University Manual of Intellectual Property Rights for

Faculty, Technical Staff and Researchers

Published by:
Centre for Institute Industry Partnership Program (CIIPP),
Panjab University, Chandigarh

In Association with:
Punjab State Council for Science and Technolgy (PSCST), Chandigarh

Message from the Vice-Chancellor

A time has come when the funding agencies along with the common man is asking what is the outcome of the research being conducted with public money. Has it been translated into better products? Has it resulted in improvement in the quality of his life? Will it lead to more employment? A part of the answer to these questions lie in the knowledge about Intellectual Property Rights (IPRs). It can not only help in identification of innovative and path breaking technologies, but also ensure that they benefit the common man, by enabling successful translation and commercialization. The use of IPR by the society brings about social, economical, industrial and cultural prosperity of the country where such rights are recognized.

In India, very few scientists have a clear idea of intellectual property and the role it can play in economic development of the country. Certainly, there is a need for educating all those who have potential to generate IPR especially in universities which are striving hard to be on international scene for their research/recognition.

In this direction, Panjab University has created an IPR Cell under the aegis of Centre for Institute Industry Partnership Programme (CIIPP) in collaboration with Punjab State Council for Science and Technology (PSCST), Chandigarh. The IPR cell is actively engaged in creating awareness on IPR issues by organizing workshops, quiz and seminars. Soon, we shall have a functional Patent Search Unit in CIIPP with the help of PSCST. Publication of “Manual of Intellectual Property Rights for University Faculty and Researchers” by CIIPP is a positive step in sensitizing young minds to the immense potential of IPRs.

I am confident that in the times to come, Panjab University will create its own niche and will be known for the innovative and path breaking technologies developed by its researchers and scientists.

R.C.Sobti

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About CIIPP (http://ciipp.puchd.ac.in)

With a view to bridging the gap between theory and practice and to sensitize university towards needs of the industry, CIIPP was set up in 1996 as a separate entity as a self sustaining centre on Strategic Business Unit concept.

Vision and Mission

"To enable public funded research carried out at the university to benefit society by facilitating its translation and application."

Aims & Objectives

- To create intellectual wealth and capital for the University by helping researchers to identify and protect their innovations and creative work, either through patents or other forms of intellectual property.
- To create awareness about the Industry Institute Programme and devise strategies for the promotion of synergistic interface with industry.
- To develop methodology for creation of endowment funds and promotion of consultancy/case studies/technology transfer to cater to specific need of the industry.
- To find out ways & means to optimally utilize resources available in industries and institutions.
- To generate R&D programmes and technical components for industrial need.
- To identify specific themes for mutual interest with relevance to present day need.
- To recommend need based courses to industry and prepare learning materials relevant to industries.

Our Clientele

The CIIPP has rendered valuable services to various Public and Private sectors institutions/departments. The CIIPP clientele includes the following:-

- Ministry of HRD Govt. of India (Navodaya Vidyalaya Samiti)
- Deptt. of Finance, Govt of Punjab
- Deptt. of Education Govt. of Haryana
- Govt of Uttranchal (Peyjel Sansadhan Vikas Evam Nirman Nigam)
- IISc Banglore
- National Law University, Jodhpur
- ICFAI University Hyderabad; Amity University
- Jaipur National University

- Pondicherry University
- Dr. Reddy's Lab., Hyderabad
- Ludhiana Stock Exchange Ltd
- M/s Lifecare Innovations Pvt. Ltd
- M/s Saibliss Drug & Pharmaceuticals
- M/s Panacea Biotec Ltd.
- M/s Himalayan Drug Compna
- M/s Satluj Jal Vidyut Nigam
- M/s DCM Engineering Pvt. Ltd.
- M/s Coca Cola India
- M/s Gujarat Ambuja Cement Ltd.
- Corporation Bank
- Union Bank
- Punjab & Sind Bank
- Vijaya Bank
- NIFT
- AIMA
- Railway Recruitment Board
- FCI
- IOCL

Core Team of IPR Cell of CIIPP

IP Co-Ordinator	:	Prof. S.K.Soni (Department of Microbiology, PU, Chandigarh)
IP Advisors	:	Prof. Meenu Paul (Dept. of Laws, PU, Chandigarh)
		Dr.Parikshit Bansal (IPR Cell, NIPER, Mohali)

About PSCST

PSCST is an autonomous registered research and development organization which provides technical inputs to the state department of Science, Technology & Environment, Govt. of Punjab. The general body of the council is headed by the Chief Minster with Secretary, Science, Technology & Environment instrument of socio-economic change and acts as a catalytic agent for transferring of technology from lab to field. In the process, PSCST helps the development departments of the state to adopt new and advanced technologies in their respective fields.

Thrust areas :

- Conservation of environment
- Biotechnology
- Popularization of science
- Consultancy to industries and
- Setting up of IPRs awareness and facilitation centres (PIC & IPFC)

Patent Information Centre (PIC) of PSCST

Patent Information Centre (PIC), Punjab State Council for Science & Technology, Chandigarh was set up in 1998 as a joint project of Technology Information, Forecasting & Assessment Council (TIFAC), Department of Science and Technology, Govt. of India and Govt. of Punjab to create awareness on Intellectual Property Rights (IPRs) and facilitate filing of patents from the region.

Objectives of PIC:

- To provide patent search and filing facilities at the door step of innovators, researchers, R & D establishments and entrepreneurs.
- To create awareness on IPR issues by organizing workshops and seminars.

The various activities and achievements of PIC since inception are summarized below:

1. Setting of IPR cells in universities : 7
2. IPRs filed/ assistance provided: 26 Patents, 3 Copyright, 7 design, 4 trademarks,
3. Geographical indication: 1 for "Phulkari" registered in the name of PSIEC
4. Patents Granted: 7
5. Patent searches conducted : more than 250
6. Training on IPRs : 14 IPR trainings organized and 47 persons trained. 12 Women

Scientists trained who were deputed by TIFAC, DST, GoI under the women Scientist Training Scheme.

7. IPR technology scan reports prepared: 12
8. Awareness Programmes organized : 41 One day patent awareness workshops, 57 IPR faculty training camps, 70 lectures, 7 exhibition stalls, 4 Radio talks
9. Setting of student IPR clubs : 16
10. Celebration of IP day : 2008, 2009, 2010, 2011

Objectives & Activities of IPR cells in Universities

1. To provide IPRs protection information, orientation and facilities to university researchers & scientists
2. To guide & advise researchers on how to obtain & sustain patents and help them approach PIC-Punjab
3. To work as a link between PIC and university and its affiliated colleges.
4. To facilitate routing of patent searchers to PIC, Punjab
5. To get necessary clearances from competent authorities while filing patents and other IPRs like copyright registration and design registration, etc. through PIC
6. To workout modalities on behalf of universities for commercialization of patented technologies
7. To organize various IPR awareness programmes in collaboration with PIC, Punjab in its campus and affiliated colleges

About the Authors

Parikshit Bansal (Born 18th Aug.1967), Ph.D (Biochemistry) LLB is an IP Educator and Industry Consultant, currently working as a Faculty in the highly specialized area of Intellectual Property Management at National Institute of Pharmaceutical Education and Research (NIPER), Mohali. Before joining NIPER, he was associated with Indian Council of Agricultural Research (ICAR) for nearly 15 years- as student, as researcher and finally as Agriculture Scientist. He completed his Master's in Animal Biochemistry from National Dairy Research Institute (NDRI), Karnal in 1990. Thereafter, he worked as Research Fellow in Department of Cardiology, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh before moving to the Loeb Medical Research Institute, Canada to work in area of Human IVF. He was also awarded Canadian Govt. Commonwealth Fellowship.

After joining Agriculture Research Services (ARS) of ICAR in 1993, he pursued research in area of rapid diagnostics and female reproduction at NDRI, Karnal in Biochemistry Deptt. for more than a decade. While working at NDRI, Karnal, Dr. Bansal filed his first patent for a laboratory dialysis device in 1997 (awarded US Patent No. 6368509 in 2002, Indian Patent No. 199711 in 2007). Development of the invention was supported by TIFAC, National Research and Development Corporation (NRDC) and DSIR, New Delhi under TEPP program over a 15 year period (1997-2011). The invention marks a 'technological shift' in area of laboratory dialysis after nearly 150 years, since the term 'dialysis' was coined by Thomas Graham in 1866; and has been successfully commercialized (www.wonderlyzer.com).

Dr. Bansal has also been awarded three more patents- one for conversion of human hair to bio-fertilizer with Dr.R.K.Kohli of Botany Department, Panjab University, Chandigarh and the other for a process to convert parthenium into a useful agricultural product with Dr.R.K.Kohli of Botany Department, Panjab University, Chandigarh and lastly for an improved laryngoscope- a bio-medical device. He has filed nearly 20 patents for his various innovations and ideas.

An expert in 'go-to-market' strategies, Dr.Bansal has a deep practical knowledge of patents and technology management spanning nearly 15 years. He has successfully 'translated' laboratory research into useful products - "Small Wonder-Lyzer" a laboratory dialysis product (www.wonderlyzer.com) (2007); "Ampucare" - a herbal formulation for healing diabetic wounds, which won the Martin Lockheed Award of USA for best innovation in its category, from India (2008) ; "FENFURO"- a natural extract based formulation for effective management of diabetes (www.fenfuro.com) (2009); "SYNRON"- a herbal formulation for asthma management and treatment (2010). Translational aspects of several innovative products are currently being managed by him. He completed his LLB from Panjab Univ. Chd. In 2010.

Dr. Meenu Paul (LLB, LLM PhD (Law) is a Professor in the Deptt. of Laws, Panjab University Chandigarh. Her area of specialisation is Law on Intellectual property Rights. She has not only been instrumental in introducing this subject in the Deptt of laws but has also been teaching the same to LLB and LLM students. She has also been guiding research in this area. She has presented several papers on IPRs at various seminars and also published numerous papers. She has authored a book on the law relating to Patents, Copyright and Trade Mark in India.

Dr. S.K. Soni, Professor of Microbiology at Panjab University, Chandigarh, did his M.Sc and Ph.D in Microbiology from P.A.U. Ludhiana and Guru Nanak Dev University, respectively. He is specializing in Fermentation Technology and has acquired wide experience in Food & Industrial Microbiology. He has a blend of Academia and Industry experience of nearly 28 years in various aspects of Microbial Biotechnology. Besides working in different academic institutes of India including Punjab Agricultural University, Ludhiana, Guru Nanak Dev University, Amritsar, Institute of Microbial Technology and Punjab University, Chandigarh, Dr. Soni also worked in one of the leading Fermentation Industry of India, Jagatjit Industries Ltd, Kapurthala where he acquired in-plant industrial exposure and acted as a successful leader of various R & D projects related to Microbial Fermentations and allied processes.

Dr. Soni is also actively associated with the industry, presently, as a Fermentation Technology Consultant and is working on various industry oriented research projects. A recipient of Biotechnology National Associateship of Department of Biotechnology, Govt. of India for conducting advanced research in the field of Modern Techniques of Industrial Microbiology in 1990, he possesses over 25 years teaching experience in Microbiology and has guided many students for their Master's, M.Phil and Doctoral degrees at Guru Nanak Dev University, Amritsar and Panjab University, Chandigarh. He is also a visiting guest faculty in the Department of Pharmaceutical Technology, National Institute of Pharmaceutical Education and Research, Mohali. Dr. Soni has published over 60 original research papers in various Journals of International repute and has contributed 25 chapters in different books. He has authored a book "Microbes: A Source of Energy for 21st century" which highlights the potential of microorganisms in solving the global energy crisis due to depleting fossil fuels which are expected to get exhausted during the next 50 years. As an expert in Industrial Enzymes and Ethanol Fermentation Technologies, he has reviewed several R&D projects for various National Scientific Agencies and has refereed a large number of research publications for many International Journals.

1

Frequently Asked Questions about Intellectual Property

1. What is intellectual property or IP?

It refers to 'creation of the mind' or 'intellect' which has commercial value.

2. What are intellectual property rights or IPRs?

These are legal rights associated with creations of the mind or intellect which have commercial value. Just as you have rights over your car, house etc. (property) because you have paid for it and have valid documents to prove it, so also in case of IPR. If you have created something e.g. a song, poem or a book or even a new invention in biotechnology which has commercial application or value, you are entitled to get "rights" for it.

3. Why is the word 'property' used in case of 'intellectual property'?

Property refers to a possession which has commercial value and can be freely bought and sold. Since creations of the mind can also have commercial value and can be freely bought and sold, they are referred to as 'intellectual property.' Intellectual Property or "creations of mind or intellect" are thus like "property" because they too have commercial value and can be bought and sold just like conventional property e.g. a house or a car. Example: If Lata Mangeshkar has sung a song and a company wants to make cassettes out of it for sale, the company pays money to the singer to get the rights. In other words, the song becomes an "Intellectual Property" for the singer. Similarly, if a biotechnologist has developed a new process for making an enzyme, it has a lot of commercial value for a company making that enzyme. The biotechnologist will first have to create rights over his work e.g. by filing a patent. Then he can sell it to the company. Since, IPRs can be bought and sold just like property, we use the term "intellectual property" for creations of the mind which have commercial value.

4. What is the need for IPRs?

Intellectual Property Rights are needed to reward original effort and ensure progress of society. The fundamental concept behind all forms of IP, be it patents or copyright or industrial design etc. is that the person who has put in original effort must have rights over his creation and must get reward for it. He must not be cheated. Example: If a biotechnologist has developed a new process for making an enzyme having lot of commercial value for a company making that enzyme, he can get paid for his effort e.g. through cash down payments or royalties. He is thus stimulated to go in for more innovations. If there was no method to protect what a person has created by hard work, nobody would want to develop something new. It is only when effort is rewarded and those who steal or cheat are punished, that there is stimulus to create. Thus, IPRs lead to progress and development of society by ensuring rights and recognition for people who put in original effort.

5. What are the different forms of Intellectual Property? Why are there different mechanisms to protect IP? Why one mechanism is not possible?

Creations of the mind are very different and may have different forms e.g. inventions and innovations, songs, paintings, books, designs etc Since the creations of the mind differ tremendously in their nature, there CANNOT be any one mechanism to protect them. Accordingly, depending upon the nature of 'creations of the mind' there are eight different mechanisms to protect intellectual property (IP) viz. 1. Patents 2. Copyright 3.Trademarks 4.Industrial designs 5. layout designs of integrated circuits 6. Geographical Indicators 7. Plant Varieties 8. Trade Secrets. The legal rights conferred on a person(s) under any one of these eight mechanisms are called "Intellectual Property Rights".

6. What are patents?

These are a form of intellectual property rights awarded for inventions. Patents represent the most important and useful aspects of IP for researchers.

7. Do patents hinder research?

Patents are not barriers to research but rather promote innovative and applied research. Nothing prevents researchers from using information in patents for further research. Also, patents are valid only in the country where they are filed. Researchers in other countries can freely use these patents, even for commercial purposes, legally and without any hindrance. On the other hand, if there were no patents, how will you protect the researcher who has put in original effort? If a scientist has worked on a project and come up with a breakthrough technology and it just gets copied, will he be motivated? No. Hence, it is very important to protect the rights of people who put in original effort and hard work. That is why patents are needed. Patents don't hinder research-they catalyze it!

8. Does one need a legal background for making use of IPRs and patents?

No. Just as you don't have to be a mechanical engineer to drive a car, so also for making use of IPRs you don't have to be a legal expert.

What is required is a technical background, which you already have. Just as in driving a car, you pick up the fundamentals- steering wheel, clutch, brake, so also in IPR what you need is an understanding of the fundamentals- whether the work you are doing is really original. Is it infringing upon somebody's rights or not? What is the global technology status of the research work you are about to start? Whether what you have achieved in the lab is patentable or not? What are the basic requirements for filing a patent and so on. For all this, you really don't need a legal background. Yes, you might seek the "assistance" of lawyers and legal experts, in case you are filing a very important patent. Lawyers in IPR are quite often people with technical backgrounds with a degree in law. They can help you in "polishing" your patent, making it difficult for anybody to copy or break it easily. It is always a good idea to seek professional help, but it is not wise to "block" any initiative on your part just because you don't have a legal background.

