RDVV has been instrumental in encouraging students to engage in impactful research and development, empowering them to contribute significantly to nation-building. I commend DIC's commitment to nurturing future leaders who drive positive change and advancements in various sectors. This institute remains a beacon of excellence and inspiration for the academic community.



REGISTRAR MESSAGE



Dr. Deepesh Mishra
Registrar
R.D. University

I applaud DIC RDVV's dedication to bio-design innovation and design. This field has significantly advanced due to the institute's focus on creativity and originality. DIC's proactive encouragement of student research and development helps them advance the nation. DIC RDVV is enabling innovative solutions to real-world problems through bio-design. The institute's dedication to student innovation and discovery is admirable. DIC RDVV continues to transform bio-design and train nation-builders.





BIO-DESIGN INNOVATION CENTRE (DIC)



Prof. S.S. Sandhu
Director
Biodesign Innovation Centre

DIRECTOR'S MESSAGE

I am thrilled to share with you the remarkable utility and significance of DIC and Atal Community Innovation Centre (ACIC) in fostering innovation, research, and sustainable development for both our students and the entire university community. Rani Durgavati University became Madhya Pradesh's first bio-design and innovation centre in 2015. Our goal was to establish a platform that encourages the creativity and intellect of young minds to produce unique goods from organic materials, including medicinal plants, microorganisms, mushrooms, and blue-green algae.

These projects sought ecological balance and sustainability. With three extensions and praise from the Honourable Governor and Madhya Pradesh Chief Minister, DIC has achieved great success. We are proud to have trained over 500 inspired brains in certificate and diploma courses, some of whom have started successful businesses. DIC provides state-of-the-art research facilities, seed financing, and patent support for students with big ideas. With six patents and over 25 high-impact research publications, DIC has become a hub for collaborative efforts at local, regional, and national levels. It is inspiring to see our students' models showcased at prestigious exhibitions, including the Rashtapati Bhavan India, earning appreciation from educationalists, inventors, and investors alike. Beyond academia, DIC is committed to creating a unique community for the tribal populations of Central India, focusing on ethnobotanical research and traditional healing practices. Our partnership with the Unnat Bharat Abhiyan (UBA) Scheme has allowed us to work with five tribal villages to solve health, agriculture, and home issues through innovation and design. Atal Community Innovation Center (ACIC) plays a vital role in empowering the unserved and underserved communities, particularly the tribes near Jabalpur. By reducing the lab-to-land distance, ACIC nurtures local innovators and startups, enabling them to convert their ideas into tangible solutions. The impact of our initiatives has been acknowledged through the Institute Innovation Council (IIC-MIC), which awarded us a three-star rating during the year 2020-21, underscoring our commitment to fostering a culture of innovation.

Embrace your creativity, leverage the abundant resources available, and contribute your innovative ideas to address real-world challenges. Through these endeavors, you not only enhance your academic journey but also become catalysts for positive change in our society. Let us unite to create a future where entrepreneurship, innovation, and sustainability thrive, making our nation a global leader in science and technology.

Together, we can forge a brighter and more prosperous India.



BIO-DESIGN INNOVATION CENTRE (DIC)



VISION

- Preparation of a platform for creative design development, design promotion, and partnerships across many sectors, regions, and states.
- To create an ecosystem that facilitates students and faculty taking their innovative ideas from labs to society.
- Involving industry and professional designers in the collaborative development of the design profession
- Encourage and facilitate a culture for creating and protecting intellectual property in the area of Bio-Designs.
- Conduct programmes for continuous evaluation and development of new design strategies.
- Assist industries in engaging the services of designers for their existing and new products.



