



MoE's  
**INNOVATION CELL**  
(GOVERNMENT OF INDIA)



**INSTITUTION'S  
INNOVATION  
COUNCIL**  
(Ministry of Education Initiative)



**MMCOP**  
2006  
Bestowing Health & Happiness

Institution's Innovation Council (IIC) ID – **IC202012981**

## Annual Report 2021-22

### Marathwada Mitra Mandal's College of Pharmacy

Thergaon, Pune – 411033, Maharashtra

#### Institution's Innovation Council (MMCOP-IIC)

##### A. About IIC Institute

- **Vision**

To become vibrant pre-incubation center that caters transformation of versatile innovative ideas to scalable product and prepares the creative students to be entrepreneur ready team players.

- **Mission**

To encourage ideation, innovation and entrepreneurship amongst students and faculty and support them to convert the legitimate idea to product.

- **Journey of IIC established at the Institute**

Establishment of IIC @ MMCOP in calendar year 2018-2019.

Being a small Pharmacy college and COVID-19 pandemic, no significant activities were performed until IIC 4.0 Q3 (only online classes were organized till that time)

The some activities were conducted in IIC 4.0 Q4.

All set to geared up and IIC 5.0 activities are already started.

##### B. Brief mention of key functionaries at the IIC Institute

- **MMCOP-IIC committee**

Sr. No.	Name of Member	Member Type (Teaching/ Nonteaching /Student/External Expert)	Key Role/ Position assigned in IIC
1	Prof. Manohar J. Patil	Teaching	President
2	Dr. Chandrashekhar Talathi	External Expert	Vice President, Incubation Centre
3	Dr. Ravindra V. Badhe	Teaching	Convener & Start-up Activity Coordinator
4	Dr. Prasad V. Kadam	Teaching	ARIIA Coordinator & NIRF Coordinator
5	Dr. Avinash R. Tekade	Teaching	Innovation Activity
6	Dr. Rahul H. Khiste	Teaching	Internship Activity Coordinator
7	Dr. Sachin Jagdale	Teaching	IPR Activity Coordinator
8	Mr. Shailendra Salvankar	Teaching	Social Media Coordinator
9	Dr. Babita Agarwal	Teaching	Member
10	Dr. Sanjay Nipanikar	External Expert	Expert from nearby Industry / Industry association / Ecosystem Enablers
11	Mr. Shrikant Kshirsagar	External Expert	Start-up / Alumni Entrepreneur
12	Dhanaji Suryawanshi	External Expert	Bank/Investor
13	Dr. Atul Kondaskar	External Expert	Patent Expert
14	Miss. Avantika Thombare	Student	Startup Coordinator
15	Mr. Jayesh Malu	Student	Internship Coordinator
16	Mr. Rushikesh Bandal	Student	Social Media Coordinator
17	Mr. Gajanan Kulkarni	Student	Innovation Cell
18	Mr. Aditya Bhavsar	Student	IPR/Technology Transfer Cell/Unit



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• **Members with functions**

**President**

- Prof. M. J. Patil, Principal - Nominating the Faculty representative, leading the IIC council and coordinate with MoE innovation cell for all the IIC activities in the institute.
- Ensuring Institution's participation in IIC calendar activity and Institution driven activities.
- Creating the ambience/ culture for the Innovation, Start-up and Entrepreneurial Ecosystem in MMCOP among the faculty members and Students.

**Convener**

- Dr. R. V. Badhe, Associate Professor, HOD Pharm Chem. and In charge of the Innovation Centre who guides the team of MMCOP-IIC towards the Vision of IIC.
- Coordinating with the IIC president for smooth conduction of activities.
- Coordinate and collect the inputs from all the members of the council and external members for better planning of IIC activities and effective delivery of results.

**Members**

- Supporting the development activities for a comprehensive ecosystem of innovation in efforts to boost entrepreneurship.
- Conducting the IIC, MIC and Self-driven activities to bring out the Innovation, Entrepreneurial and Start-up culture in the Institution.
- Attending the Innovation Ambassador training, supporting and mentoring the students and faculty of the IIC.