9. How is knowledge of IPRs useful for researchers?

As mentioned earlier, IPRs are of different types. The category of IPRs most important for researchers is patents and it is important for researchers in several ways.

- ***Prevents duplication of work:*** Search of patent databases reveals what has already been done before, thus saving precious time and money. Quite often, the industry may just file patent for an innovation, and not publish it.
- ***Helps researchers to focus on commercially relevant research:*** Patents are for work having commercial value. For researchers formulating research projects, a review of patent databases quickly reveals what is 'hot' and what is not!
- ***Prevents exploitation of workers:*** By enabling researchers to have 'legal rights' over their work, IPRs prevent exploitation of workers and ensure proper remuneration, in case their work is used for commercial purposes.
- ***Helps in revenue generation:*** Licensing of patents helps to earn money - for researchers and also the institute and departments. This in turn leads to financial freedom- better research facilities, scholarships, improved infrastructure.
- ***Important source of technical information:*** Patents are the only source regarding detailed technical information, which is unlikely to be available anywhere else. While number of journals may be in hundreds, the patent database per country is only one, making consultation much easier.
- ***Prevent infringements and help avoid litigation:*** A basic knowledge of IPRs enables researchers to respect others rights and decide whether their work is

infringing or not, especially in commercial segment.

- ***Stimulate creativity:*** By enabling researchers to see at a glance the level of technological achievement in a particular field, patents stimulate creativity. They impose challenges as to how to take achievements even further.

10. How can one start building knowledge about IPRs?

For a start, you can join the free online courses by the World Intellectual Property Organization (WIPO), Switzerland. Founded in 1974, WIPO is a specialized agency of the United Nations. Details of the courses are available at http://academy.wipo.int. One is an intellectual property primer course of just three hours (DL 001) which you can easily complete online. It consists of 12 sections followed by a series of self-assessment questions. The second course DL-101 (General Course on Intellectual Property) is comparatively more advanced, requiring about 50 hours of study over a six-week period. It includes audio segments, self-assessment questions and also multiple-choice end of module tests. It is an excellent course for building IPR basics.

In addition, distance learning courses are also offered by National Law School of India University (NLSIU), Bangalore (http://www.nls.ac.in) and NALSAR University, Hyderabad (http://www.nalsarpro.org). Both universities offer one-year post-graduate diploma in Intellectual Property Rights Law. Any graduate, irrespective of age or marks can join these courses. Other useful free resources on the net offering basic information about IPR can easily be located by using the Google search engine. A good site is www.patentmatics.org. The government site on patent related information e.g. www.ipindia.nic.in is quite informative.

11. What are the career opportunities for researchers who polish their IPR skills in addition to 'technical skills'?

Knowledge of IPRs is critical for industry as well as teaching institutes. It is also very important in case you are going in for higher education. The planning of your research project, its success and ultimately acceptance by industry - all depends upon your knowledge of IPRs and exposure to searching and filing patents. Regarding career opportunities, first and foremost candidates having a working knowledge of IPRs e.g. even those who have completed basic courses of WIPO, get preference during interviews and placements. Secondly, your placement opportunities get broadened. Candidates with a technical background along with IPR qualifications are sought after by patent attorney firms and leading consultancy firms. IPRs are a part of every industry affecting a wide variety of segments- R&D, production, marketing and strategic planning. In addition, more and more institutes are introducing IPR as a subject and openings at faculty level in these areas are coming up.

12. What will be the job profile of a researcher with IPR qualifications?

Firstly, as mentioned above candidates with IPR qualifications over and above their technical qualifications are likely to get faster placements and also better pay packages in any industry they join e.g. biotechnology/Pharma/engineering industry. Since industries are gradually realizing the immense importance of IPR in enhancing business profits, IPR cells are being created in Industry. Professionals with IPR skills stand to join these departments and have stronger chances of promotions as compared to conventional departments in which manpower is readily available.

So, your first and foremost job profile can be joining an IPR cell in an industry. Your activities are likely to include networking with R&D people and finding out whether any of their work is patentable, identifying technological advances of relevance to your industry vide regular monitoring and search of patent databases, guiding your R&D colleagues to avoid any research work which is infringing and go in for work which is free from infringements, identification of new and emerging technologies which can benefit your industry and so on. IPRs rely heavily on technical skills which you already have. Legal skills are needed for filing of patents, infringement cases etc. for which services of qualified professionals can always be hired. However, the amount of work required in the background before you actually seek the services of a patent attorney is considerable and that is where you are needed.

Secondly, you can also be hired directly by an attorney firm. Filing of patents requires a sound technical knowledge and most firms are happy hiring MSc/ PhD candidates having technical background. Legal and related skills will be gradually built up once you join a firm and start working. Thirdly, you also have career opportunities in leading consulting firms. Lastly, IPR strong candidates always have good opportunities abroad. It is a niche area, in which trained human resources are not readily available!

13. How are IPRs and technology management linked? Are there any career opportunities in technology management?

IPRs and technology management are like the two wheels of a bicycle - both are important. Patents filed but not commercialized are a tremendous loss of time, money and effort. Hence, their commercialization aspects are also important.

Technology management in a layman's term is the sum total of all the efforts which result in the practical application of research. As a technologist, you are working in very applied areas and knowledge of technology management can help in the practical application of that research. Filing a patent is in fact the first step in technology management. Once rights over the work are created, inventors can freely contact and interact with industry professionals, disclosing details of their work without any fear that their work will be copied. In fact TOT (Transfer of Technology) is a term you will frequently encounter once you start working in this area.

Regarding career opportunities in technology management, there is a lot of demand abroad for technology professionals. In fact almost every university abroad has an office of technology transfer and licensing. Hence, there is a demand for technically qualified people. It doesn't matter if you are just a science professional because that is a fundamental requirement. However, it is important that you do an MBA after your MSc or PhD. A degree in law after PhD is also a very good combination for technology professionals. By now you must have realized the power of "hybrid degrees" e.g. MSc/MTech followed by MBA or LLB or PhD with LLB, for technology professionals. It is a different career but being different is what results in faster promotions and better packages. If you are doing whatever everybody else is, don't expect higher salaries.

14. IPRs and technology management as subjects are yet to be introduced for science researchers in the University. Even the faculty are not exposed to patenting and usefulness of patents in research. How can CIIPP help?

CIIPP is planning to initiate a dedicated faculty training program in IPRs and Technology Management for researchers. It is planned to be a very intensive, highly practical oriented and of only two days (16 hours) duration. It will be based on several years of practical experience of the trainers. Under this program, faculty and researchers will be exposed to the usefulness of patents in research, practical aspects of filing a patent and also patent licensing.

15. What is patentable in biotechnology?

As per the Indian Patent Act, the following are patentable:

- ***Microorganisms:*** under the Indian Patent Act, microbiological processes can be patented. Also patentable are processes for producing new-microorganisms through genetic engineering and the products that result out of this process, such as microorganisms including plasmids and viruses if they are non-living.
- ***Cell lines:*** A cell line is patentable if artificially produced.
- ***r-DNA, RNA, Amino Acid:*** if the end result is non-living, it is patentable.
- ***Hybridoma Technology:*** Patents are also allowed on hybridoma technology, but not on protoplast fusion.
- ***Gene sequence, or expressed sequence tags (ESTs):*** Expressed sequence tag's, or ESTs, are small fragments of genetic material obtained by reverse transcriptions of messenger RNA (mRNA) from expressed genes. The gene sequence, or expressed sequence tags (ESTs), can be patented if it has a use, such as if it works as a probe.

16. What is not patentable in biotechnology?

- A method of producing a new form of a known plant or tissue culture method for production of plant variety is not patentable

- A method of treatment of a human body by surgery or operation for diagnosis.
- Method of improving or changing the appearance of the human body or parts.

Still, these categories are not as clear-cut as they appear. Skillful wording may decide whether a finding is an "invention" or a "discovery." Thus, it is best to consult a patent attorney prior to filing a patent.

17. Is Patenting of microorganisms allowed in India?

Yes. A microbe can be patented in India. Prior to patenting, it must be deposited in Microbial Depository at IMTECH, Chandigarh. The deposit of the sample of the biological material is required to ensure that the specification is sufficiently enabled so as to render it workable. In India the position of patentability of microorganisms is parallel to that of the UK and Europe.

The deposit of the culture sample in India can be made at the Microbial type culture collection (MTCC) and Gene Bank at the Institute of Microbial Technology, Chandigarh. The Patent act also provides other conditions to be fulfilled at the time of the deposit of the sample as follows:

- All characteristics for the identification of the microbial sample
- Access to material allowed after publication of the application
- Disclosing the geographical source of the biological material

18. What is the status regarding patenting of genes, expressed sequence tags and single nucleotide polymorphisms?

It is allowed in India. The patentability of various forms of genetic information is dependent on knowledge of the functional significance of that information. Assuming that the genetic information is new and not obvious, patentability may depend on the usefulness of the information. Patents on genes that code for medically useful proteins such as erythropoeitin and thrombopoietin have been granted. The situation is less clear for open reading frames of unknown function or for expressed sequence tags (ESTs) or single nucleotide polymorphisms (SNPs). If it can be shown that genes, ESTs or SNPs are associated with a particular disease in a way that enables diagnosis of that disease or susceptibility to disease, then this may enable patenting. Similarly, if a gene encodes a protein that possesses beneficial function or is a drug target for the treatment of a disease, this may also allow patenting.

The European Patent Office (EPO) and the US Patent Office take different approaches to the patenting of nucleic acids. In the US, patent applications for genes without functional relevance are rejected for lack of utility. In the EPO, the simple discovery of the sequence or partial sequence of a gene is not patentable because it is a mere discovery. A gene isolated from the human body by a technical process may be patentable but the industrial application must be disclosed in the patent application. However, in practical terms the outcomes of the determinations

of patentability are roughly the same.

19. Is Patenting of computer-related (bioinformatic) inventions allowed in India?

Computer programs are patentable so long as they generate the ability for the computer to perform a novel technical function. For example, a program that simply sorted something into alphabetical order, which can be done manually, is unlikely to be patentable. Applications of computation are also patentable. For instance, patents have been granted on the following:

- 'Computer-aided visualization and analysis system for sequence evaluation (US5795716)'
- 'Computerized method and system for analysis of an electrophoresis gel test (US5754524)'
- 'Computer-aided probability base calling for arrays of nucleic acid probes on chips (US5733729)'
- 'Database and system for storing, comparing and displaying genomic information (WO/98/26407)'.

20 . Who owns the patent?

The assignee of the patent. If an employee makes an invention, the rights usually belong to the employer (unless specific contractual arrangements are in place to the contrary). This means that intellectual property developed by a university researcher is generally owned by the university, with the researcher named as an inventor.

2

How to file a patent in India?

Patents- Some Basic Facts

a) Patents are documents which give inventors legal rights over their inventions. In simple terms they can be described as "registration certificates of ideas" just like RC of your car/mobike/scooter.

b) In India, patents are granted only for products or processes- no third category. In USA/EUROPE new use of existing product is also patentable e.g. new use of known drug would be patentable.

c) In India, certain categories e.g. inventions relating to atomic energy excluded

d) Valid only in the countries where they are filed.

e) There is no such thing as a 'world patent'

f) Of fixed duration- lapse after 20 years

g) Require fee for keeping 'alive'- expire if fee is not paid

h) Can be challenged and got cancelled if granted wrongly

i) Legally very strong rights. After TRIPS agreement, rules standardized in member countries (nearly 150).

Filing of a patent- Some Practical Aspects

1. What is patentable?

For patentability, the invention must satisfy a 'trishul' of three criteria-

- Novelty (must be new and not known/described earlier),
- Non-obvious (must not be something which does not involve any inventive step and is obvious)

- Industrial Application: Invention must be capable of Industrial application (must actually work and not be only theoretical).

Remember basic requirement for a patent is an INVENTIVE STEP.

What cannot be patented?

- Something which is frivolous, contrary to public order and morality or harmful to society/environment.
- Mere discoveries
- Substances produced by merely mixing of components, resulting in aggregation of the properties of the components and a process for producing such substances
- Rearrangement or duplication of known devices
- Method of Agriculture and Horticulture, Medical treatments, Plants and animals in whole, except microbes
- Mathematical or business methods
- Literary, aesthetic, artistic works, Methods of playing games
- Presentation of information, Topography of Circuits
- Invention which is in fact traditional knowledge
- Inventions pertaining to atomic energy

2. How can I patent my Invention?

1. Firstly, check whether your invention does not fall in list of non-patentable inventions as given above.
2. If it does not, then check whether your invention meets the three criteria of patentability viz. novelty, non-obviousness and industrial application.

Checking up whether your invention is really new or not (novel), can be done by performing a **"Prior Art Search"**. In simple words, it means confirming whether what you are claiming is new, has not already been done by someone, somewhere in the world. For this you can adopt a simple **'four point search'** involving search of Journals, Patent Databases, Yellow pages or commercial information (searching google using commercial terms e.g. x and price or x and manufacturer and so on) and lastly a short field survey in which you physically check in the market whether a product you have in mind is available or not.

1. **Journal or Literature search:** Perform a thorough literature search using 'google scholar' or any other suitable search engine or database available in your library. DO NOT UNDERESTIMATE THE IMPORTANCE OF

LITERATURE SEARCH. Just because something is not in a patent database, does not mean it is not in public domain. Someone may have just gone ahead and published it, without filing a patent!

2. **Search of worldwide patent databases:** Patent databases can be searched using appropriate keywords. They give a very good idea of whether what you are trying to protect has already been patented or not, thus saving you time and money. Also, searching patent databases helps in familiarizing you with patent language, method of description etc and makes drafting of a patent application easy. Patent databases are free as well as paid. Some of the free patent databases which you can search are:

1.	USA	www.uspto.gov
2.	European	www.espacenet.com
3.	Australia	www.ipaustralia.gov.au
4.	Canada	http://patents1.ic.gc.ca
5.	Korea	http://www.kipris.or.kr
6.	India	www.ipindia.nic.in

Two other good online patent databases are STN and Delphion, but both are paid. Indian patent database containing full-text of patents is available at www.ipindia.nic.in.

Search Map: Whenever searching patent databases, ALWAYS make a search map before starting the search. You will forget the terms and combination of words you used and data at times will NEVER be retrieved again. Example is given below:

PATENT Search Map: Search site: Google Patents (USPTO), ESPACENET (Database of more than 80 countries) and PATENTSCOPE (WIPO, Switzerland)

S.No.	Search Terms	Google Patents (USPTO)	ESPACENET	PATENTSCOPE
1.	Glucose estimation			
2.	Glucose estimation and method			
3.	Glucose estimation and new			
4.	Glucose and detection			
5.	Glucose and human and assay			
6.	Glucose and diagnostic			
7.	Glucose and diagnostic and kit			
8.	Glucose and diagnostic and method			

3. What next?

You have checked literature, searched patent databases and found that your invention is truly novel. What next? Find out under which patent office your state lies. There are four patent offices in India- Calcutta (Head Office), Bombay, Madras and Delhi. Each has a particular jurisdiction as follows:

- **Mumbai:** Maharashtra, Gujrat, MP, Goa and the Union Territories of Daman and Diu, Dadra and Nagar Haveli
- **Madras:** AP, Kerala, Tamil Nadu, Mysore, Union Territories of Pondicherry, Laccadive, Minicoy and Aminidevi Islands
- **Delhi:** Punjab, Haryana, Himachal Pradesh, J&K, Rajasthan, UP, Union Territories of Chandigarh and Delhi
- **Kolkata:** Rest of India

Once you have determined which patent office to submit your patent application to, the next step is to draft a patent application. For this it is important to know what are the forms which are to be submitted when applying for a patent and also the various heads under which your invention is to be described.

4. What does a patent application consist of ?

If you are filing a patent application in India, your application will consist of four forms viz. Form 1, Form 2, Form 3 and Form 5. These forms are not available commercially, but the formats are standard and can be retyped. While forms 1, 3 and 5 are simple consisting of just 1 or 2 pages, Form 2 is the one which constitutes the 'heart' of the patent and in which the patent is described. It contains a detailed description of the invention, drawings, examples and claims.

