Patent Search For Engineers and Lawyers
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Lecture – 15
Hands and Patent Search, emerging areas of technology

Welcome to the aspects of the hands on Patent Search. In the earlier lectures we have looked at the aspect of the patented sequence search and the value in relation to searches and also the type of search conducted. In this lecture we will go through the aspects of looking at the search through other different databases as well as looking at certain how the emerging areas of technology for instance one looks at nanotechnology, the area of 3 D printing these are areas which are trans disciplinary in nature which do not represent inventions encompassing the traditional area of what we call predictable and the unpredictable art.

These are areas which are multidisciplinary in nature and searchers are often very complex. So, the understanding is also very important in relation to how one conducts a search in relation to these emerging areas.

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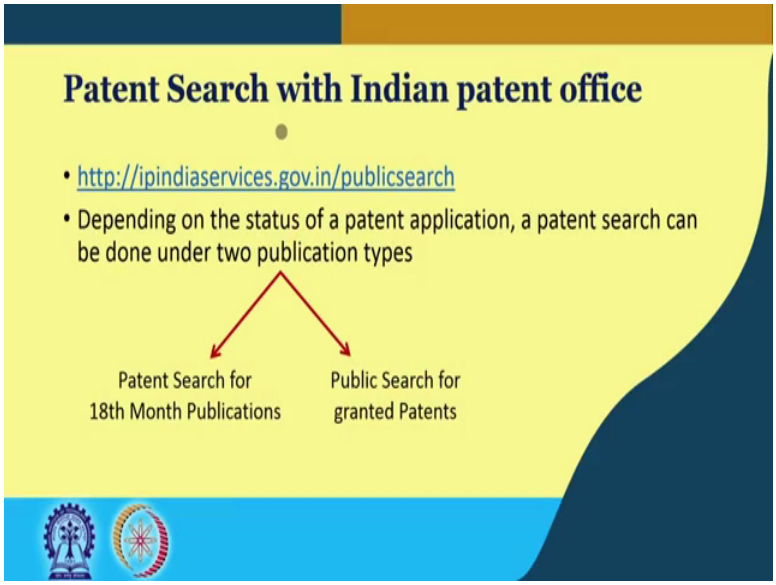

So, let us look at the search at the one of the databases which is the Indian patent information. So, the Indian patent database is available at the IP India website IP India services which is the IP India dot nic dot in and patent information can be sourced in the

form of two different searches, one is the published patent application search which you can get at the 18 month stage and one can also search for granted patents at the Indian patent office website.

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This is the basic search interface at the of the Indian patent office website and one can choose the desired type of the search for patents depending on the whether even is looking at the granted patent search or at or on the published patent applications.

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What are the different categories that are available for search at the Indian patent office?

So, one can look at the basic data in relation to the bibliographic aspects of the patent in terms of the application date, the title details in relation to the application number, the applicant, the inventor the inventor country whether a particular application is under PCT mode or not, you can look for that information one can also look for which is the specific filing office. Importantly the data in relation to complete specifications the entire file history of that particular patent can also be searched at the Indian patent office website.

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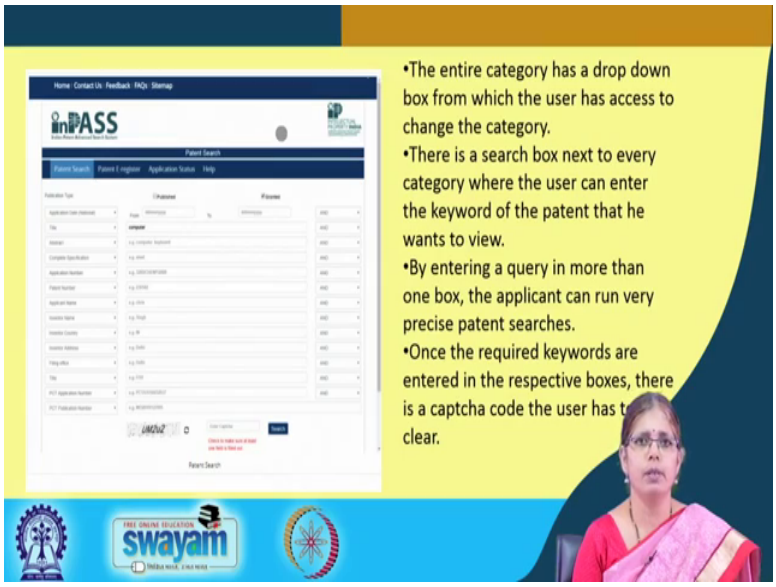