C. Portfolio/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution

Category	Strength
Total No. of IIC Members	18 (8 faculty) + (5 students) + (5 External experts)
Total No. of IAs	03
Total No. of faculty Mentors From Portal	04
Pre-Incubation Units, If any	Planned
Incubation Units, If any	Yes – MCIII, Karvenagar, Pune
IP Facilitation Unit, If any	YES

D. Highlight Facilities, Infrastructure of Pre-Incubation & Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus.

• **Sophisticated Instrumentation facilities for Pre-Incubation**

Sr. No.	Equipment	Make/Model	Price (Rs. In Lakhs)	Funding Agency
1	AAS	Perkin Elmer	13.23	RGSTC Govt. of Maharashtra
2	FTIR	Shimadzu	9.66	MMCOP
3	Spectroflurometer	Perkin Elmer	12.46	AICTE, New Delhi
4	UV Spectrophotometer	Shimadzu	3.67	MMCOP



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5	HPLC with PDA Detector	Agilent	10.76	SPPU
6	HPLC with UV Detector	Cyberlab	6.06	MMCOP
7	DSC	Mettler Toledo	15.89	SPPU, Pune
8	High Pressure Homogenizer	Niro Saovi	16.23	DST, New Delhi
9	Lyophilizer	Christ	5.50	MMCOP
10	Spray Dryer	Labultima	7.41	AICTE, New Delhi
11	Probe Sonicator	Sonics	3.87	AICTE, New Delhi
12	Texture Analyzer	Brookfield AMETEK	7.08	SPPU, Pune
13	Viscometer	Brookfield AMETEK	2.02	SPPU, Pune
14	Dissolution Test Apparatus with auto sampler	Electrolab	Donated	Centaur Pharmaceuticals
15	Benchtop ultracentrifuge	Beckman Coulter	24.87	DST, New Delhi
16	Rotary Vacuum Evaporator	Buchi	4.61	AICTE, New Delhi
17	Autoanalyzer	Tulip	1.32	AICTE, New Delhi
18	Plethysmometer	V J Instruments	1.76	AICTE, New Delhi
19	Constant Temperature Incubator Shaker	Remi Instruments	1.82	SPPU, Pune
20	Dissolution Test Apparatus with Type V Disso Accessories	Lab India	1.77	SPPU, Pune
21	Diffusion Cell Apparatus	Orchid Scientific	1.75	SPPU, Pune
22	Homogenizer/Disperser	IKA India	1.46	SPPU, Pune
23	Stability Chamber	Remi Instruments	1.34	SPPU, Pune
24	Particle Size Analyzer (under Procurement)	Malvern analytical	-	AICTE, New Delhi

• **Infrastructure facilities for Pre-Incubation**

- ✓ Institute has AICTE approved Diploma, Degree, Masters (3 streams) and PhD center.
- ✓ 23 Wet Labs to do research and develop prototype
- ✓ Conference and Seminar rooms
- ✓ 4 Cubical spaces (100 Ft<sup>2</sup>) for startups
- ✓ Animal House and Industrial Pharmacy (all machines for pilot scale batches)
- ✓ Central Library Facility
- ✓ Wi-Fi based unlimited internet
- ✓ MOU with MCIII center for smooth transition of startups to incubation
- ✓ Team of entrepreneur alumni to guide the students and startups
- ✓ MOU with renowned industries



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### • Entrepreneurship Development Cell

This committee believes internships as career development opportunity. Thus, it focuses on providing practical experience in a field or discipline. They are structured, short-term, supervised placements often focused around particular tasks or projects with defined timescales. An internship may be compensated, non-compensated or some time may be paid. The internship has to be meaningful and mutually beneficial to the intern and the organization. It is important that the objectives and the activities of the internship program are clearly defined and understood. Following are the intended objectives of internship training:

- ✓ Will expose students to the industrial environment, which cannot be simulated in the classroom and hence creating competent professionals for the industry
- ✓ Provide possible opportunities to learn understand and sharpen the real time technical/managerial skills required for the job.
- ✓ Exposure to the current technological developments relevant to the subject area of training.
- ✓ Experience gained from the 'Industrial Internship' in classroom will be used in classroom discussions.
- ✓ Create conditions conducive to quest for knowledge and its applicability on the job.
- ✓ Learn to apply the technical knowledge in real industrial situations.
- ✓ Gain experience in writing technical reports/projects.
- ✓ Expose students to the Pharmacist responsibilities and ethics.
- ✓ Familiarize with various materials, processes, products and their applications along with relevant aspects of quality control.
- ✓ Promote academic, professional and/or personal development.
- ✓ Expose the students to future employers.
- ✓ Understand the social, economic and administrative considerations that influence the working environment of industrial organizations

### • MoUs with Research Organizations & Pharmaceutical Industries

Sr. No.	Organisation with which MoU is signed	Year of signing MoU	Duration	List the actual activities under each MOU year wise
1	MCIII - Marathwada Mitramandal Centre for Invention innovation Incubation, Pune in collaboration with Tata Technologies Ltd. and Science & Technology Park	Sign. Date-06/09/2021	1 Year	Invention innovation Incubation For technology startups and entrepreneurs
2	Mprex Healthcare Pvt. Ltd. Pune	Sign. Date-01/01/2021	3 Years	Industry Visit Collaborative research Projects
3	Srujan Healthcare Pvt. Ltd. Pune	Sign. Date-01/12/2020	3 Years	Collaborative research Projects
4	Matruj Ayurveda Pharmacy Pvt. Ltd. Pune	Sign. Date-01/03/2020	3 Years	Industry Training Industry Visit



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5	NuLife Pharmaceuticals, Pune	Renew Date 01/11/2019 01/11/2016 Sign. Date- 18/10/2013	<b>3 Years</b>	M. Pharm Dissertation Project Industry Training Industry Visit
6	SG Phyto Pharma Pvt. Limited, Kolhapur.	Renew Date 01/11/2019 01/11/2016 Sign. Date- 18/10/2013	<b>3 Years</b>	Industry Visit Industry Training Collaborative research Projects
7	Reve Pharma, Nashik, Maharashtra	Renew Date 01/11/2019 01/11/2016 Sign. Date- 18/10/2013	<b>3 Years</b>	M. Pharm Dissertation Project Industry Visit Industry Training
8	MB Healthcare, Pune	Renew Date 01/11/2019 Sign. Date- 01/11/2016	<b>3 Years</b>	Collaborative research Projects Industry Training
9	Chakan Life Sciences Pvt. Limited, Pune	Renew Date 01/11/2019 Sign. Date- 01/11/2016	<b>3 Years</b>	Industry Visit Industry Training
10	Ari Healthcare Pvt. Limited, Pune	Renew Date- 01/07/2020, 08/07/2019 Sign. Date- 01/08/2013	<b>2 Years</b>	M. Pharm Dissertation Project Industry Visit Collaborative research Projects
11	Callidus Research Laboratories Pvt. Ltd. Pune	Sign. Date 20/01/2019	<b>3 Years</b>	M. Pharm Dissertation Research Project Industry Visit Collaborative research Projects
12	PRADO (Preclinical Research and Development Organization Private Limited) Pune	Sign. Date 01/11/2016	<b>5 Years</b>	Collaborative research Projects
13	Scitech Laboratories Pvt. Ltd., Pune	Sign. Date 01/11/2016	<b>3 Years</b>	Industry Visit Collaborative research Projects

- R & D and IPR committee**

R & D committee in the institute is working on motivating students to work on problem based research themes in their Masters and PhD work. They continuously search for innovation in the research work carried out. The IPR cell is the integral part of R & D committee and it focus on the promotion of awareness for IPR filing among students and faculty. Times to time various activities are conducted throughout the year to promote IPR filing. It includes Workshop, Hands on session for Search Tools, Guest lecture and guiding the patent filing process. R & D cell also work on MoEs KAPILA schemes.