In Form 2, a set pattern of headings for describing the invention is followed viz.

- Field of the invention,
- Background of the Invention,
- Objects of the Invention,
- Detailed description
- Examples
- Claims
- Figures/Drawings if any
- Abstract

All forms must be filed in duplicate, when submitting to the patent office.

5. Do I have to hire a Lawyer (Patent Attorney) to file an application?

No, you can file a patent application directly. Though it is not compulsory to hire a lawyer, it is a good idea to hire one. The attorney is familiar with the legal language and can help in better drafting of claims without leaving any loopholes which can be challenged later. Secondly, he can deal with various objections raised by the examiner during the course of examination of your patent and send proper replies. Lastly, being a professional, he increases the chances for the successful grant of a patent.

6. How do I find a suitable patent attorney ?

An ordinary lawyer cannot help you with the filing of a patent application. You will need the services of a patent attorney. A list of patent attorneys is available from the patent office free of charge (www.patentoffice.nic.in). The patent office will however not guide you regarding which attorney to hire nor will it provide details about attorney fees. You must contact different attorneys and find out which one suits you. Make a wise decision when selecting an attorney- don't hesitate to ask how many applications he has filed, success rate etc. Ask him about few of his previous clients and check up whether they are satisfied with his services.

Also, ALWAYS ask about charges and get list of charges in writing. Be clear whether charges indicated include the Govt./official fee or not. Clarity of money involved can help you in proper planning of your budget and ensure you are able to make prompt and timely payments to your attorney for services rendered.

7. What is the cost of filing a patent application and other related expenses?

The cost will depend upon whether you are filing the application as an individual or as an organization. To encourage individual inventors, the fee for individuals is much lower. As on today, the official fee for filing a patent applicaton is Rs.1000/- (for individuals) and Rs.4000/- (for corporates/organizations). Under the amended patent rules, 2003, request for examination on Form 18 has to be filed for the application to be examined. Fee for examination is Rs.2500/- for individuals and Rs.10,000/- for corporates. Thus, as an individual your initial filing expenses on account of fee will be Rs.1000/- and Rs.2500/- for examination i.e. total Rs.3500/- only.

Attorney Fee for filing generally ranges from Rs.15000/- to Rs.50,000/-. However, there are other charges also involved subsequently e.g. for replying to examiners objections and filing reply, seeking extension of time etc. and these range from Rs.10,000/- to Rs.20,000/- per action.

This is not all. Even after you are granted a patent, you have to pay a maintenance fee at regular intervals or your patent will lapse. For first five years fee is Rs.500/- per year and Rs. 2000/- per year for individual and corporate respectively, For next five years Rs.1500/- and Rs.6000/- per year (till 10th year), for next five years Rs.3000/- and Rs.12,000/- and for last five years Rs.5000/- and 20,000/- respectively. Thus, the cost of filing a patent application may not be much, but getting a patent and maintaining it may turn out to be quite expensive. Usually, it is a good idea as an individual to protect your invention by filing a patent and immediately make efforts to find a buyer. In that case, remaining expenses can be borne by the buyer.

8. Do I have to deposit the patent application personally at the patent office or can I send it by post ?

No, you don't have to deposit the patent application in person. You can send it by registered/speed-post. The prescribed fee can be sent in form of Bank Draft, payable to the Controller of Patents of the respective office where you are sending the application.

9. What happens after I have deposited the patent application?

You are issued a receipt by the patent office, bearing a patent application no. and indicating date of filing. This receipt is important and must be preserved carefully by you. It is a legal proof of your rights over the invention for which you have filed patent. The patent application number is also important- you must quote it in all future correspondence with the patent office regarding your patent and mention it in your publication in case you publish your work after filing the patent.

10. I have an idea which I want to protect- can I do it?

Yes, by filing a provisional patent application. Format is the same as for the complete patent application, only detailed description and claims are omitted and your idea and the preliminary work done is described. Fee for filing a provisional application and complete application is the same. However, when complete application is filed after filing provisional, no official fee is charged by the govt. However, attorneys usually charge some fee (varying from Rs.10,000/- to Rs.20,000/-) for filing a complete application after provisional. Usually the benefit of filing a provisional application is during M.Sc./Ph.D work where some interesting findings may be there, but sufficient data is not available. Filing a provisional application protects your work, while giving you time to generate data. Final application must be filed within one year.

11. How long does it take to get a patent ?

The grant of a patent is not a single step but involves a number of steps as given below:

- Filing of an application for a patent, accompanied by either provisional or complete specification.
- Filing a complete specification, if only provisional had been filed.
- Examination of application (2-3 months after filing)
- Overcoming examiners objections if any (4 months granted to inventor to reply).
- Acceptance of application and advertisement of such acceptance in official gazette (4 month period)
- Overcoming opposition to grant of patent if any (4 months)

Thus, on an optimistic note a patent may be granted within one year after examination starts.

12. For how long is a patent valid ?

Twenty years, provided you pay the maintenance fee regularly every year. Otherwise it will lapse.

13. Can I file a 'world patent'?

There is no such thing as a world patent. However, if you do file a patent abroad, it will be called an international patent. If you want to protect your invention in a number of countries you can file a patent under the 'Patent Co-operation Treaty'. Under PCT you can file a single application for patents in a number of countries. The grant of patent will be done individually by each country, but you will save time and money since a single filing will be valid in several countries. At present there are 123 countries which are covered under PCT .

14. Which websites provide information related to patents in India?

Indian Patent Office	-	www.patentoffice.nic.in
Patent Facilitiating Cell, TIFAC	-	http://www.pfc.org
General Information on IPRs	-	www.patentmatics.org

Myths and misconceptions

1. We are doing only basic research. Patents are not important for us.

Wrong. Patents help researchers to identify the applied aspects of basic research, especially industrial applications. Improvements in machinery, processes or even in products, are all significant and PATENTABLE provided they meet criteria of the 'trishul test' i.e. novelty, inventive step and industrial application.

2. Patents cost a lot of money.

The cost depends upon whether you are filing the application as an individual

or as an organization. To encourage individual inventors, the fee for individuals is much lower. As on today, the official fee for filing a patent application is Rs.1000/- (for individuals) and Rs. 4000/- (for corporates/organizations) in India.

Attorney Fee for handling patent application ranges from Rs.15,000-25,000/-. Even after patent is granted, some fee is payable every year to keep it 'alive' or patent dies. Fee is lower in initial years and increases in later years. Most institutes provide support to researchers to file their own patents. PFC of TIFAC, New Delhi provides 'free patent filing' services to institutes, but suffers from the limitation of being 'cumbersome' and 'slow' when compared to private filings or filings by in-house IPR cells of institutes.

3. **We do research on developing new processes for the industry and subscribe to the best and most expensive journals. Patents have no meaning for us.**

   Wrong and dangerous. A new process developed by an industry will not be published in a journal but will be published in a patent database. If you search journals, you will end up 'duplicating work' and once you license it out to industry, industry will get an infringement notice, since they will be violating rights of person who has a patent. Hence, you as a researcher and your institute can get into serious trouble.

4. **We were trying to develop a pharma formulation, already patented in USA. Recently under modified patent act, product patents have come into force in India. Can we be forced to stop working on such products?**

   No. Remember that patents are never granted retrospectively. They are granted for new innovations and inventions.

5. **On a visit overseas, we came across a very good technology. However, we cannot do any further research work on it since it is already patented.**

   Wrong. Patents are valid only in the country in which they are filed. If you came across a good technology patented in Malaysia, check whether patent is filed in India also. If not, you can copy the same without any fear and also do any research work related to it.. However, if patent is also filed in India, then also all is not lost. You can still carry out research and try to improve it and there is nothing to prevent you from doing it.

6. **We were developing a very good product for rapid treatment of malaria and other tropical diseases. Recently somebody told us that a firm in USA has already obtained 'world patent' on such a product. What shall we do?**

   Firstly, WORLD PATENT does not exist. There is no such thing as world patent. Patents are granted individually, country by country. The costs involved are so high that generally patents are filed only in few countries. In remaining countries where

patents are not filed, the technology can be copied freely.

Secondly, most likely the firm has filed international patents. Check out from patent office or from Journal of Patents whether patent has been filed in India or not. If not, nothing to worry. If yes, check out the details-whether your process is really same? If not, nothing to worry. If yes, check out date when filed. If you can prove that the knowledge disclosed in the patent was already in public knowledge, you can get the patent revoked or cancelled.

7. **We are just a small unit manufacturing routine FORMULATIONS- TABLETS, CAPSULES, SYRUPS ETC. We do not do any research nor follow any policy for new products. Can PATENTS help us in increasing our business profits?**

   Yes. PATENTS are powerful tools, which can greatly benefit business/SSIs PROFITS provided you understand and exploit their potential. There are many ways in which PATENTS can enhance business profits.

   - By giving access to latest improvements/technologies not only for new but existing processes, through patent databases.
   - By helping industry quickly identify relevant national or global partners whether in industry or academic institutes. PATENTS thus act as a bridge between knowledge creators (scientists/researchers) and knowledge users (SSIs/industry/manufacturers).
   - By generating revenue through licensing out of SSIs own patents, if any
   - By saving money on R&D and giving direct access to the latest
   - By helping industry to know the 'global movement' of technology in an accurate and precise manner

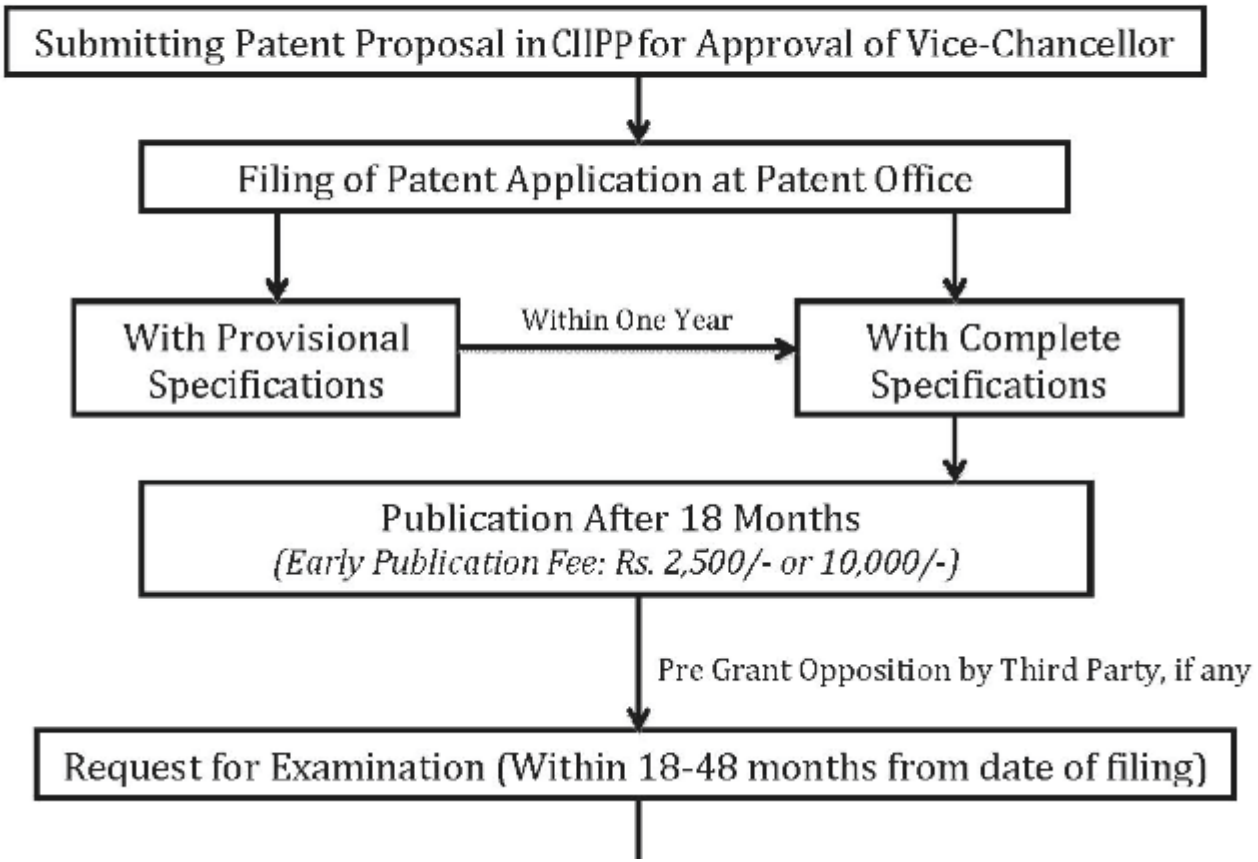
8. **We do not have very good R&D infrastructure. Can we still innovate?**

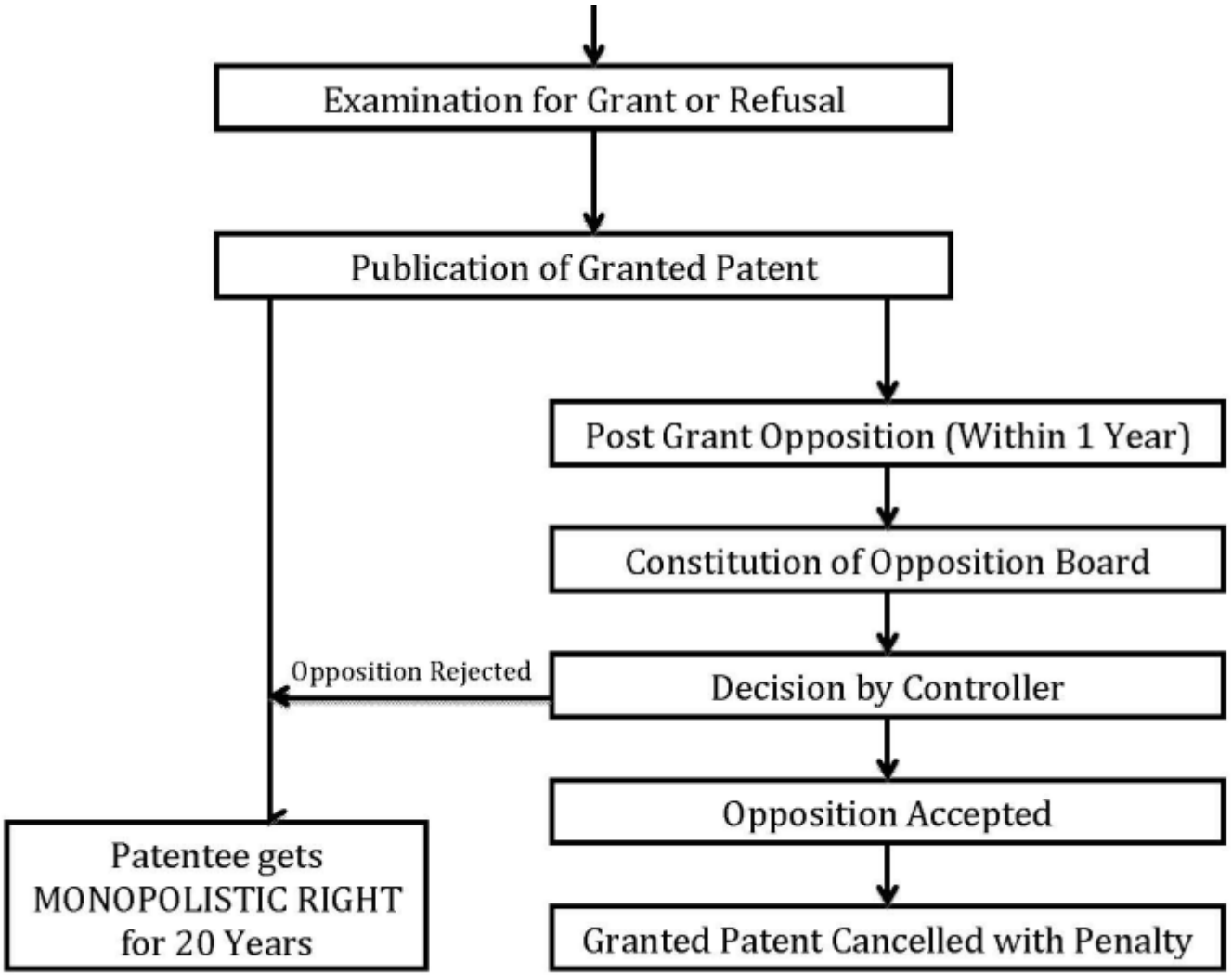
   Yes, innovative ideas do not depend upon infrastructure alone. PATENTS can help you to enjoy the benefits of your creativity by creating ownership! They act as a bridge between "Knowledge Creators" (academic institutes, universities, research institutes) and "Knowledge Seekers" (Industry, SSIs) and help promote Academia-Industry partnerships which hold the key to innovation and technology development.