OBJECTIVES

- Create an Innovative environment in the institute and explore creativity for the development of economical, eco-friendly, and socially useful products.
- To create a start-up ecosystem at the university.
- Encourage students and faculty for innovation, idea generation, and product development.
- Training and Awareness programmes for students and faculty in the field of Innovation and entrepreneurship

BIO-DESIGN INNOVATION CENTRE (DIC)

SPOKES

DIC HUB
DEPT. OF
BIOLOGICAL
SCIENCES, RDVV
JABALPUR

SI-1

PDPM-IITDM, JABALPUR

SI-2

BIOTECHNOLOGY CENTRE
JNKVV, JABALPUR

SI-3

ST. ALOYSIUS' GROUP
JABALPUR

COURSES OFFERED

NAME OF PAPER	COURSE TYPE	DURATION
Bio-designing of Sustainable Products from Biological Systems	Diploma	6 Months
Approaches and Application	Certificate	3 Months
Integrated Pest Management	Certificate	3 Months



BIO-DESIGN INNOVATION CENTRE (DIC)





ATAL COMMUNITY INNOVATION CENTER

The Rani-Durgavati University established the Atal Community Innovation Centre in February 2021 and provided the necessary space (about 4,000 square feet in accordance with the ACIC terms and conditions) for the establishment of an Incubation Centre at the Ekattm Bhavan in the R.D. University in Jabalpur, Madhya Pradesh.




UNNAT BHARAT ABHIYAN



उन्नत भारत अभियान

शिक्षित भारत
स्वस्थ भारत
स्वच्छ भारत
स्वावलंबी भारत
संपन्न भारत



DIC, RD University, Jabalpur, selected in the Unnat Bharat Abhiyan (UBA) Scheme, is inspired by the vision of transformational changes in the rural development process by leveraging knowledge institutions to help build the architecture of an inclusive India. Therefore, this centre adopted five tribal village names: Kakarhata, Amkhera, Duman, Chakdehi, and Gadheri in Panangar panchayat, Jabalpur (M.P.). In this scheme to achieve the mission and vision of the UBA, the DIC centre decides to assist these villages in solving problems in the fields of health, agriculture, and domestic affairs.



BIO-DESIGN INNOVATION CENTRE (DIC)



ONGC, DEHRADUN



Bio-Design Innovation Centre (DIC) collaborated with Oil and Natural Gas Corporation (ONGC) Limited, Dehradun, India, for innovative research in the field of oil and natural gases. The main aim of the collaboration of ONGC with DIC is to provide an eco-friendly and sustainable mode for the removal of oil spread over the soil and water by isolating microorganisms from the oil spill site in different areas that have the potential to degrade oil in an eco-friendly way.



BIO-DESIGN INNOVATION CENTRE (DIC)



INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Part IV of The Patents Act)

पेटेंट सं. / Patent No. : 407201
 आवेदन सं. / Application No. : 20021011849
 दाखल करने की तिथि / Date of Filing : 19/03/2020
 पेटेंट / Patented : 1. Dr. (BMS.) Manita Gokhale 2. Dr. (B.S.) Sandul Singh Sandhu
 आविष्कारक (को लागू हो) / Inventor(s) : 1. Dr. (BMS.) Manita Gokhale 2. Dr. (B.S.) Sandul Singh Sandhu 3. Dr. (B.S.) Dayashankar Gouman 4. Ms. Radha Gupta

इस प्रकार प्रमाणित किया जाता है कि 19/03/2020 को, उपरोक्त आवेदन में उल्लेखित A MULTIPURPOSE HERBAL COMPOSITION AND METHOD FOR PRODUCING THE SAME नामक आविष्कार के लिए, पेटेंट प्रमाणित, 1970 के प्रावधानों के अंतर्गत उसे तब तक 2020 के 19/03/2020 से 19/03/2040 तक के लिए प्रदान किया जा रहा है।
 It is hereby certified that a patent has been granted to the patentee for an invention entitled A MULTIPURPOSE HERBAL COMPOSITION AND METHOD FOR PRODUCING THE SAME as disclosed in the above mentioned application for the term of 20 years from the 19th day of March 2020 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

