

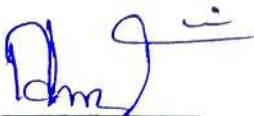
Policy Document for

## Applied Research Program- ARP for UMT

### Towards Wealth Creation from Research

Applied Research Program (ARP) is to promote a culture of applied research at UMT and consequently creates wealth from such research. The commercialization of research increases financial and non-financial gains for faculty, students, academia, industry and society associated as a whole. Successful cultivation of the ARP will increase manifold research grants and funding. The program can be implemented by a department, a faculty member, or throughout UMT as well.

ORIC UMT



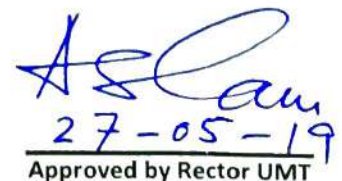
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Committee Chair



DG UMT / Director ORIC

  
27-05-19

Approved by Rector UMT

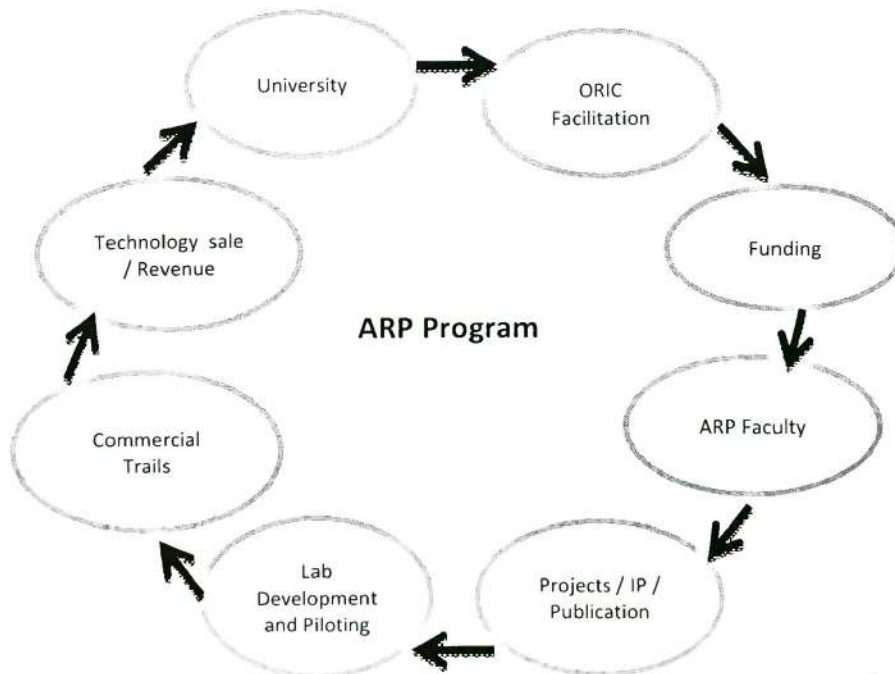
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## Summary


The Applied Research Program (ARP) gives choice to UMT faculty having the interest to interact and serve society to opt for application orientated research track. The program presents comprehensive planning to create enabling environment around those faculty members who aim to enjoy the hybrid role of serving science as well as society and industry.

ARP is sustainable as it invites UMT to invest initially and earn good amounts and resources in returns from research grants, contract research and technology licensing. APR program may lead to the more economic sustainability of UMT by increasing share of research-based revenue along with contributions to the development of society and industry.



  
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## Policy 01

### Applied Research Program – ARP Program by UMT

ARP is parked at ORIC-UMT. The faculty members having an interest in commercial research are invited to join and register in the program called ARP Faculty. The University, through ORIC, provides incentives and enabling environment to faculty to deliver technologies to industry and society. ORIC will track the progress, make necessary policy revisions and provide support services for technology process.

## Policy 02

### ORIC Strengths to Run ARP

The role of ORIC is further strengthened by successfully running ARP. Fundamental services for ARP program by ORIC are given below:

- Internal committee and external industry committee of ORIC to guide and supervise
- Dedicated marketing, management and finance officers in ORIC for projects operations
- Mobilization and stakeholder interaction support
- Operational budget to conduct basic research and various interactive activities for industry

## Policy 03

### Funding for ARP Faculty

The funding scheme for ARP faculty is different from conventional funding designs. The scheme of funding has to support the path of technology development from idea to commercial trials and technology licensing. A project related to social interventions can also be funded. The University is proposed to provide funding of up to 02 million to each selected faculty member joining ARP with the following scheme.