Conclusion:

Remember, patents are meant for the benefit of society. While rewarding the inventor by granting him exclusive rights, they also lead to progress and innovation since latest technology and advancements get disseminated and are used freely by others, wherever patents do not exist. Also, licensing out of inventions by individuals and institutes helps manufacturers to enjoy the benefits of research and enables production of better products and cheaper products. In this context, integration of PATENTS into R&D can be a powerful tool in catalyzing practical application of research.

PATENT GRANT PROCEDURE THROUGH CIIPP




Examination for Grant or Refusal
Publication of Granted Patent
Post Grant Opposition (Within 1 Year)
Constitution of Opposition Board
Opposition Rejected
Decision by Controller
Opposition Accepted
Granted Patent Cancelled with Penalty
Patentee gets
MONOPOLISTIC RIGHT
for 20 Years

3

How to file a patent abroad?

A critical aspect of patents which every researcher must understand is that 'patents are valid only in the country where they are filed and nowhere else.' Hence, a patent filed in the USA is valid only in USA but not in Europe. It can be freely copied in Europe without the need for any permission. If a researcher feels that his invention is good, has lots of commercial value then he has to go in for international patenting. Thus, it is very important for a researcher to understand the fundamentals of International Patenting.

1. **Why should I go in for an international patent?**

   This is because a national patent is valid only in the country where it is filed. If your invention is good, has significant commercial value worldwide, then restricting your rights to only one country (national) does not make good commercial sense. You must file an international patent or make use of the Patent Co-operating Treaty to secure patent rights in multiple countries.

2. **In how many countries should I file an international patent?**

   It depends upon several factors e.g. your budget, value of your invention, likely market of your invention and location of potential buyers. However, the single most important factor which decides whether you should file an international patent or not, depends upon where the likely buyers for the patent are located. If buyers for your patent are mainly in USA, you may wish to file patent only in the USA. However, if your invention has application in a particular country e.g. a drug for malaria, which is for a disease prevalent mainly in the Asian Region, you may wish to file in Asian countries rather than USA and Europe, where you may not find buyers for your patent. So, ultimately, it is the potential market for your patent which decides in which countries you should file.

3. What is PCT?

PCT stands for Patent Co-operation Treaty. Initiated in the year 1970, it is an agreement signed by more than a hundred countries, to facilitate the filing of international patents by inventors. It is administered by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations having headquarters at Geneva, Switzerland. PCT implements the concept of a single international application, valid in member countries of PCT. The number of countries signatory to PCT now stands at 133. Apart from simplification of the patent filing procedure, another aim of PCT is to promote easy exchange of technical information between different countries, by providing a common platform for publication of patent applications from different countries. Details about PCT are available at *http://www.wipo.int/pct/en/*

4. What are the advantages of PCT filing of a patent application?

PCT filing offers several practical advantages:

- **You can designate nearly 140 countries under PCT:** Practically, this means your rights exist in nearly 140 countries for the period allowed under PCT i.e. 30 months or 2.5 years.
- **Entry into national phases gets delayed by 2.5 years:** Once you file a patent in India and then wish to file a patent abroad, you MUST do it within twelve months to claim benefit of priority. However, if you file under PCT, this process of entering 'a country abroad' gets delayed by 1.5 years i.e. instead of filing abroad within 12 months, you can now file within 30 months. This gives you extra time in which you can look for a buyer for your patent and also enables your invention to be protected temporarily in nearly 140 countries.
- **Benefit of getting search report and professional opinion on patentability:** Normally, when you file a patent, it first gets published and is then examined and search carried out to determine patentability by the patent office. However, when you file under PCT, you get a 'bonus' in terms of getting the search report and opinion on patentability at 16 months i.e. 2 months before publication. Depending upon how strong the report is, you can confidently take a decision whether to proceed further or not and thus avoid unnecessary expense in case report is negative.

5. Will patent granted by PCT be called a PCT patent?

PCT is not a 'patent granting' process. It is merely a common filing procedure agreed upon by more than a hundred countries, to avoid duplication of work and also to help inventors. PCT does not grant any patents. There is no such thing as a PCT patent. Under the PCT system, instead of filing multiple applications, an applicant can file a single application, which protects his rights TEMPORARILY in all the designated countries, till the time he enters the national phase of the countries.

6. What is the procedure an applicant will go through, if he files a PCT application?

- A researcher or an applicant can file a PCT application only if his country is a member of the PCT.
- Firstly, he would have to file an application with the receiving office, usually the patent office in his home country.
- Then his application would pass through two distinct phases- international phase and national phase.
- The international phase includes four steps: Filing, International Search (to determine novelty), international publication and international preliminary examination. While the first three steps automatically take place once applicant has paid the fee, the fourth step ie. international preliminary examination is optional and will occur only if the applicant specifically asks for it and pays the required fee. It is relevant to mention here that the search report is sufficiently detailed and gives an applicant a fairly good idea about the patentability of his invention and his chances of being awarded a patent successfully.
- Thus, we can say that during the international phase, a PCT application will go through 3 distinct steps-
  - Filing
  - Search
  - Publication

  If after the international phase, an applicant wishes to proceed ONLY THEN will the NATIONAL PHASE of the PCT application be there. The decision regarding which countries an inventor wants to file his patent after PCT, must be taken within 30 months of priority date i.e. the date when the application was first filed by inventor (for some countries, this period is 21 months). If this 30 month period expires, inventor cannot enter into national phase of any of the designated countries and all his efforts and expenses at patenting will go waste.

7. When can I avoid filing through PCT?

When you feel that you want to file in just one or two countries and not multiple countries. In fact, once a patent is filed by you, in your respective country, next step is to move internationally, if you think it has commercial value. For moving internationally, you can use two approaches:

1. File individually in the countries you are interested
2. File through PCT

If you want to target just the USA and Europe (which most inventors do!), then DO NOT proceed through the PCT. Just proceed directly and save the money you would spend on PCT filing. However, if you feel your invention and business interests have worldwide importance, then choose PCT.

8. What are the factors to be taken into consideration, when going in for National Phase Filings after PCT?

1. Whether the countries where you wish to seek patent protection, have any commercial importance for your invention?
2. How much will be the budget? Can you afford it?
3. Which regional offices you want to use, for entry into national phase?
4. Which attorneys you want to choose, to represent you?

After PCT, the most convenient and easy route for entry into the national phase can be by using the REGIONAL OFFICES ROUTE. The following regional offices exist:

i. European Patent Office (Munich, Germany)- www.european-patent-office.org

ii. Eurasian Patent Office (Moscow, Russia)- www.eapo.org

iii. African Regional Industrial Property Organization (ARIPO, Harare, Zimbabwe) -www.aripo.org

iv. African Intellectual Property Organization (OAPI, Yaounde, Cameroon)- www.oapi.wipo.net

However, whenever you wish to go for filing internationally, you will need to hire the services of a patent attorney. It is a good idea to search the net, find out various patent attorney firms and invite quotations from them, before finalizing a firm.

9. Is there any possibility of a World Patent?

Firstly, as on today there is no such thing as a 'WORLD PATENT'. It simply does not exist. Each country grants patents individually and protection coverage too is restricted to national level. However, the concept does have advantages:

(a) Rapid- drastic reduction in time, as duplication of efforts involved in granting patents would be avoided (Example- Personal case. US patent granted after 4 years of 'discussion'. Now Indian Patent Office after 6 years has taken up the case and is proceeding fresh. Refuses to recognize the patent granted by US and examiner raising fresh objections. Inventor has already spent money getting US patent. Now again he has to spend time and money to get patent in India for the same invention!)

(b) Cost-effective- Dramatically reduced costs on account of filing and maintenance

(c) Helps avoid duplication of efforts

This would greatly benefit small inventors and business entities which find it difficult to bear the prohibitive costs of international patenting, in different countries. Also, setting up of a world patent system has huge implications. It would replace the current situation where each country has its own laws, own patent office and own courts. It would end the flexibility available under TRIPS as the rules would be applicable globally. Hence, there are genuine concerns that interests of developing countries might be compromised.

4

How to license out your patent?

A patent granted but not licensed out is a waste of precious time and effort! Hence, it is very important for researchers and scientists to be familiar with the practical aspects of licensing a patent. Though it seems difficult, once the 'process' is understood, licensing can be easy!

Patents- Some Basic Facts

- Granted only for products or processes- no third category
- In India, certain categories e.g. inventions relating to atomic energy excluded
- Valid only in the countries where they are filed- can be freely used elsewhere without need for any permission
- There is no such thing as a 'world patent"
- Of fixed duration- lapse alter 20 years
- Require fee for keeping "alive"- expire if fee is not paid every year
- Can be challenged in court and got cancelled if granted wrongly

Frequently Asked Questions (FAQ_s)

1. **I have filed a patent. Why should I make efforts to license it out ?**

   To prevent wastage of money: Filing and maintaining patents costs a lot of money. If you don't try to commercialize the patent, that money is being wasted.

   To generate money: Patents have value only if they are commercialized. A patent filed but not commercialized is useless. Remember, patents are filed only for inventions which have commercial value.

   To get recognition and honor: Commercialization of patents leads to considerable honor and recognition for the researchers.

To justify the tax payers money: There are ethical reasons also. Patents are usually based on research work funded by hard-earned tax payers money. If they are not commercialized, all the time and money spent on the work and also filing patents, goes waste.

2. How can I license out my patent?

Licensing of a patent is quite different from filing a patent. The skills required are altogether different. However, once you understand the process, it can be quite easy. There are two ways in which you can proceed for commercialization of your patent:

1. By making efforts as an individual
2. By taking the help of some "professional' organizations also known as 'invention promotion' organizations.

3. How can I as an individual make efforts to license out my patent?

When we talk about 'licensing out ' a patent, what we mean is that we are trying to 'sell' it, locate a buyer for it. You can proceed as follows:

- **Biodata:** Prepare a "Technology Offer' (biodata of your invention- What? Why? How?), highlighting the main features of the invention and the benefits it offers. Sample Biodata of a patent is given at end of this chapter.
- **Pricing:** Decide on what maximum and minimum price you want to sell for and include it in the offer. If you are unable to decide just write 'price negotiable'.
- **Client List:** Make a list of people who can be benefit from your technology/patent
- **Contacting:** Mail your tech offer to them- either through post or email. You can also host your tech offer in detail on the internet. Including photographs of prototypes etc. can greatly facilitate 'marketing' of your patent. If the buyers are not very far, fix up a personal appointment and try to meet them personally. Personal meetings and discussions can really speed up negotiations.

4. How can I locate the buyers for my patent?

It is like asking where can I catch fish? Obviously, in the water. Similarly, your buyers will be where the relevant industry is concentrated. If you as an engineer have invented a device pertaining to electronic switchgears, just find out who are the major manufacturers of similar products, where are they concentrated. How to find this out?

- You can note down the addresses from the packaging of the existing products
- You can do a 'google' search on the internet, using relevant keywords.

- Don't rely on google alone. Try other search engines also e.g. altavista.
- Consult product catalogs
- Gather addresses from "yellow pages"
- Seek advice of professionals working in the area
- Search patent databases. They contain addresses of inventors and companies working in the relevant area in which your patent lies. They can be good buyers for your patent.

5. I have located the addresses of potential buyers for my invention. How to proceed now?

Contact them. Email, phone and personal visits and interactions are essential steps in taking your innovation forward for licensing. A key aspect of successful licensing is 'pricing'. Some common mistakes can be avoided by 'common sense'.

Common reasons for "inventions not sold" are:

- **Pricing not clear:** Buyer tries to get minimum price and you maximum. In the process, sometimes rigidity creeps in and both turn away. Invention remains where it is - printed on paper. One way out is to remember there are not one but several ways you can satisfy mutual interests:
  - Reducing downpayment, but increasing royalty e.g. downpayment of Rs. 5 lacs and 5% royalty ,
  - Alternatively, downpayment of Rs.2.5 lacs and royalty of 10%.
  - If buyer is still hesitant, waive off downpayment, retaining only royalty at 10% but reducing time period of license e.g. for 3 years only.
  - Insert time clause e.g. ...agreement is valid only for 3 years or 4 years or 5 years
  - Insert exclusivity clause e.g. ..... Rs. 20 lacs for exclusive rights for entire duration of patent or Rs.10 lac for exclusive rights for 10 years. Rs.5 lac for exclusive rights for 5 years and so on.
- Alternatively, you can reduce price and offer invention on non-exclusive basis also. You can thus reserve the right to sell to multiple buyers, if you are unable to get a good price from one buyer.
- **Overassessment:** Most inventors think that buyer will be able to make a profit immediately after buying an invention and overassess the value of their invention. This is not correct. Patented inventions usually need lot of investments, risks and efforts to convert them into commercially saleable products. Hence, inventor should not adopt a very rigid stand and instead be open to negotiations. After location of buyers, getting an idea on the pricing is very important. The more buyers you can locate, greater are the chances of success and also you getting a good price.

6. **I contacted so many buyers for selling my patent. Indian buyers don't respond but from abroad I got a few queries. What should I do?**

   Don't get discouraged if local firms don't respond. Usually, if your product is such that it is not being made in India, then risk in manufacturing in India is more and buyers may be reluctant. They may feel it is safer to just import a 'ready-to-sell' product from abroad, rather than risk money in a new invention. If a foreign firm responds, try to settle for a 'down payment'- it may turn out to be practically very difficult for you to get royalty from abroad.

7. **A foreign buyer from USA wants to know all details about my invention. I have filed patent in India only and not in USA. What should I do?**

   Firstly, don't panic. Even though you have not filed in USA, still you can disclose your invention to buyer by signing an NDA or 'non-disclosure-agreement'. An NDA is a legally binding agreement between buyer and seller in which it is mutually agreed that the disclosure is being made for evaluation purposes only and buyer will not commercialize the invention. NDAs usually come in standard formats and you can ask the buyer to make one. Check with a lawyer/chartered accountant/company secretary before signing.

   Secondly, it is true that if you have not filed a patent in the USA than you don't have legal rights over your invention, in USA. But neither does the buyer! In fact if you have filed a patent for your invention in India, nobody else in the world can get a patent on the same invention! Chances are that if a buyer in USA is interested in your patent, he will also try to get you to file a patent in the USA, so that monopoly rights can be enjoyed by him.

8. **An Indian company wants to buy my patent. They talked about 'exclusive' rights. What does that mean?**

   It means that you will not sell to anyone else. Sometimes, this clause is misused- a company may buy your very good invention on exclusive basis and then deliberately not commercialize it, to prevent market of an existing product from being spoiled. You just get the down payment but no royalty. To avoid this, always insert a time clause in case of exclusivity' under which you indicate that if the company does not commercialize the invention in a reasonable period e.g. three years, you reserve the right to cancel the license and sell to another person.

9. **I have sold my invention. Who will bear the 'every year expenses' for maintaining the patent?**

   Usually the buyer, because it is his commercial interests which are being protected. Make sure it is clearly mentioned in the agreement itself, which you signed when patent was sold.

10. Can I sell my patent to more than one buyer?

Yes. In that case, the agreements which you sign will be on a non-exclusive basis.

11. I feel my invention is too big for me to handle- I would like to seek the help of some professional organizations Which are the ones in India?