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**E. Highlight Achievements (Narrative/Graphical/tabular representation) (From 2019 to 2022)**

Sr. No.	Events	Count
1	Number and Different types of I&E and IPR activities Conducted	<b>05</b>
2	No. of student's & faculty ideas generated	<b>11</b>
3	No. of student's & faculty Innovation/prototypes developed	<b>04</b>
4	No. of IPs generated, published and granted	<b>6 / 5 / 0</b>
5	No. of Student & Faculty Start-ups/Ventures established	<b>00</b>
6	Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus	<b>RS. 269588</b>
7	Amount grant or fund supported to student & Faculty lead Innovations, start-ups and IPR	<b>RS. 59180</b>
8	No. of Technology Transfer and Commercialization happened	<b>00</b>

**F. Highlight few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forum**

1. Dr. Avinash Tekade – is Professor of Pharmaceutics department. His team with master's student participated in MIT-WPU Innovation Hackathon 2022 and received inspiration idea certificate in January 2022. Team presented a model device of inline drug absorption analysis in dissolution apparatus.
2. Dr. Prasad Kadam – is Associate Professor of Pharmacognosy department. His team with master's student participated in University level Avishakar competition and presented their novel natural material based water filtration device that use coconut tree trunk cellulose as filtration aid. The idea and device was appreciated at University level with appreciation certificate.
3. Dr. Mukesh Ratnaparkhi – is Associate Professor of Pharmaceutics department. His team with master's student participated in University level Avishakar competition and presented their novel tablet dispensing device for geriatric, hospitalized and Alzheimer patient. The idea and device was appreciated at University level with appreciation certificate.



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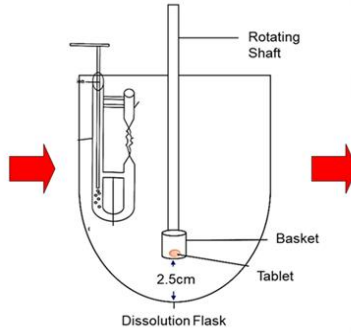
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G. Highlight selected best Innovations & images with mention of inventor/innovation name

**1. Dissosorbptor by Dr. Avinash Tekade and team**



Dissosorbptor device



Device arrangement in dissolution apparatus



**2. Eco coco filter by Dr. Prasad Kadam and team**



Eco coco filter



Lime



Charcoal



Fine sand



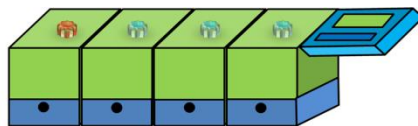
Alum



Marbles

Natural filtering aids used in the filter

**3. TabCue by Dr Mukesh Ratnaparkhi and team**



Home TabCue for Alzheimer's and Geriatric patient



Actual prototype



Hospital TabCue for each bed



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- H. Highlight selected start-ups established by students / faculties with mention of founder / co-founder name
- We are in the process of obtaining patents for the technologies. Soon, as a pre-incubation center we will be registering 2-3 startups with our students. For the faculty members; their product will be technology transferred to the establish companies or to student startups.
- I. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation
- ✓ **Dissosorbptor**  
What is the product: 'Dissosorbptor' is a Simultaneous Drug Dissolution and Absorption apparatus  
USP: Simultaneous dissolution and absorption studies; Device uses isolated animal tissue to get absorption; Easy to use inline tool  
Applications: Laboratory dissolution and absorption studies; Pharmacokinetic absorption studies.
  - ✓ **Eco coco filter**  
What is the product: Water filter prepared from natural Resources  
USP: Coconut plant trunk fibers as filtering aid; multiple layers of natural substances sandwiched between coconut trunk fiber filter aid; Enhance water quality my maintaining pH and mineral balance  
Applications: Household water purification and storage system; Community water purification and storage system
  - ✓ **TabCue**  
What is the product: 'TabCue' is a medication reminder device.  
USP: The medication dosing time can be programmed for multiple medications; the device beeps and reminds the patient/medical staff about the medication time; the device also sends the reminder text message to the patient/medical staff/relatives on the registered phone number.  
Application: Hospitals; Alzheimer's and Geriatric patients
- J. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting specially for the schemes or programs