अवधि की तिथि / Date of Grant : 21/06/2022
 नियंत्रक / Controller of Patents

ध्यान दें: इस पेटेंट के लिए आवेदन, यदि इसे लागू करने के लिए नहीं किया जाता है, तो यह 2022 के 19/03/2020 से 19/03/2040 तक के लिए प्रदान किया जाएगा।
 Note: The fees for renewal of this patent, if it is to be maintained will fall due on 19th day of March 2022 and on the same day in every year thereafter.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Part IV of The Patents Act)

पेटेंट सं. / Patent No. : 386581
 आवेदन सं. / Application No. : 1841/MAM/2012
 दाखल करने की तिथि / Date of Filing : 27/06/2012
 पेटेंट / Patented : DEPARTMENT OF POST GRADUATE STUDIES AND RESEARCH IN BIOLOGICAL SCIENCE, R.O. UNIVERSITY, JABALPUR (M.P.)

इस प्रकार प्रमाणित किया जाता है कि 27/06/2012 को, उपरोक्त आवेदन में उल्लेखित FLAVONOID (BAICALEIN) PRODUCTION IN CELL CULTURES OF OROXYLUM INDICUM (L.) VENT. नामक आविष्कार के लिए, पेटेंट प्रमाणित, 1970 के प्रावधानों के अंतर्गत उसे तब तक 2012 के 27/06/2012 से 27/06/2032 तक के लिए प्रदान किया जा रहा है।
 It is hereby certified that a patent has been granted to the patentee for an invention entitled FLAVONOID (BAICALEIN) PRODUCTION IN CELL CULTURES OF OROXYLUM INDICUM (L.) VENT. as disclosed in the above mentioned application for the term of 20 years from the 27th day of June 2012 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

अवधि की तिथि / Date of Grant : 06/06/2022
 नियंत्रक / Controller of Patents

ध्यान दें: इस पेटेंट के लिए आवेदन, यदि इसे लागू करने के लिए नहीं किया जाता है, तो यह 2012 के 27/06/2012 से 27/06/2032 तक के लिए प्रदान किया जाएगा।
 Note: The fees for renewal of this patent, if it is to be maintained will fall due on 27th day of June 2012 and on the same day in every year thereafter.



INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
डिजाइन के पंजीकरण का प्रमाणपत्र
CERTIFICATE OF REGISTRATION OF DESIGN

डिजाइन सं. / Design No. : 359152-001
 तिथि / Date : 23/03/2022
 पारस्परिकता तिथि / Reciprocity Date :
 देश / Country :

इस प्रकार प्रमाणित किया जाता है कि डिजाइन सं. 359152-001 के अंतर्गत उल्लेखित BEVERAGES KETTLE के डिजाइन के लिए, पेटेंट प्रमाणित, 2000 के प्रावधानों के अंतर्गत उसे तब तक 2000 के 23/03/2022 से 23/03/2042 तक के लिए प्रदान किया जा रहा है।
 Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 07-02 in respect of the application of such design to BEVERAGES KETTLE in the name of: 1. Prof. Sandul Singh Sandhu 2. Dr. Sunee Kumar 3. Er. Deepthy Mathew 4. Er. Ripudaman Singh Sandhu.

इस प्रकार प्रमाणित, 2000 के प्रावधानों के अंतर्गत उसे तब तक 2000 के 23/03/2022 से 23/03/2042 तक के लिए प्रदान किया जा रहा है।
 In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

अवधि की तिथि / Date of Grant : 23/03/2022
 नियंत्रक / Controller General of Patents, Designs and Trade Marks

ध्यान दें: इस डिजाइन के लिए आवेदन, यदि इसे लागू करने के लिए नहीं किया जाता है, तो यह 2022 के 23/03/2022 से 23/03/2042 तक के लिए प्रदान किया जाएगा।
 Note: The fees for renewal of this design, if it is to be maintained will fall due on 23/03/2022 and on the same day in every year thereafter.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Part IV of The Patents Act)