1. Waterfalls Institute of Technology Transfer, New Delhi

   www.witts.org

2. Lemelson Recognition and Mentoring Program (L-RAMP), Chennai: L-Ramp is a non-profit, voluntary organization. It is a joint initiative of IIT, Madras and the Rural Innovations Network. It is supported by the Lemelson Foundation, a private philanthropy established by a US Inventor, Jerome Lemelson and his family.

   www.lramp.org

3. Asia Pacific Centre for Transfer of Technology (APCTT), New Delhi

   www.apctt.org

4. National Innovation Foundation, Ahmedabad

   www.nifindia.org

5. Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Ahmedabad

   www.sristi.org

6. National Research and Development Corporation (NRDC), New Delhi

   www.nrdcindia.com

7. Foundation for Innovation and Technology Transfer (FITT), New Delhi

   www.fitt-iitd.org

8. Grassroots Innovations Augmentation Network (GIAN), Ahmedabad

   www.gian.org

Apart from the above organizations, there are private players and also some patent attorney firms which help inventors in licensing of their patents. These are:

a. Sanshadow Consultants Pvt Ltd (SSCPL), New Delhi : Working in the area since 2004, it is a group of professionally qualified female professionals who facilitate patent licensing.

   http://www.sanshadow.com

b. Excellion Innovations and Inventions Pvt. Ltd. Chandigarh: A translational research organization, EXII is engaged in licensing and development of grass-root innovations.

   www.wonderlyzer.com

Apart from the above organizations, one can always locate suitable service provider by searching on the internet.

5

Translating Patents to Products - Case Stories

Patents are the triggers which catalyze the conversion of ideas to products. The stories given below illustrate the power of patents in helping your ideas to reach the end users. These are real life case studies based on the practical experience of the author, Dr.Parikshit Bansal, in which patents contributed immensely to technology breakthrough products coming to the market.

Case Story 1:

"Small Wonder-Lyzer"- Laboratory Dialysis Device (www.wonderlyzer.com)

The device was invented by me in the year 1997 as an independent grassroots innovator. Over a 15 year period (1997-2011), I fully translated it from an idea to product. What makes the innovation incredible is the fact that nearly 150 years after the technique of dialysis was born in the year 1866, the innovative device marks a technology breakthrough worldwide in its area of application. It offers a host of features not offered by any of the existing commercially available devices and is the first innovative device in the area of laboratory dialysis from a developing country like India. All other prior innovations in the area have either been from USA or Europe.

Patenting: The journey of the innovation started in 1997 when idea for the device was conceived and the patenting process was initiated. I got support for patenting from the National Research and Development Corporation (NRDC), New Delhi and also from the Technology Information and Forecasting Council (TIFAC), New Delhi under the TePP program.

Development: Thereafter, support for development of the device continued from the Department of Scientific and Industrial Research (DSIR) under the TePP program, for various phases. Luckily, each phase was successful! During the 15 year developmental cycle, the product went through successful grant of various national and international patents (Indian Patent No. 199711; US patent no. 6,368,509) and also underwent

several radical improvements which resulted in new patents being filed (US Pat appl. No. 12/529125, publication no. 2010/0078383 dated April 1, 2010; European Patent appl. No. 2008710284 published 11.11.2009; PCT application no. WO 2009/110006 dated 11 September, 2009).

Each stage of the innovation cycle was funded under TePP program and the stages involved were **patenting** (Project No. TePP/568/01(1997-2002); **Prototyping** (TePP/727/02 (2003-2004); **Field Trials** (TePP/902/05 (2005-2007); and lastly **licensing, commercial refinement and test marketing** (DSIR/TePP/187/2007/114 (2007-2011).

The project was successfully completed in December, 2011 and marks a technology breakthrough outcome worldwide. The entire technological advancements in the area of laboratory dialysis have been recently reviewed by me and published in Recent Patents in Biotechnology, 2012 Bentham Publishers, USA.

Lessons learnt: *During the developmental cycle, all the barriers regarding my area of specialization got broken- I moved into the area of precision engineering, went deep into materials and plastics science, dealt with printing and moulding technologies, met packaging experts, industrial designers, legal experts, strategic business planners, marketing experts, company owners, distributors, small time vendors, venture capitalists, funding agencies etc.- each contributing a link in the chain of innovation development. It made me understand that in the full circle of development from idea to products, every bit is important, even though it may not be related to your area of expertise. You have to master it and understand it so that your idea or invention does not suffer and die along the way.*

Case Story 2:

Synron- Scientifically developed and clinical proven herbal formulation for asthma (2005-2010)

THE BEGINNING: The journey of this innovation started in 2005 at NIPER when I got a call from a traditional medicine practitioner Mrs. Raj Katyal based in Jallandhar, Panjab- an old lady of about 60-65 years. A neighbor of hers had listened to my lecture on 'protecting' ideas by filing patents and asked her to seek my help. She was facing a dilemma- what to do with a formula for asthma handed to her over generations. If she disclosed it to anyone outside the family, she would get cheated. The formula which her forefathers had developed after a lot of hard work and patience would get neither money nor recognition. However, if she kept it hidden and it died with her, it would be a loss to society. What to do? I caller her over, talked to her. Told her she could get ownership over her formula by filing a patent for it. She was very reluctant but after a lot of counseling and assurances by me, disclosed the formula late in the evening. It was the first time in more than 200 years that the formula got documented.

PATENTING-I carried out a search of worldwide literature including international patent databases and was pleasantly surprised to find that the innovation was patentable. Also,

it was remarkable in its simplicity- similar herbal formulations from the USA and Israel were complex- comprising more than 20 herbs, some quite rare. On the other hand, the formula for asthma disclosed by Mrs.Raj Katyal was very simple comprising only 5 herbs- all of which were easily available commercially and well-documented. The formulation was in dry powder form, to be taken with Honey. The dosage and duration was known. I duly filed patent for the formula, thus creating ownership of Mrs.Raj over the formula. She was assured that she would enjoy rights over the formula and could sell the invention. Also, since the formula had been disclosed in the patent, even if she died, the formula would still benefit society. After filing the patent, I thought my job was over. I got a call from Mrs. Katyal again. She felt that the patent was of no use to her- I was educated, working in a big institute. Could I not help her to take the innovation forward, generate scientific data to prove that it was a very useful medicine for asthma? I talked to my Director, who expressed his helplessness to conduct detailed studies in the absence of any funding. I talked to my friends and colleagues, but everyone had their own approved projects and thrust areas. However, detailed studies regarding efficacy of the medicine could be carried out if independent funding could be arranged.

DEVELOPMENT FUNDING- I realized that if the innovation was to be accepted by the modern world and help patients of asthma, it needed strong scientific evidence. The first step was to ensure that there was no batch to batch variation. An analytical method had to be developed. Also, taking powdered mixture with honey was cumbersome- an improved ready-to-take oral formulation needed to be developed. Further, there were safety concerns regarding one of the ingredients listed in the formulation - Acorus calamus. It was banned in the west, owing to concerns regarding possible carcinogenic effects. Safety studies had to be carried out. Moreover, there had to be supporting data regarding 'mechanism of action'. Lastly, clinical trials had to be carried out to prove that the medicine worked. I identified the labs, the workers who would carry out experiments, the time and budget. Based on the estimates I got, I applied for funding to a unique program of the Department of Science and Technology, Govt. of India. The program is called TePP and funds innovative ideas of Indian Citizens. No formal educational qualification is needed. Luckily, Mrs.Raj got support under the TePP program and the work started.

THE JOURNEY- Once funding was received, things moved at a fast pace. Over a period of nearly 3 years, I mentored the innovator and co-ordinated a team of more than **10 laboratories/ scientists all over the country-**

- Dr. Parikshit Bansal, IPR Cell, NIPER, Mohali filed the patent for the innovation
- Dr. I.P. Singh, Natural Products Laboratory, NIPER, Mohali developed the analytical method
- Dr. Arvind Bansal, Formulations Lab, NIPER, Mohali developed the formulation
- Dr. Neena Bedi, Microbiology Lab, GNDU Amritsar and Dr. S. Boyapati, Pharmacology Lab, Vaagdevi College of Pharmacy, Warangal worked out the mechanism of action

- Dr. B.P. Srinivasan, Pharmacology Department, Delhi Institute of Pharmaceutical Sciences and Research (DIPSAR), conducted very detailed and thorough studies on the anti-asthmatic properties of the innovation. It was found that the innovative formulation had excellent anti-asthmatic properties and its efficacy was at par with the internationally known drug Pranlukast.
- Dr. Monica Gulati, Pharmaceutical Sciences Department, LPU, Jallandhar conducted safety studies as per OECD guidelines on the formulation and generated scientific data proving that the innovative formulation was safe.
- Dr. Lata Kumar and Dr. Meenu Singh from the Pediatrics Deptt. Of PGIMER, Chandigarh conducted clinical evaluation of the medicine and found it to be quite efficacious in asthma treatment.
- Dr. Shaleen Singh and Dr. Inderjit Kaur of Shaleen Pharmaceuticals, Panchkula carried out scale-up studies and successfully manufactured the medicine in their pharmacy for clinical evaluation.
- Mr. Satyakam Rahul, an ex-student of NIPER set up a start-up company, Synkrom Healthcare Pvt. Ltd. To complete the innovation cycle and ensure that the medicine reached the bedside of the patients.

Once safety of the medicine was proven and adequate scientific data and clinical data generated, I facilitated licensing out of the innovation to a company by the innovator on royalty sharing basis. I thus created a value cycle- for innovator who benefited from her knowledge and got recognition and money; for company which got an innovative product and finally society which benefitted in terms of a very cost-effective and innovative medicine for asthma. Presently, the formulation is being successfully marketed in Northern India and has benefitted more than 50,000 patients.

Lessons learnt: *Our traditional knowledge has immense potential. We have excellent scientific manpower and infrastructure in place. Linking the two can benefit society tremendously in terms of new and innovative medicines and that too at a very affordable cost. The entire project of Mrs. Raj which generated internationally acceptable data and a technology breakthrough product for asthma i.e. SYNRON, had a budget of less than Rs.10 lacs and was successfully executed within this budget. It makes sense to pay and use the best facilities already existing within the country than to go in for creation of new facilities as it takes too much time and resources.*

Case Story 3:

AMPUCARE- Scientifically developed and clinically proven herbal formulation for NON-HEALING DIABETIC AND GENERAL WOUNDS (2008)

In 2008, while attending a conference of TePP innovators at New Delhi, I met a **Grassroots Innovator, Mr.Manish Saxena**. He had invented an innovative herbal oil for curing diabetic wounds and development studies were funded under TePP program. He had completed clinical trials of the product and found it to be quite efficacious in treatment of non-healing ulcers and diabetic wounds. The trials had been conducted at AIIMS, New Delhi and I found the results quite remarkable. However, the innovation was

not commercially available and the inventor had failed to get any company to take up his innovation. He had talked to some of the top companies in India but none showed interest due to one reason or the other, including the fact that the formulation was herbal. Despite being a breakthrough innovation and having all the backing in terms of scientific data and clinical data of a reputed institute like AIIMS, New Delhi, the innovation was still not reaching bedside of the patients. I requested Mr.Manish to give me a copy of his presentation which he did. Using my own network of contacts and well-wishers, I tried my best to get someone interested in the innovation, but failed completely.

Industry Linkage- I was giving consultancy under the institutional advisory consultancy program, to one company M/s Venus Remedies Ltd.- a company into manufacturing and marketing of injectable antibiotics and oncology formulations. I talked to them about the innovation but they refused as it did not fall in their product portfolio. The logo of the company is 'enjoy innovations'. In frustration, I told the MD of the company that he had written 'enjoy innovations' on his company logo just for the sake of it but was not actually 'enjoying' it since he was not open to innovations. This annoyed him and he told me that I was mistaken and he would evaluate the innovation of Mr.Manish. He saw the presentation, got samples, evaluated them and eventually told me that he was interested to in-license the innovation. I facilitated the same, working out mutually acceptable terms and conditions and getting the necessary paperwork done through professionals.

Development- Within a record time of less than 4 months, I successfully tied up the innovator with a pharmaceutical manufacturer. However, some more work remained before the innovation reached the bedside of patients. I facilitated tie-up of Innovator Company (in-licensee) with a manufacturer of herbal medicines, development of analytical method, scale-up studies, development of marketing literature and packaging. Finally, I was invited to product launch alongwith the inventor.

Successful commercialization- It was very satisfying to see the innovation coming out in a smart, marketable product format, with nicely printed product literature. The product was launched by the company all over India in 2008 and within two years won the MARTIN-LOCKHEED AWARD OF USA for the best innovation from the country, in its category. It has benefitted several thousand patients in India and abroad (>5,00,000) and is currently being exported to several African countries for treatment of wounds, especially war wounds.

http://www.expresspharmaonline.com/20100715/market09.shtml

Company Watch

Lockheed Martin Foundation & Texas University to assist Venus Remedies to market Ampucare in US, 1-15 July, 2010

Our News Bureau - *Mumbai*

US-based Lockheed Martin Foundation and the University of Texas will assist Indian drug maker Venus Remedies to commercialise its advanced wound care product Ampucare in the US market. The assistance will be provided to Venus for having won the best innovation award under the India Innovation Growth Programme 2010 organised by FICCI, Department of Science and Technology Government of India, Lockheed Martin Corporation, IC2 Institute at the University of Texas and Indo-US Science and Technology Forum.

Venus Remedies was selected among a list of 394 applicants that comprised of varied sectors including aeronautics, medical/life sciences, agriculture, biotechnology, chemistry, communications, computing defence, among others **Ampucare is a synergistic concentrate of aqueous and extracts of poly herbal ingredients and has been used in over 500,000 cases with near 100 percent effectiveness in treating non healing wounds from a variety of sources including; diabetic ulcers, amputee candidates (gangrene related), bedsores of varying levels and massive burn issues.**

"In US, the industry is always on the look out for a solution for non healing wounds for illnesses like amputation due to diabetic foot ulcers (DFU) and severe burn injuries. Many governmental agencies are now investing directly into wound technologies including US military. Ampucare has potential to prevent amputation in diabetic foot ulcer patients. The award to us is a testimony to the fact that our technology holds a good promise. Venus is searching for a suitable partner and this forum is assisting Venus in finding partner and entering into US market," said Dr Manu Chaudhary.

Venus is already marketing this product in the name of Ampucare and Septilock in India and some African and CIS countries. In the US, the wound care market accounts for $2.6 Billion in annual spending. Globally, the wound care market is an estimated $11 billion dollar market of which 56 percent is devoted to advanced wound care technology. Market growth typically follows worldwide population growth patterns and is currently estimated to grow by 12 percent per year. Some of the industry leaders in US wound care market include 3M, Johnson & Johnson, and Smith and Nephew.

There is an estimated 1.7 million people in US living with an amputation and approximately 135,000 new amputations yearly. More than 40,000 leg amputations have been reported per year in India alone. In UK 5,000 people have an amputation/ year i.e. 100 people every week.

Ampucare is the only product, which not only possess strong antibacterial, anti- fungal properties but is also a pain killer, prevents inflammation, improves blood flow, provides tissue nutrition and promotes angiogenesis and faster granulation, thus resulting in complete wound healing. Ampucare also reduced treatment time and thus helps in drastic reduction in hospitalization time which ultimately lead to reduction in therapy cost.

Ampucare technology has been a team effort of dedicated scientists working at Venus Medicine Research Center (VMRC), a DSIR approved in-house R&D centre of Venus Remedies Ltd. Multcentric phase III and IV clinical trials of the product were done at

various reputed hospitals of India for burn, diabetic foot ulcer (DFU) and bed sore patients. The product is under patent protection in India and 50 other countries including US, China, Japan, 37 countries of EU, Canada, Mexico, Brazil, Russia, UAE, Vietnam, Korea, South Africa, Australia and New Zealand.

Lessons learnt: *Funding innovations alone is not sufficient to ensure their translation into products which reach bedside of the patients and benefit society. It requires a special skill set and dedicated efforts to do so. The inventor alone may not have the resources to undertake commercial operations. The corporate may not have the necessary patience and research inclination to go for innovation development. Bringing them together can create a value cycle. Moreover, once the basic elements are understood, supporting frameworks for translation of innovations into products can easily be created as can be seen in case study of AMPUCARE.*

Case Story 4:

FENFURO- Scientifically developed and clinically proven herbal formulation for DIABETES (2008-2010) CAPSULES OF 500 mg each

The beginning of a breakthrough product owing to efforts for patenting

In 2008, a grassroots innovator Mr.Pawan Goel, proprietor of a small company CHEMICAL RESOURCES based in Panchkula (near Chandigarh), approached me at NIPER to help him protect his innovation relating to a new process for extraction of a valuable fraction containing a specific compound, from fenugreek seeds. The compound was a stamina booster and was being extracted and exported to the USA as a sports medicine. He claimed that his innovative process was better than existing processes. I was rather apprehensive that a small company without much R&D facility could develop a new process. However, when I searched the patent databases and reviewed more than 150 patents, I found that the process developed by the company was indeed unique and guided the company to file a patent application for the process.