- Funding amount up to 02 million for maximum two projects (for each ARP faculty member), will be distributed as follows:
  - 25% at baseline study phase /student thesis
  - 50% for piloting in the university and product testing/analysis
  - 25% for commercial trials, field survey, and market testing

**Note:** Faculty member may hire student or Research Associate for industry /society project for dedicated working

  
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**One project for ARP faculty must bring a minimum of three of the following outputs:**

- Industrial/society research contract
- Filing of a minimum of two research grants worth 10 million
- IP filing and patent
- Technology licensing to industry
- Revenue in terms of technology sale or licensing

**ToRs for ARP Funded Project (Funded by UMT)**

- The project must be approved by the end user, potential investor and ORIC
- ORIC marketing officer must conduct independent analysis and endorse the project
- Project duration should be 01 to 02 years
- Faculty must have the plan to assign multiple groups on the project
- Faculty must spend a good time in understanding the problem, application, technology environment and end-user perspective
- The application must include its viability analysis in terms of market, price, investment, counter product, technology acceptance and user intentions


**Policy 04**

**ARP Faculty – Incentives and Assessment**

ARP faculty will be given active support by ORIC, initial funding and incentives to ensure successful technology development and delivery to industry and society. The following incentives are to be given to ARP faculty:

- No administrative work for ARP faculty
- Up to 25% workload off
- Flexible teaching schedule
- Points in annual appraisal for research grant
- Points in annual appraisal for Patent / IP grant
- Cash and non cash incentives for successful technology licensing and delivery
- 70% share in technology sale/ licensing revenue

  
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ARP faculty needs to be assessed for technology development and delivery. The grant of the next project and continuity of grant needs to be based on technology outputs such as;

- Successful industry collaboration and trustworthy linkages
- Increased industry/application orientation of faculty and students
- Winning research grant and funding
- IP filing (patent)
- Successful prototype development
- Successful commercial trials and product acceptance
- Technology licensing
- New industrial contract research

**Note:** ORIC will manage the assessment process of ARP faculty

### **Policy Proposal 05**

#### **Academic Thesis /Technology Selection**


Academic theses are a very effective tool for technology identification, initial screening, initial trials and baseline study and experimentation.

The ARP faculty is supposed to:

1. Ensure all supervised theses are given by industry and society
2. Develop an understanding of the technology needs and make technology development plan
3. Assign topics to students and build their research capacity according to need
4. Ensure that the theses present a good review of academic literature, patentable technology and problem profile to be solved
5. Ensure that theses present solution according to local requirements and end user inputs
6. Research Assistant positions to students in funded and sponsored research
7. Bring some support from industry and society for survey, chemicals and consumables
8. File a patent from the research work if possible
9. Send good projects for research grants and funding

  
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**Note:** The department needs to involve ORIC in a review of a thesis supervised by ARP faculty. The above points need to be considered and given 50% weight in the review of the proposal and thesis defence along with other academic criteria.

### Policy Benefits

- Students will get good training according to market application
- Students will have good job chances on a higher salary
- The industry will develop trust and may get some solutions from academia
- Faculty will be able to develop solutions after a series of problem-solving projects/theses

### Policy 06

#### Piloting of Academic Research

UMT seriously needs piloting of lab results to test the developed products in order to make comparison with standards, available products and market requirements. ARP faculty is supposed to pilot their assigned projects, produce the big sample and conduct testing for comparative analysis.

Each assigned project to ARP faculty is proposed to cover the following:

- Production in a small number
- Consistency in production
- Comparative analysis with counter product
- Analysis with available STM standards
- Cost and market analysis

### Policy 07


#### Commercial Trials of Academic Research under ARP Program

There is very high-quality research taking place at UMT. This research has never touched the phase of commercial trials where the industry can pick it further and invest. ARP faculty needs to ensure their assigned research projects reach commercial trials and consumer testing stage. Here are the deliverables of this phase:

- Prior pilot trials confirm needs of commercial trials
- Commercial trials are planned with investors in industry settings
- The techno-economic analysis is done and is found satisfactory
- A large number of products are produced and used by the consumer

  
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- Consumer reports are satisfactory for investors
- Investors are ready to buy technology from the university/scientist

**Note:** Commercial trials are a pre-final stage and based on small production. Success in this stage will lead to the final large-scale plants and production set up by the industry.

## Policy 08

### Technology Sale/Licensing

Technology licensing has not started at UMT and it needs to be planned and supported. ARP provides a window for academia to have an exclusively selected program to help faculty reach the technology licensing stage.

Here are outputs expected from ARP faculty in this phase.

- Investors and end users have been part of the entire R&D process
- The industry is satisfied to enter into a licensing agreement
- Legal expertise is involved in the contract agreement
- Contract draft is shared, well discussed and negotiated
- Terms are reviewed in details
- Royalty sharing, payment schedules and data sharing are planned
- Other related matters

### Note:

- Technology will be owned and licensed out by UMT. Revenue will be distributed among the university, scientists and any concerned third party.
- Faculty and students may create their own venture based on this technology. All matters will be treated according to the IP policy of UMT.

### Why Should UMT Adopt ARP program?


1. Development of faculty for contribution to the socio-economic development
2. Training of graduates on real problems and assured employment
3. Sale of technology and revenue for university and scientist
4. Startup creation and promotion of entrepreneurship
5. Increase in research grants and funded projects

### Initiation of ARP Program

It is approved that UMT will pilot the ARP program on 02 faculty members initially to check the response and outcome. Each faculty member will get a maximum of two projects and ensure planned outputs.

  
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