पेटेंट सं. / Patent No. : 429368
 आवेदन सं. / Application No. : 201711003140
 दाखल करने की तिथि / Date of Filing : 27/01/2017
 पेटेंट / Patented : BIO-DESIGN INNOVATION CENTRE, DEPARTMENT OF BIOLOGICAL SCIENCES, RANI DURGAVATI UNIVERSITY, JABALPUR

अविष्कारक (को लागू हो) / Inventor(s) : 1. JAHANNUM, RAVINORA PRASAD 2. KUMAR, SUNEEL 3. SANDHU, SANDUL SINGH

इस प्रकार प्रमाणित किया जाता है कि 27/01/2017 को, उपरोक्त आवेदन में उल्लेखित A PROCESS FOR PRODUCTION OF 2'-HYDROXYGENISTEIN FROM ENDOPHYTIC FUNGAL STRAIN PHOMA SP. RP1 नामक आविष्कार के लिए, पेटेंट प्रमाणित, 1970 के प्रावधानों के अंतर्गत उसे तब तक 2017 के 27/01/2017 से 27/01/2037 तक के लिए प्रदान किया जा रहा है।
 It is hereby certified that a patent has been granted to the patentee for an invention entitled A PROCESS FOR PRODUCTION OF 2'-HYDROXYGENISTEIN FROM ENDOPHYTIC FUNGAL STRAIN PHOMA SP. RP1 as disclosed in the above mentioned application for the term of 20 years from the 27th day of January 2017 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATIONS

अवधि की तिथि / Date of Grant : 19/04/2023
 नियंत्रक / Controller of Patents

ध्यान दें: इस पेटेंट के लिए आवेदन, यदि इसे लागू करने के लिए नहीं किया जाता है, तो यह 2017 के 27/01/2017 से 27/01/2037 तक के लिए प्रदान किया जाएगा।
 Note: The fees for renewal of this patent, if it is to be maintained will fall due on 27th day of January 2017 and on the same day in every year thereafter.

BIO-DESIGN INNOVATION CENTRE (DIC)

RESEARCH AND INNOVATIVE ACTIVITIES



10 NCBI submission



20-25
Research Paper Publication in
National and International



05 Book Chapters Published



04 & **02**
(Awarded) (Under NBA approval)



02
Ongoing Research Project



BIO-DESIGN INNOVATION CENTRE (DIC)



PROTOTYPE DEVELOPMENT



Solar Bicycle

in collaboration with DIC @ St. Aloysius' Group, Jabalpur



Beverages Kettle



Intelligent Seed Drill

in collaboration with DIC @ PDPM-IIITDM, Jabalpur



Modern Indian Village Hut

BIO-DESIGN INNOVATION CENTRE (DIC)

DIC'S ISO 9001:2015 CERTIFICATION



A THREE-STAR RATING IN THE MOE'S- IIC



3

STAR RATING





BIO-DESIGN INNOVATION CENTRE (DIC)



PROTOTYPE DEVELOPMENT





BIO-DESIGN INNOVATION CENTRE (DIC)

GLIMPSES OF DIC



The Honourable Governor of Madhya Pradesh, Smt. Anandiben Patel, @ DIC





BIO-DESIGN INNOVATION CENTRE (DIC)



Team DIC @ Rashtrapati Bhavan, New Delhi, India



Mr. Manohar Dubey, Secretary to Governor, MP Raj Bhavan, Govt of MP @ DIC



BIO-DESIGN INNOVATION CENTRE (DIC)



EVENTS @ DIC





BIO-DESIGN INNOVATION CENTRE (DIC)



EVENTS @ DIC





BIO-DESIGN INNOVATION CENTRE

DIC | ACIC | UBA | IIC



DIC IS ISO 9001:2015 CERTIFIED

&

**A THREE-STAR RATING IN THE
MOE'S-IIC**

RANI DURGAVATI UNIVERSITY, JABALPUR, M.P.