New application in cancer treatment: Search of literature during filing of the patent revealed that the compound had valuable anti-cancer properties, as revealed by studies at National University of Singapore. Mr. Goel called the lab at Singapore which had conducted the studies and asked them whether they could test his compound also. He was informed that the lab was not involved in the work as same had been completed quite some time ago.

I co-ordinated and arranged for the evaluation to be conducted at Advanced Centre for Training Research and Education in Cancer (ACTREC), under Tata Memorial Hospital, Mumbai. In-vitro lab results indicated that the herbal extract from fenugreek seeds as prepared by the patented process of Mr.Goel, had very powerful anti-cancer properties. Further studies were conducted and showed good anti-cancer potential. Earlier the compound was being extracted from a creeper- Tribulus terrestris, which was facing threat of extinction due to extensive use and exploitation. Mr. Goel had developed an innovative process for extracting the compound using a SUSTAINABLE SOURCE i.e.

fenugreek seeds. He was very excited regarding use of the compound in cancer treatment.

From cancer to diabetes- While visiting NIPER one day and sharing a cup of tea with me, Mr.Goel remarked that maybe the compound also had anti-diabetic properties, since it was extracted from Fenugreek, which was known to have anti-diabetic properties. I replied that this was not possible since compound was a known stamina booster, anti-cancer agent and also had some properties as 'fertility promoting agent'. There was no documentation related to its use as 'anti-diabetic agent'. However, Mr.Goel was insistent that I guide him regarding scientific testing of the compound for 'anti-diabetic properties'. I duly identified suitable research lab at NIPER and detailed scientific evaluation regarding 'anti-diabetic' potential of the compound was carried out. The results were surprisingly very promising! Excited by the 'discovery' Mr.Goel got detailed toxicology studies conducted at NIPER and also at Panjab University, Chandigarh. I guided him on strategic IP related business management and planning. Subsequent clinical evaluation revealed that the product had excellent glucose management properties and was used by diabetics to control blood sugar levels.

Mr. Goel duly took a business decision and launched the product in the market as an 'innovative anti-diabetic' scientifically validated product under the trade name of FENFURO. The product has remarkable anti-diabetic properties and preliminary molecular level studies have indicated its possible role in rejuvenation of pancreas. Launched about an year ago, it has been consumed by more than 10,000 patients and Mr.Goel is putting in lots of efforts and investments in the product. A major factor which has influenced the investments for research and scientific validation and development of the product is the fact that the inventor enjoys exclusive rights owing to patenting.

Concluding remarks

Big innovations do not necessarily come from big companies. Grassroots innovators in SSIs and MSMEs offer a rich source of ideas, innovation and creativity as this example of FENFURO shows. They are easy to approach, have reasonable amount of funds at their disposal and are fast in decision making compared to larger corporates. Also, in two cases i.e. small wonder-lyzer (lab dialysis product) and synron (anti-asthma product), start-up companies got created around the grassroot innovations. In case of AMPUCARE, the profile of an existing generics company got changed to that of an 'innovator company'. Once the value of innovation was realized, the company started focusing on new innovations and is now launching innovative products on regular basis. In case of FENFURO, the innovation also changed the profile of the existing company from that of a generics company making active pharmaceutical ingredients to that of an innovation driven company. Both the companies viz. Venus Remedies and Chemical Resources applied for and got DSIR recognition. Both were Small companies which became 'big' because of innovation and patents.

Successful nurturing and development of innovations is thus the key to technological advancement. Filing a patent is the first step in nurturing an innovation.

6

Standard Operating Procedures (SOPs) for Patent Filing and Licensing at Panjab University

To provide assistance to researchers in identification of patentable innovations, filing patents and patent licensing, the University has developed Standard Operating Procedures as below:

S.No.	Stage	Remarks
1.	**Patent Filing** Steps involved: 1. Filling up the invention disclosure form and submission to CIIPP directly by inventor 2. Report from CIIPP regarding patentability 3. Filling up of the patent application forms and preparing draft of patent application by inventor and submission to CIIPP. 4. Vetting of application by CIIPP using services of patent experts 5. Submission of patent application to patent office by CIIPP 6. Communication of patent filing number to inventor by CIIPP	A budgetary support of Rs.10,000/- per patent filing is available from CIIPP to inventors of PU. Out of this, Rs.4000/- is the Govt. Fee while Rs.6000/- is payable to IPR expert for vetting and related aspects. Request for examination on Form 18 has to be filed within 48 months and accompanied by fee of Rs.14,000/-. Thus, total Govt. Fee is Rs.14,000/- for filing and examination. **Note:** *University support available for maximum of two patents per faculty/per year. However, faculty can use funds from their research grants or their personal funds if desired. Estimated budgetary provision for filing in India may be kept at Rs. 50,000 and for PCT filing Rs. 1.75 Lacs.*
2.	**Patent Licensing** 1. Preparation of tech offer by inventor 2. Submission to CIIPP 3. Hosting on CIIPP website	Negotiations to be conducted and MOU signing by Director CIIPP

Annexures

1. Invention Disclosure Form (IDF)
2. Patent filing forms: Form 1, Form 3, Form 5,
   Form 2 (Provisional patent), Form 2 (Complete patent), Form 18
3. Technology Offer Form (Biodata of invention)
4. CDA format
5. Panjab University Consultancy Rules
6. Important Addresses related to IP

Annexure-1

INVENTION DISCLOSURE FORM (IDF)

This form is provided to help you organize your thoughts about your invention. There's nothing "magic" about it. Do whatever you need to do in order to explain your invention in such a way as to be clear to one who is not familiar with it.

Tips

1. Be careful to describe what, specifically, makes your invention different from what has gone before. Avoid general statements that your invention is "better" - why is it better, or what makes it better?
2. If you use any unusual terms, or ordinary terms in an unusual way, explain them. In addition to describing all the parts, describe how the parts work together.
3. Why did you do things the way you did them, and not some other way? How else could you have accomplished the same end.
4. In answering the questions, do not limit yourself to exactly the prototype you have in front of you, or to the very best way you might think your invention might be built. Allow your imagination to run - how else might this invention work? How far would it need to be changed before you say, "that's not my invention any more"? Are there less desirable, but still useful, ways of making the invention work?
5. It's as important to point out what is not part of your invention (that is, what is "old") as it is to carefully explain what is new. Has the design, or part of the design, been used before, even if for a different purpose? How else have people accomplished the same function as your invention in the past?
6. What are the possible problems? Under what circumstances might your invention not work? Are there critical parts, dimensions, ingredients?
7. Drawings are always helpful, and if you are e-mailing the form you can include them electronically in one of the standard graphic formats (PCX, GIF, JPG) or as a drawing file in AutoCAD DXF or DWG formats.

IDF

Name of Inventor(s):

Address:

Telephone:

Fax:

E-mail:

Name of Invention:

Brief Description

Describe the invention in general terms: What does it do? How does it do it?

Details of the Invention:

What parts (steps, if a method) make up the invention, in its best (preferred) form?

What does each contribute to the invention?

Which parts are new to this invention (in form or usage), which are old (conventional, used in the expected way)?

In what way do the parts interact to make the invention work?

For each part, indicate if the part (or its form or interconnection) is ESSENTIAL to the invention - that is, for each part, ask, "if this part were left out, or changed, would the remaining device still be my invention?" Or, "if this part were changed or left out, would the invention still work?

If possible, use labeled sketches to detail your invention. Be sure all essential parts are shown on the sketch, and try not to include extraneous details. Measurements are not required, unless they are essential to the operation of the invention.

Alternatives

You have described the best way to build (perform) your invention. Now consider the alternatives.

Structural Alternatives:

In what ways could the parts (steps) be changed or equivalent parts substituted without changing the basic invention?

Is there a generic description for any of the parts you listed (i.e. "fastener" instead of "Machine Screw", or "plastic" instead of "polypropylene")?

Could the functions of any of the parts be changed, combined, eliminated?

What could be added to make the invention work better?

What could be left out?

Alternate Use: Can your invention be used for anything other than its preferred use?

Limitations: When will the invention not work?

Are there any critical ranges of size, weight, pressure, etc. for any of the parts of your invention? (i.e. "the cap must be made of steel with a Rockwell hardness of 32-56")

Must some parts be made of specific substances?

In order to be patentable, an invention must be NOVEL, USEFUL and NOT OBVIOUS to one skilled in the art, based upon everything which was available at the time of the invention.

State of the Art: Consider what was already in existence (whether patented or not) before the invention.

How is the function of the invention being done today?

What is the closest device (method) you are aware of to your invention?

Is there something, which performs the same function in a different way?

Is there any combination of existing devices (methods) which would be similar to your invention?

How does your invention perform its function different from, or better than, these prior devices (methods)?

How are they similar?

Resources for search:

If you hadn't invented the invention, where would you go to find one?

What catalogs, publications, etc. would you look in?

To what extent have you looked?

Who would be likely to purchase or use the invention?

Do you know of any publications, which might describe the invention or its competitors?

You may not get a patent on an invention which was already patented, or described in a printed publication, or in public use or on sale either: (a) by others, before you invented it, or (b) by anyone, more than one year before you apply for a patent.

Date of Invention: "Invention" means a combination of conception (coming up with the idea of the invention) and reduction to practice (building it, or applying for a patent).

Conception: When did you first begin to work on the invention?

Reduction to Practice: Has the invention been built? If so, when?

Publications: Has the invention ever been described in any printed form, by anyone? If so, where and when?

Public Use: Has the invention ever been shown or used in public? If so, where and when?

Sale: Has the invention ever been sold? If so, where and when?

Other Inventors: Is there anyone else who contributed to the conception or reduction to practice of the invention, in more than a purely mechanical way?

Rights in Others: Are you under any obligation to assign any rights in the invention to others?

Was the invention developed in the course of your employment, or using any facilities belonging to your employer?

If so, the employer may have rights to the invention.

Do you have an agreement with your employer that you will assign any inventions you may make to the employer?

Was the invention developed in the course of a consulting agreement with someone else?

If so, did you agree that any inventions belong to them?

Was there any funding of the development of the invention by any party (government agency, school, etc.) who might claim rights in the invention?

Was any equipment or facilities used in the development of the invention which was funded by or belongs to any government agency?

Any additional notes or comments?

Be sure to sign and date the form, and have it witnessed by someone who is not an inventor.

Signed: _____

Dated:

Read, witnessed and understood: _____

Date:

Note: The format of the form above is taken from the site www.bpmlegal.com and is reproduced with grateful acknowledgement.

Annexure-2

FORMAT OF FORMS FOR FILING A PATENT IN INDIA

A patent application in India comprises a covering letter and a set of FOUR FORMS viz. Form 1, 2, 3 and 5 (in duplicate). Form 18 has to be filed alongwith fee within 48 months of filing the patent application. If this deadline of 48 months is missed, patent dies and all rights are permanently lost.

<table>
<tr><td colspan="3">FORM 1
THE PATENTS ACT 1970
(39 of 1970)
&
The Patents Rules, 2003
APPLICATION FOR GRANT OF PATENT
[(See section 7,54 & 135 and rule 20(1)]</td><td colspan="2">(FOR OFFICE USE ONLY)

Application No:
Filing Date:
Amount of Fee Paid:
CBR No:
Signature</td></tr>
<tr><td colspan="5">1. APPLICANT (S):</td></tr>
<tr><td>Name</td><td>Nationality</td><td colspan="3">Address</td></tr>
<tr><td></td><td></td><td colspan="3"></td></tr>
<tr><td colspan="5">2. INVENTOR (S):</td></tr>
<tr><td>Name</td><td>Nationality</td><td colspan="3">Address</td></tr>
<tr><td></td><td>INDIAN</td><td colspan="3"></td></tr>
<tr><td colspan="5">3. TITLE OF THE INVENTION:</td></tr>
<tr><td colspan="2">4. ADDRESS FOR CORRESPONDENCE OF APPLICANT/ AUTHORIZED PATENT AGENT IN INDIA</td><td colspan="3"></td></tr>
<tr><td colspan="5">5. PRIORITY PARTICULARS OF THE APPLICATION (S) FILED IN CONVENTION COUNTRY :</td></tr>
<tr><td>Country</td><td>Application No.</td><td>Filing Date</td><td>Name of Applicant</td><td>Title of the invention</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION:</td></tr>
<tr><td colspan="3">International Application No.</td><td colspan="2">International filing date as allotted by the receiving office</td></tr>
<tr><td colspan="3"></td><td colspan="2"></td></tr>
<tr><td colspan="5">7. PARTICULARS FOR FILING DIVISIONAL APPLICATION:</td></tr>
<tr><td colspan="3">Original (First) Application No.</td><td colspan="2">Date of filing of Original (First) Application</td></tr>
<tr><td colspan="3">Nil</td><td colspan="2">Nil</td></tr>
<tr><td colspan="5">8. PARTICULARS FOR FILING PATENT OF ADDITION:</td></tr>
<tr><td colspan="3">Main Application / Patent No.</td><td colspan="2">Date of filing of Main Application</td></tr>
<tr><td colspan="3">Nil</td><td colspan="2">Nil</td></tr>
<tr><td colspan="5"></td></tr>
</table>

9. DECLARATIONS:

(i) Declaration by the Inventor

I, the above named inventor am the true & first inventor for this invention and declare that the applicant herein is my assignee.

(a) Date:

(b) Signature(s) _____ _____ _____

(c) Name(s)

(ii) Declaration by the Applicant(s) in the convention country

I/We, the Applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date:

(b) Signature(s)

(c) Name(s)

(iii) Declaration by the Applicant(s)

I/We, the Applicant(s) hereby declare(s) that: -

- ▫ I am / We are in possession of the above-mentioned invention
- ▫ The provisional / complete specification relating to the invention is filed with this application

(iii) Declaration by the Applicant(s)

I/We, the Applicant(s) hereby declare(s) that: -

- ▫ I am / We are in possession of the above-mentioned invention
- ▫ The provisional / complete specification relating to the invention is filed with this application
- ▫ The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- ▫ There is no lawful ground of objection to the grant of the Patent to me/us.
- ▫ I am/We are the assignee or legal representative of true & first inventors
- ▫ The application or each of the applications, particulars of which are given i n Para-5 was the first application in convention country/countries in respect of my/our invention.
- ▫ I/We claim the priority from the above mentioned application(s0 filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title
- ▫ My/our application in India is based on international app lication under Patent Cooperation Treaty (PCT) as mentioned in Para-6
- ▫ The application is divided out of my/our application particulars of which are given in Para -7 and pray that this application may be treated as deemed to have been filed on _____ under sec.16 of the Act
- ▫ The said invention is an improvement in or modification of the invention particulars of which are given in Para-8

10. Following are the attachments with the application:

1. Provisional specification/Complete specification
2. Complete specification (in connection with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of pages ___ No. of claims___
3. Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of sheets __

4. Priority documents
5. Translation of priority document/Specification/International Search Report
6. Statement and undertaking on form 3
7. Power of Authority
8. Declaration of inventorship on Form 5
9. Sequence listing in electronic form

(j) **Fee Rs._____/-** in Cash/**Cheque**/Bank Draft bearing No……Date……..on HDFC Bank **(Official fee Rs. /- + Rs._____ for __ additional priorities @ each + Rs._____ for __ additional claims in excess of 10 claims @ per claim = Total official fee Rs._____/-)**

I/We declare that to the best of my/our knowledge,information and belief the fact and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this day of _____ 2012. Signature:
Name:

To,

The Controller of Patents
The Patent Office, at New Delhi

(Authorized Signatory)

Note: *Repeat boxes in case of more than one entry
*To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned
*To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned
*Tick (") / cross (x) whichever is applicable / not applicable in declaration in Para-9
*Name of the inventor and applicant should be given in full, family name in the beginning
*Complete address of the inventor and applicant should be given stating the postal index no./code, state and country.
*Strike out the column which is/are not applicable *For fee: See First Schedule

FORM 3

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patents Rules, 2003

STATEMENT AND UNDERTAKING UNDER SECTION 8

(See section 8, rule 12)

I/We, _____, a Company of _____, of _____
_____,

hereby declare -

(i) that I/We have not made any application for the same/substantially the same invention outside India - N.A.