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- ARIIA – participation and Rank
  - 2021 ARIIA certificate of recognition - BEGINNER
- NISP
  - Adoption status - Adopted
  - Trained Faculty - Yes
  - Policy Formulation – In progress
  - Policy Implementation – In progress
  - Smart India Hackathon etc. - Participating

K. Detail of Social Media & Connections of IIC institute

- ✓ Facebook - <https://m.facebook.com/profile.php?id=100057501757188>
- ✓ LinkedIn - <https://www.linkedin.com/in/marathwada-mitra-mandal-s-college-of-pharmacy-028201190/>
- ✓ You tube - <https://www.youtube.com/channel/UCVWv04ZJW5C3OsKQbChcmTw>

L. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell



IIC internal Faculty member - Dr. Ravindra V. Badhe – I am very happy to testify for MMCOP-IIC. I am acting as a convener of the MMCOP-IIC. Our institute is Pharmacy College with compiled strength of around 350 students. I am very thrilled to mention that despite limited strength, lockdowns, online classes and online and recent offline exams; post COVID operations of IIC geared up and we performed many activities in IIC 4.0 – Q4. The committee meeting at the beginning of IIC 5.0 - Q1 planned the activities according to IIC calendar and I am confident that we will be able to develop some good prototypes and product by the end of IIC 5.0 and also looking forward to pre-incubate at least 2 startups at MMCOP-IIC.



IIC external member (Entrepreneur) – Mr. Shrikant Kshirsagar, Director at Chakan Life Sciences Pvt Ltd., Pune. I am a IIC member and was invited to deliver a motivational talk on Entrepreneurship as a career. Being a member I am very happy to see the efforts taken by the institute and IIC members (both faculty and student) to promote innovative thinking and idea generation. Students and faculty have enthusiastically taken part in many IIC activities and I am sure that



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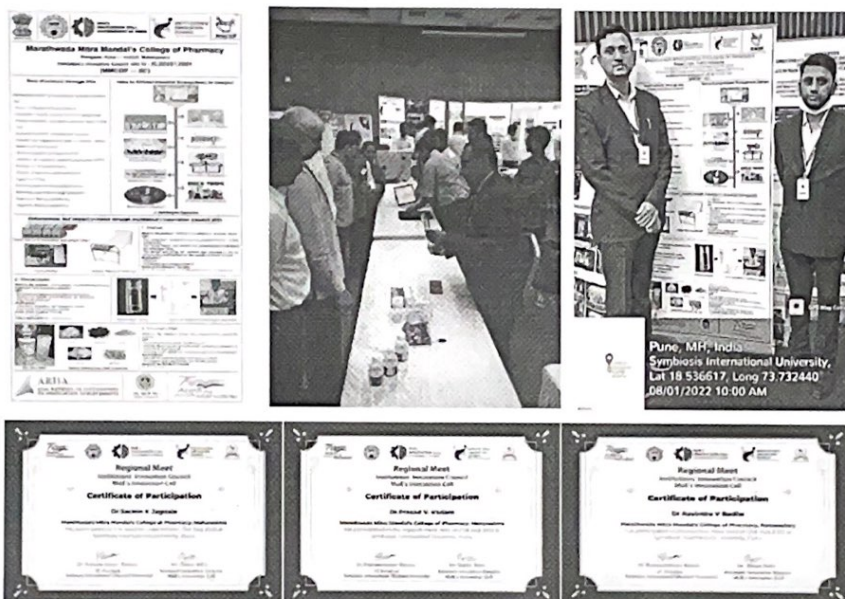
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MMCOP-IIC will soon have student startups and faculty will be doing technology transfer.

M. Images

- Presentation of Poster and Prototype in IIC regional meet



N. Contact

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Prof. M. J. Patil	President	MMCOP	drmanoharpatil@yahoo.com
Dr. R. V. Badhe	Convener	MMCOP	badheravi2@gmail.com



*(Handwritten Signature)*  
Prof. M. J. Patil  
President - IIC