The database in relation to the search is called the inpass which is the Indian patent advanced search system. So, the various categories are listed in terms of the drop down menu and one can actually select any of that to look for the information in relation to. So, before you actually go in for a specific search one should actually click on either the publication mode or the granted mode. So, and then select the different fields for search. So, there is a keyboard option wherein the user can enter the keyword and then run the query in using one or more fields, and by hitting the capture one can actually conduct the search.

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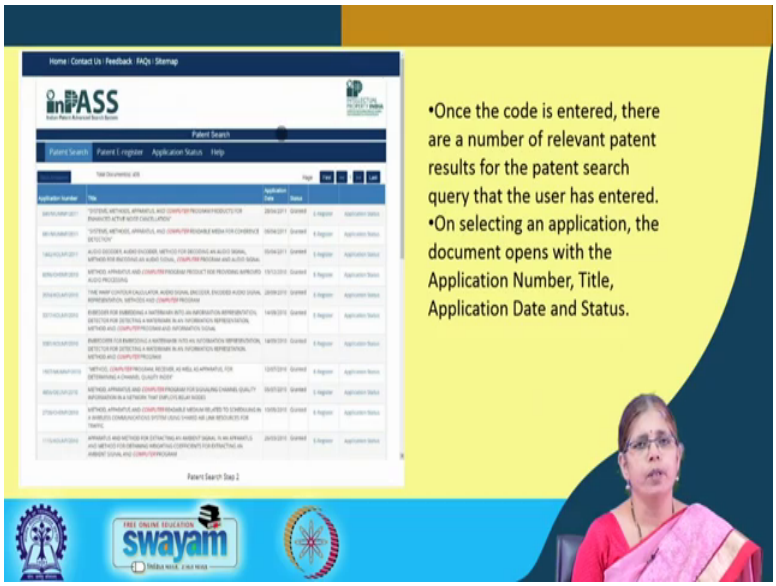

For instance, we are searching by let us say a very simple word called computer. So, and we are looking at titles which list them and in this case we are looking at the granted patent search. So, what is provided as a result based on that search is the application number, the titles with the marked highlighted call the word computer. The application date of those particular patent applications, the status of the (Refer Time: 04:38) application, it is they are granted. One can actually go in for further information in terms of looking at the E register information. So, there is a select option available for each of these rows where one can select all or one of the rows in order to sit source out the further information relation to a particular patent application.

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So, a lot of information can be sourced by way of search with the simple particular that particular by clicking on that particular application number.

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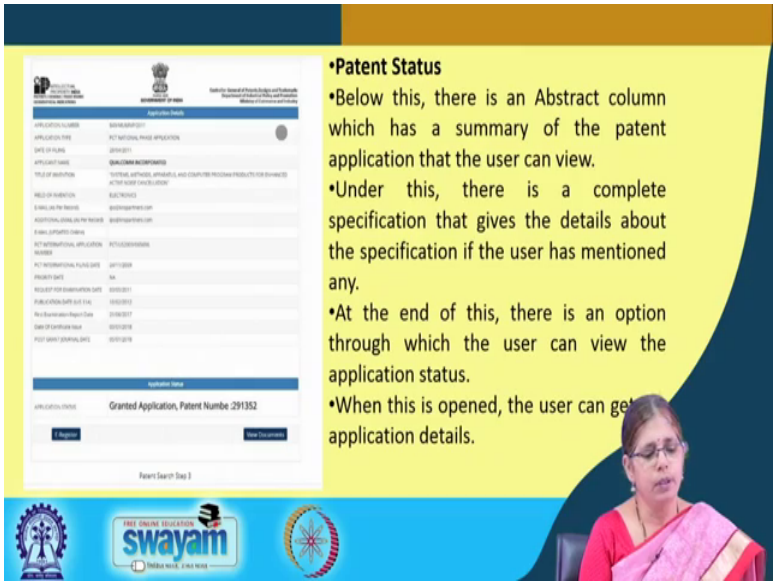