(ii) that I/We who have made this application No._____ Dated _____ alone/jointly with _____ made for the same/substantially same invention application(s) for patent in the other countries, the particulars of which are given below:

Name of the country	Date of Application	Application No	Status of the application	Date of Publication	Date of Grant

(iii) that the rights in the application(s) has/have been assigned to none.

(iv) that I/We undertake that upto the date of grant of the patent, by the Controller, I/We would keep him informed in writing the details regarding corresponding applications for patents filed outside India within three months from the date of filing of such application.

Dated this day of February, 2012

ATTORNEY FOR THE APPLICANTS/APPLICANT

To

The Controller of Patents

The Patent Office, at New Delhi

FORM 5

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patents Rules, 2003

DECLARATION AS TO INVENTORSHIP

[See section 10(6) and rule 13(6)]

1. NAME OF THE APPLICANT(S) : _____, a Company of _____, of _____,

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of my / our application numbered ……..dated……..

2. INVENTOR(S)

1. (a) NAME :
   (b) NATIONALITY :
   (c) ADDRESS :

2. (a) NAME :
   (b) NATIONALITY :
   (c) ADDRESS :

Dated this day of February, 2005

APPLICANT

3. DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY:-

We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).

Dated this day of February, 2005

APPLICANTS

4. STATEMENT (to be signed by the additional inventor(s) not mentioned in the application form)

I/We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application. N.A.

Dated this _____ day of _____, 200____.

Signature of additional inventor(s):-

Name:-

To

The Controller of Patent

The Patent Office Branch, New Delhi

Note

* Repeat boxes in case of more than one entry.
* To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned.
* Name of the inventor and applicant should be given in full, family name in the beginning.
* Complete address of the inventor should be given stating the postal index no./code, state and country.
* Strike out the column which is / are not applicable.

FORM 2

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patents Rules, 2003

COMPLETE SPECIFICATIION

(See section 10 and rule 13)

(Type in name of Invention here)

Write your Name,
Address,
Nationality

The following specification particularly describes the invention and the manner in which it is to be performed.

FORM 2

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patents Rules, 2003

PROVISIONAL SPECIFICATIION

(See section 10 and rule 13)

(Type in name of Invention here)

Write your Name,
Address,
Nationality

The following specification describes the invention

REQUEST FOR EXAMINATION

FORM 18 THE PATENTS ACT 1970 (39 of 1970) & The Patents Rules, 2003 APPLICATION FOR GRANT OF PATENT *[(See section 11B & rule 24B(1)(i)]*	(FOR OFFICE USE ONLY) RQ. No: Filing Date: Amount of Fee Paid: CBR No: Signature:

1. APPLICANT (S) / OTHER INTERESTED PERSON:

(a) NAME:

(b) NATIONALITY:

(c) ADDRESS:

2. Statement in case of request for examination made by the applicant(s)

I/We hereby request that my/our Application for Patent No._____filed on _____ for the invention titled _____ shall be examined under Sections 12 and 13 of the Act.

Or

I/We hereby make an express request that my/our application for patent No._____filed on _____ based on Patent Cooperation Treaty [PCT] Application No. _____ dated _____
made in country _____ shall be examined under sections 12 and 13 of the Act, immediately without waiting for the expiry of 31 months as specified in rule 20 (4)(ii).

3. Statement in case of request for examination made by any other interested person

I/We the interested person request for the examination of the application no. _____ dated _____ filed by the Applicant _____ titled _____ under sections 12 and 13 of the Act.
As an evidence of my/our interest in the application for patent following documents are submitted.

- _____
- _____

Annexure-3

Sample format of a Technology Offer

(Bio-data of a patent)

A NEW METHOD FOR DIAGNOSING SCHIZOPHRENIA.

The offered technology developed by Panjab University, Chandigarh (INDIA) provides a new method for diagnosing schizophrenia. The technology can be used for the development of a diagnostic kit for schizophrenia. Currently schizophrenia is diagnosed on the basis of symptom examination which has several disadvantages. The invention shifts the diagnosis of schizophrenia from the subjective field of symptom interpretation to the more exact quantification of gene expression. There is an abundance of data evidencing that there is a genetic linkage of schizophrenia and that the expression pattern of certain genes is altered in patients with schizophrenia. Genetic marker-based diagnosis of psychiatric disorders would be more accurate and rapid than currently used, symptom-based diagnosis. Early diagnosis and treatment of schizophrenia may have a significant impact, because more optimal management at an early stage of the illness may alter its course. Our results identify 2 genes with a changed expression in schizophrenic patients. Measurements are done on the blood of a patient.

Area of Application

Medical Technologies: Potential purchasers of the kit are medical institutions, including especially psychiatric departments of hospitals, psychiatrists and private psychiatric clinics.

Keywords	schizophrenia, diagnosis, therapeutics, health
Advantages	The invention allows for faster, exact and easier diagnosis.
Environmental Aspects	Non-polluting technology. Hi-tech area.
Development Stage	Laboratory Model
Legal Protection	Patent filed and published. Examination under process.
Technical specifications	On request
Transfer Terms	Joint Venture, Technology Licensing

Contact Person:

Director, CIIPP, Panjab University, Chandigarh-160014

Ph: Fax: email: Mobile:

Annexure-4

CDA Format

Confidentiality Agreement (Also called NDA or Non-disclosure Agreement): The agreement given below is the one which has been 'standardized' and simplified by the author based on his experience and practical exposure to various situations.

TERM SHEET

MUTUAL CONFIDENTIALITY AGREEMENT	
Parties to the agreement	INVENTOR (NAME) and ……..
Objective	1. Protection of confidential information (CI) disclosed by either party to the other. 2. Protection of the confidential information (CI) generated in form of 'test data' or 'research data' owing to outsourcing of work by XYZ to INVENTOR
Roles and Responsibilities	Both parties to ensure that they will protect the confident ial information of the other party as they will protect their own confidential information.
Period of protection of CI under the agreement	3. 5 years after disclosure for existing information regarded as confidential by either party 4. Indefinite for the new data generated as a result of outsourcing of work by xyz to other party. Such data will be the exclusive property of xyz and other party is bound not to disclose it to any other party, without any time frame.
Confidential information	Only information in tangible form, duly marked as 'confidential' covered under the agreement. Oral information if considered to be confidential, to be duly reduced to writing within a period of 15 days.
Special Remarks, if any	Record of 'confidential information' provided by either party to the other to be maintained under receipt. On completion of the work, same to be returned to respective party, if taken on 'loan'.
Conflict resolution	Through Arbitration under the Arbitration and Conciliation Act, 1996. The venue of arbitration shall be xxx* (UNION TERRITORY) and language of arbitration shall be English. Costs to be shared equally between both parties.

It is advisable to keep a venue which is mutually acceptable to both parties. For researchers working in PANJAB UNIVERSITY CHANDIGARH, venue of Chandigarh is obviously more suitable.

MUTUAL CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

This Mutual Confidentiality Agreement (the "Agreement") is made and entered into, as of _____, 2012 ("Effective Date"), by and between COMPANY, INDIA having it office in xxxxxx (hereinafter referred to as "CR" and INVENTOR , having its principal place of business at xxxxx (hereinafter, referred to as "cccccc" which expression unless it be repugnant to the context or meaning thereof shall mean and include its successors and assigns) of the ONE PART;

Hereinafter referred to collectively as "Parties" and individually as "Party".

RECITAL:

As part of its Research and Development activites, COMPANY wishes to outsource work pertaining to safety and efficacy studies of formulations being developed by its in-house R&D Centre. This involves sharing of information by both parties to ensure proper planning of the work and also successful execution. To prevent any misuse of information or any conflict of interest whatsoever, both parties have agreed to enter into a mutual confidentiality and non-disclosure agreement as per definitions and terms defined below:

DEFINITIONS:

1. **Definition of Confidential Information:** "Confidential Information" as used in this Agreement shall mean any and all technical and non technical information which includes patent, copyright, trade secret, and proprietary information, techniques, sketches, drawings, models, inventions, know how, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulae related to the current, future and proposed products, services and business of each Party, and also includes, without limitation, each Party's respective information concerning research, experimental work, development, design details and specifications, engineering, financial information, procurement requirements, purchasing, manufacturing, business forecasts, sales and merchandising, and marketing plans and information. It also includes the test results and data generated as a part of outsourcing of research work/work by COMPANY to outside parties on payment basis. Ownership of all such data vests exclusively with CR and any party generating such data is bound under this agreement to treat the data as the 'confidential information' of CR.

   Any information disclosed by the disclosing Party ("Discloser") will be considered Confidential Information of Discloser by the receiving Party ("Recipient"), only if such information :

   a. is provided as information fixed in a tangible medium of expression
   b. is conspicuously designated as "Confidential" or "Proprietary"
   c. if provided orally, is identified as confidential at the time of disclosure, summarized in writing by Discloser and submitted to Recipient within a period of 15 days from the date of disclosure.

2. **Nondisclosure and Nonuse Obligation. Recipient,** shall hold the Confidential

Information disclosed to it in confidence, and shall not divulge, in whole or in part, any Confidential Information to any third party without the prior written authorization of the Discloser; except that a Recipient, may disclose Confidential Information obtained from Discloser to its and such of its Affiliates, directors, officers, advisors or employees (hereinafter "Representatives") to the extent such disclosure is necessary to evaluate the Transaction and provided that such Representatives are already bound by an agreement with the Recipient, to maintain confidences pursuant to terms substantially the same as those set forth herein. For this purpose, an Affiliate means any company or entity which controls, is controlled by or is under common control with the relevant party as of the Effective Date, where control means direct or indirect ownership of at least 50% of the voting stock or interest in a company or control of the composition of the board of directors.

Furthermore, the existence of any business negotiations, discussions, consultations or agreements in progress between the Parties shall not be released to any form of public media without written approval of both Parties. Each of the Parties, as Recipient, agrees that such Recipient shall treat all Confidential Information of the other Party, as Discloser, with the same degree of care as such Recipient accords to such Recipient's own Confidential Information, but in no case less than reasonable care. Each of the Parties, as Recipient, shall immediately give notice to the other Party, as Discloser, of any unauthorized use or disclosure of Discloser's Confidential Information which has come into Recipient's knowledge. Each of the Parties, as Recipient, agrees to assist the other Party, as Discloser, in remedying any such unauthorized use or disclosure of Discloser's Confidential Information.

3. **Exclusions from Nondisclosure and Nonuse Obligations:** The obligations under Article 2 ("Nondisclosure and Nonuse Obligations") of each of the Parties, as Recipient, with respect to any portion of the Confidential Information of the other Party, as Discloser, shall not apply to such portion that such Recipient can document:

   (a) **Presence in public domain:** was in the public domain at or subsequent to the time such portion was communicated to such Recipient by such Discloser through no fault of such Recipient

   (b) **Presence with recipient prior to disclosure:** was rightfully in such Recipient's possession free of any obligation of confidence at or subsequent to the time such portion was communicated to such Recipient by such Discloser, as evidenced by records maintained in lawfully acceptable manner.

   (c) **Independent development:** was developed by employees or agents of such Recipient independently of and without reference to any Confidential Information communicated to such Recipient by such Discloser, as evidenced by records, maintained in lawfully acceptable manner.

   (d) **Independent receipt from third party:** was received by Recipient from a third party, with no restrictions on disclosure

(e) **Independent disclosure by disclosing party:** was communicated by such Discloser to an unaffiliated third party free of any obligation of confidence.

Other conditions for exclusion:

A disclosure by each of the Parties, as Recipient, of Confidential Information of the other Party, as Discloser, either

(a) in response to a valid order by a court or other governmental body, or

(b) otherwise required by law, rules and regulations,

shall not be considered to be a breach of this Agreement by such Recipient or a waiver of confidentiality for other purposes; provided, however, such Recipient shall provide prompt prior written notice thereof to such Discloser to enable such Discloser to seek a protective order or otherwise prevent such disclosure.

4. **Record, Ownership and Return of Confidential Information and Other Materials:** All Confidential Information of each of the Parties, as Discloser, and any Derivatives (as defined below) thereof whether created by such Discloser or the other Party, as Recipient, shall remain the property of Discloser, and no license or other rights to such Discloser's Confidential Information or Derivatives is granted or implied hereby. A record of all Confidential Information disclosed to either party shall be duly maintained in tangible form, under receipt by the respective parties.

For purposes of this Agreement, "Derivatives" shall mean:

(a) for copyrightable or copyrighted material, any translation, abridgment, revision or other form in which an existing work may be recast, transformed or adapted;

(b) for patentable or patented material, any improvement thereon; and

(c) for material which is protected by trade secret, any new material derived from such existing trade secret material, including new material which may be protected under copyright, patent and/or trade secret laws.

(d) for proprietory data, any test results or data generated as a part of outsourcing of research work/work by COMPANY to outside parties on payment basis. Ownership of all such data vests exclusively with COMPANY and any party generating such data is bound under this agreement to treat the data as the property of COMPANY and handover the same to COMPANY. Further, such data will be treated as 'confidential' and the party generating the data will not disclose the same to any other party, in the negative interests of COMPANY.

All materials (including, without limitation, documents, drawings, models, apparatus, sketches, designs, lists and all other tangible media of expression) furnished by each of the Parties, as Discloser, to the other Party, as Recipient, and which are designated in writing to be the property of such Discloser, shall remain the property of such Discloser.

At such Discloser's request and no later than five (5) days after such request, such Recipient shall promptly destroy or deliver to such Discloser, at such Discloser's

option, (a) all materials furnished to such Recipient by such Discloser, (b) all tangible media of expression in such Recipient's possession or control to the extent that such tangible media incorporate any of such Discloser's Confidential Information, and (c) written certification of such Recipient's compliance with such Recipient's obligations under this sentence.

5. **Disclosure of Third Party Information.** Neither Party shall communicate any information to the other in violation of the proprietary rights of any third party.
6. **No Warranty.** All Confidential Information is provided "AS IS" and without any warranty, express, implied or otherwise, regarding such Confidential Information's accuracy or performance.
7. **Term.** The Parties will exchange Confidential Information for a period of one year from the Effective Date of this Agreement. The Parties shall maintain in confidence any Confidential Information received pursuant to this Agreement for a period of five (5) years from the date on which said Confidential Information is first received. However, this five year clause will not apply to proprietory data belonging to respective parties and same shall be protected in perpetuity.
8. **No Assignment.** Neither Party will assign or transfer any rights or obligations under this Agreement without the prior written consent of the other Party, which consent shall not be unreasonably withheld.
9. **No Obligation.** This Agreement shall not be construed as a teaming, partnership, trust, agency, joint venture, or other such arrangement between both Parties, and the Parties hereto expressly agree that this Agreement is for the purpose of protecting the confidentiality of Confidential Information only. Nothing herein shall obligate either Party to enter into any transaction or business relationship with the other Party, and each Party reserves the right, in its sole discretion, to terminate the discussions with the other Party at any time.
10. **Notices.** Any notices required or permitted by this Agreement shall be in writing and shall be delivered as follows, with notice deemed given as indicated: (a) by personal delivery, when delivered personally; (b) by overnight courier, upon written verification of receipt; (c) by telecopy or facsimile transmission, upon acknowledgment of receipt of electronic transmission; or (d) by certified or registered mail, return receipt requested, upon verification of receipt. Notice shall be sent to the addresses set forth above or to such other address as either Party may specify in writing.
11. **Governing Law and Dispute Resolution.** Any disputes between the parties shall be resolved amicably. However, where the dispute is not so resolved the same shall be referred to arbitration which shall be conducted in accordance with Arbitration and Conciliation Act, 1996. The venue of arbitration shall be CHANDIGARH (UNION TERRITORY) and language of arbitration shall be English. The arbitration tribunal shall consist of three arbitrators, one of whom shall be appointed by each Party and the two arbitrators appointed by the Parties shall appoint the third arbitrator. The arbitration shall be conducted in the English

language and the award shall be final and binding and the Parties. The Parties unconditionally and irrevocably agree to submit to the exclusive jurisdiction of a competent court in CHANDIGARH. The administrative charges, arbitrators' fees, and related expenses of any arbitration shall be paid equally by the parties, but each party shall be responsible for any individual costs or expenses incurred in presenting the respective party's case to the arbitrators, such as attorney's fees or expert witness fees.

12. **Severability.** If any provision of this Agreement is held by a court of law to be illegal, invalid or unenforceable, (i) that provision shall be deemed amended to achieve as nearly as possible the same economic effect as the original provision, and (ii) the legality, validity and enforceability of the remaining provisions of this Agreement shall not be affected or impaired thereby.
13. **Waiver; Amendment; Modification.** No term or provision hereof will be considered waived by either Party, and no breach excused by either Party, unless such waiver or consent is in writing signed by the Party against whom such waiver or consent is asserted. The waiver by either Party of, or consent of either Party to, a breach of any provision of this Agreement by the other Party shall not operate or be construed as a waiver of, consent to, or excuse of any other or subsequent breach by the other Party. This Agreement may be amended or modified only by mutual agreement of authorized representatives of the Parties in writing.
14. **Injunctive Relief.** A breach by either Party of any of the promises or agreements contained herein will result in irreparable and continuing damage to the other Party for which there will be no adequate remedy at law, and such other Party shall be entitled to injunctive relief and/or a decree for specific performance, and such other relief as may be proper (including monetary damages if appropriate).
15. **Entire Agreement.** This Agreement constitutes the entire agreement with respect to the Confidential Information disclosed hereunder and supersedes all prior or contemporaneous oral or written agreements concerning such Confidential Information.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

"COMPANY"	**"XXXXX"**
By: _____	By:
Name:	Name: _____
Title:	Title: _____
WITNESSES:	WITNESS:
Signature:	Signature:
Name and address:	Name and address:

Annexure-5

Panjab University Consultancy Rules

Rules for Consultancy work by academic and Technical staff of Teaching Departments of Panjab University, Chandigarh (ClauseV, Page No.62 to 64, P.U. Calendar Vol.III, 2005)

1. The Academic/Technical Staff (henceforth to be called as staff), who are Class A Officers of the University, may undertake consultancy or provide technical services to industry and other organizations, utilizing, if necessary, the facilities of the University.
2. The consultancy/services provided may be of the following types:
   (i) Institutional Consultancy
   (ii) Individual Consultancy
   (iii) Technical services
   (i) Institutional Consultancy relates to advice rendered to any industry/organization, or work done for them, by a Department / group / individual on behalf of the University. The Principal Consultant will be identified by the Vice-Chancellor, or a person of the Cell (Industry-Institute Partnership Programme-IIPP) authorized by him.
   (ii) Individual Consultancy relates to consultancy or work undertaken by an academic staff member in his individual capacity.
   (iii) Technical Services relate to providing of routine technical data / information, analysis, etc. and to fabrication of equipment, etc. which does not require interpretation of results or advice.

3 A request for consultancy services shall normally be received by the Vice-Chancellor or the Liaison Cell (IIPP) on behalf of the University. It may, however, be received directly by a staff member and forwarded to the University for its consideration

4 Permission to undertake consultancy work upto 1 lakh rupees may be given by the Officer Incharge of the Liaison Cell (IIPP) on the recommendation of the Head of the Department or by any other person authorized to do so. Consultancy work of above 1 lakh of rupees shall be approved by the Vice-Chancellor.

4.1 While approving of a consultancy proposal, the following will be taken into consideration:

a. The normal duty of the individual staff member and the interest of the Department do not suffer;

b. An individual staff member does not undertake consultancy work for more than 60 days (60days in a Calendar year, including holidays);

c. The total annual income of an individual form consultancy work shall not exceed his/her total emoluments for six months in the Calendar year.

5 While working out the cost of consultancy project, the following be taken into consideration:

5.1 Cost of consultant's time, including intellectual fee:

5.2 Cost of man days of the staff taking part in the project, excluding the consultant(s):

5.3 TA and DA (as per agreement with the client):

5.4 Cost of inputs (like chemicals, raw material and other types of consumables) and equipment:

5.5 Usage charge on equipment (including depreciation and utilities, interalia):

5.6 Payments to outside consultants

5.7 Cost of stationery

5.8 Computer charges

5.9 Miscellaneous

5.10 Administrative Charges (10% of 5.2 to 5.9)

6 The client shall pay 50% of the total project cost of cost of the items 5.2 to 5.9 above, whichever is higher, in advance to the University Consultancy. All payments will be received by the University under a separate budget head of "Consultancy Services".

7 The consultancy service may be categorized into three classes:

7.1 Advisory Consultancy in which University facilities are not used.

7.2 Service Consultancy in which University equipment is used, but consumables or other materials are not required.

7.3 Service Consultancy in which University equipment is used and material and consumables are provided by the University.

8 Once the terms of consultancy have been approved, contract signed and advance received, it becomes the duty of the Principal consultant to ensure satisfactory progress and completion of the project in time. For this purpose, he may make temporary appointment of full-time or part-time staff for a period upto six months, draw advances and make expenditure in accordance with the requirements as the project progresses. Vice-Chancellor's approval will be required for appointment of staff for a period of more than six months.

9 The distribution of consultancy/received will be as under:

9.1 The case of Advisory Consultancy(7.1 and 7.3 above), 50% of the amount received for item 5.1(cost of consultants' time, including intellectual fee) will

be paid to the consultants(s) and 50% will accrue to the University.

9.2 Similarly, in case of Service Consultancy (7.2 and 7.3 above), 50% of the amount received for item 5.1 above will be paid to the consultant(s) involved and 50% will accrue to the University.

10 In all case (7.1, 7.2 and 7.3 above), the apportioning of consultancy amount will be as under:

10.1 Out of the total share of the University, 10% will be paid to the University as administrative charges, 40% will be paid to the Corpus Fund "Foundation for Higher Education & Research" established by the University, and 50% will be available to the Department concerned for the purchase of equipment and/or material or for any academic activity and promotion of industry participation.

10.2 The amount to be distributed to the staff will be as per recommendations of the Principal Consultant approved by the Vice-Chancellor or any other person so authorized by him.

11 Examination duties, delivering special lectures, participation in University, College and Public Service Commission Selection Committees and Membership of Board of Directors of companies are not included in consultancy services.

11.1 The University may undertake outside work requiring services of the technical staff of the University which is part of their normal duty, on such terms and conditions as may be approved by the Vice-Chancellor.

12 Out of the sales made for a patent emerging from consultancy work, an annual royalty (to be divided equally between the consultants and the University) of a fixed percentage (to be decided by the Vice-Chancellor) will be paid to the University by the client.

13 On the completion of the consultancy project, a copy of the synopsis of the work, keeping in view the confidentiality clause of the project, and the audited statement of accounts will be submitted to the University/IIP for its records. Any un-utilized amount will be transferred to the "Higher Education & Research" of the University.

14 In case of any ambiguity, the decision taken by the Vice-Chancellor will be final.

Annexure-6

Important Addresses related to IP

IMPORTANT ADDRESSES

Controller General of Patents, Designs & Trade Marks

Bhoudhik Sampada Bhavan, Near Antop Hill Head Post Office, S.M. Road, Antop Hill, Mumbai - 400037, Phones: 022-24123311,

Fax: 022-24123322 Web site: www.ipindia.nic.in

PATENT OFFICES

Intellectual Property Office Building, CP-2 Sector V, Salt Lake City, **Kolkata**-700091,

Phone: 23671945, 1946, 1987, Fax-033-2367 -1988, Email:- kolkata-patent@nic.in

Intellectual Property Office Building, G.S.T. Road, Guindy, **Chennai**-600032,

Phone: 044-22502081- 84, Fax: 044-22502066, Email: chennai-patent@nic.in

Intellectual Property Office Building, Plot No. 32, Sector 14, Dwarka, **New Delhi**-110075 Phone: 011-28034304, 28034305, 28034306 Fax:011-28034301, 28034302,

Email: delhi-patent@nic.in

DESIGN WING OF THE PATENT OFFICE

The Patent Office (Design Wing),

Intellectual Patent Office, CP-2, Sector V, Salt Lake City, **Kolkata**-700091

Phone No.033-23671945-46,23671987 Fax-033-23671988

Email:-kolkata-patent@nic.in

Note: Application for design can also be received by any of the Patent Office located at New Delhi, Chennai & Mumbai.

TRADE MARKS REGISTRY

Office of the Trade Marks Registry,

Bhoudhik Sampada Bhavan, Near Antop Hill Head Post Office, S.M. Road, Antop Hill, **Mumbai**-400037

Email: tmrmum@bom5.vsnl.net.in

Intellectual Property Office Building, CP-2 Sector V, Salt Lake City, **Kolkata** 700091, Phone: 033-23675975, 23672848, 23677307,Fax: 033-23677311,

Email : tmrcalbr@cal2.vsnl.net.in

Intellectual Property Office Building, Plot No. 32, Sector 14, Dwarka, **New Delhi** 1100075, Phone: 011-28082915-16, Fax: 28082917, Email: tmrdel@vsnl.net.in

Intellectual Property Office Building, IP Building, G.S.T. Road, Guindy, **Chennai** 600032, Direct. 044-22502041, Tele-Fax: 044-22502042 Email: tmrchennai@nic.in

Trade Marks Registry, National Chambers, 15/27, 151 floor, Ashram Road, **Ahmedabad** 380009, Phone: 079-26580567, 26587193, Fax:079-26586763, Email: tmrahm@ad1.vsnl.net

GEOGRAPHIC INDICATIONS REGISTRY

Geographical Indications Registry, Intellectual Property Office Building,G.S.T. Road, Guindy, **Chennai** 600032, Phone: 044-22502091 - 93, 22502098,

Fax: 044-22502090 Email: gir-ipo@nic.in

TERRITORIAL JURISDICTION OF APPROPRIATE OFFICE FOR THE APPLICANTS

OFFICE	TERRITORIAL JURISDICTION
Patent Office Branch, Mumbai	The States of Maharashtra, Gujarat, Madhya Pradesh, Goa and Chhattisgarh and the Union Territories of Daman and Diu & Dadra and Nagar Haveli
Patent Office Branch, Chennai	The States of Andhra Pradesh, Karnataka, Kerala,Tamil Nadu and the Union Territories of Pondicherry and Lakshadweep
Patent Office Branch, New Delhi	The States of Haryana, HImachall Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Uttaranchal, Delhi and the Union Territory of Chandigarh.
Patent Office Kolkata	The rest of India

Designs: The application for registration of a design can be filed at the Patent office at Kolkata and its Branch Offices at New Delhi, Mumbai and Chennai.

CHEMICAL RESOURCES, established in 2003 with a vision "To be the trusted healthcare provider, driven by Excellence through Innovation, Quality & Patient Safety" is 100% export oriented unit approved by Govt. of India. Company's manufacturing facility is ISO 9001-2008 & NSF-USA GMP certified. Its business focuses on manufacturing of wide range of Neutraceuticals and standardized herbal extracts as per Pharmacopoeia Standards. Company is manufacturing wide range of products and is fast growing to meet the present and future market demands for plant based scientifically processed products.

- FENFURO™ is a first of its kind product derived from single herb with proven results for maintaining blood sugar levels.
- Scientific Research supports the non-toxicity of the product.
- Scientifically processed without effecting the chemical properties of the active ingredient to give maximum benefit.
- The people regularly using FENFURO™ have been marvelously benefitted resulting in;
  - Reduction of insulin intake to a large extent.
  - In many cases intake of insulin is no longer required.
  - Dosages of OHA have reduced drastically
  - HbA1c level reduced from high risk level to recommended level of <7%

To meet the challenge of managing diabetes the natural way, Chemical Resouces launched an innovative product in 2010 under the trade name FENFURO. FENFURO, a group of Furostanolic Saponins, derived from TRIGONELLA FOENUM-GRAECUM by innovative process (Worlowide patents filed & published) - Marks a technology breakthrough in the field of diabetes management

FENFURO™

NATURE + SCIENCE

Patent published in India, Europe and USA

www.fenfuro.com

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A Finishing School

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- Are you a bioscience student looking for industrial training
- Desirous of preparing for a job/entrepreneurship
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1. Recombinant DNA Technology
2. Industrial Microbiology
3. Bioprocess Engineering
4. Bio-Informatics
5. Plant Tissue Culture

SPECIAL FEATURES FOR STUDENTS

- Highly competent faculty for each course
- Spacious well equipped Air-conditioned Laboratories
- Free Personality Development classes
- Internationally acclaimed Advisory Council
- Transport facility

TIME DURATION

The project work can be carried from 12 days to 6 months curriculum depending on the academic schedule of colleges and student requirement.

ELIGIBILTY CRITERIA

The candidates, desirous of joining the institute should be graduates/post-graduates or pursuing studies for these degrees in any field of Biosciences. Candidates studying in B.Tech/M.Tech courses are also eligible.

CONTACT US AT

Regd Office
807, Industrial Area Phase - II
Chandigarh – 160002
Phone: 91 172 2652702

SIBAR

Campus
V & PO Garh, Tehsil Kalka
Distt. Panchkula, Haryana
Phone: 91 1734 250893
Mobile: +91 8872223502
E – Mail: sibar@sanjeevni.in

From the Desk of the Director, CIIPP

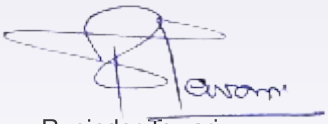
Over the years, like all faculty and researchers, I too have published several papers. I have guided a number of students at Ph.D and Master's level. However, if anyone asks me what is the technology which I have developed or whether any product based on my research has reached the end-user, I find that my answer too like that of many of my colleagues is 'no'.

As Director, CIIPP I face the herculean task of translating the research carried out at the University into products and processes which reach the end users; which generate new avenues of employment and help make the university self-reliant in terms of funding.

The task is neither difficult nor impossible. The resources are there, the intellect is there. All it needs is connectivity. CIIPP is here to provide this 'connectivity' . Publication of this “Intellectual Property Manual” is the first step in ensuring this connectivity.

It is my dream that the University not only becomes 'self-reliant' but 'surplus' in terms of funds owing to royalties from technologies licensed out to Industry.

I hope I will get all your support and help to make this dream come true.



Rupinder Tewari

Myths about Patents

Patenting is a recent phenomenon.

1st US Patent granted to Samuel Hopkins on 31-07-1790 for Potash Process

1st Indian Patent : An efficient Punkha Pulling Machine to George DePenning in 1856.

1st UK Patent to John Kempe for weaving in 1311

Only R&D Institutions/ Industries can file patents.

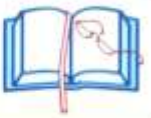
Mark Twain the famous poet got three patents for his inventions : An adjustable strap to tighten shirts (1871), A self pasting scrap book (1873) and A history game 1885.

Patent for dish washer issued to a housewife Josephine Garis on 28-12-1886.

2 patents granted to a school teacher (Gurmeet Singh) from Punjab for inventing a teaching aid on mathematics in 2006.

Publishing is important than patenting.

Once published novelty is lost. File first, then send paper for publication.



One can get a patent for an idea.

Patents are granted for any new and useful processes and products or any new and useful improvement thereof.

Patent granted in one country is automatically enforceable in other countries.

There is nothing like a global patent or a world patent. Patent rights are essentially territorial in nature and are protected only in a country which has granted these rights.

Only complex Inventions are patentable.

Patent for safety pin was issued on 10-04-1849 to Walter Hunt about 157 years ago.

Patent for needle of sewing machine granted in 1854.

Age a bar to get a patent.

Youngest girl to get a patent was four year old from Houston, Texas, for an aid for grasping round knobs.

Six year old boy (Robert Patch) granted patent for toy truck.