So, what is the data that you can get from the window where you actually try the next level of that particular patent application? In this case this is a particular application which is filed in the Mumbai patent office. So, it says 849 slash Mumbai mum is the code for Mumbai in 2011 and this particular application is listed as a PCT national phase application. It has been filed by QUALCOMM the date of filing is provided because the

date of filing is again important for you to determine the period of total grant in the grant period of the particular patent application. So, therefore, it is important to understand the date of filing to know the scope of the patent grant the patent period.

The title of the invention one can file the field of the invention which is the invention belongs to the area of electronics. Details in relation to the PCT application number the international filing date, then when the request for examination has been filed when the data of in relation to the patent application has been published and when was the certificate of grant issued. So, therefore, one can all of this information and further the one can actually go into the next layer of information by going and hitting the view documents button. This is the button for view documents. So, what happens when you click on the view documents? You can get the data in relation to the entire prosecution history of that particular application.

So, you can understand the different dates at which documents are filed, the complete specification information, the first examination response, the filed details in relation to the further responses all of this is available in relation to the particular specification. So, today one can conduct a very efficient search using the inpass database available at the Indian patent office website.

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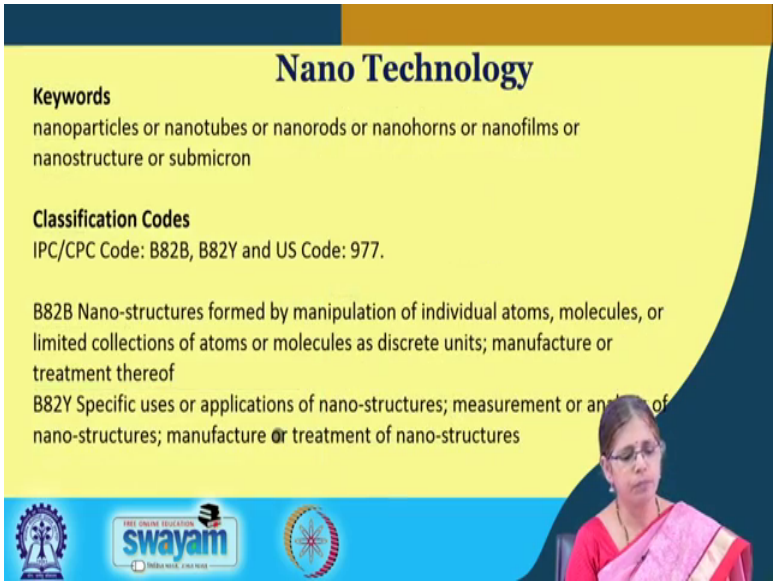

Let us look at one of the examples which is an emerging area and how for instance nanotechnology and how one can conduct a search in relation to this particular area.

First aspect of looking at searching in this particular area is to assemble the keywords. So, one knows in the area of nanotechnology either the inventions represent a nanoparticles, there could be representing nanotubes, nano composites, nano rods they could be nano films. So, understanding what is the type of invention is important for us in order to assemble the keywords. Further on it is also important to look at classification because today the area of nanotechnology has now gone into a little a fair amount of in depth classification. Typically looking at the IPC CPC codes would help B82B is one of the codes, B82Y is the another code used. In the case of US the corresponding code is 9 977 class which is represents the entire set of patents which can be sourced for the area of nanotechnology, this has many other subclasses as well.

Now, when one looks at the specific code in relation to the nanotechnology applications for you get an idea about actually what are the set of inventions in that particular IPC code for instance B82B. B82B is essentially about nano structures which are formed by different manipulation of individual atoms and molecules are in relation to that smaller units and it is actually about manufacture. So, wherever the inventions in relation to manufacturing in relation to nano structures come into play, they are actually coming under the purview of B82B. There is another class which is B82Y which is basically in relation to the applications of nano structures in different areas.

So, the specific uses are application of nano structures in terms of that measurement or analysis, manufacture or treatment of nano structures which come under this particular subclass. So, you have many others classes like that which are listed in relation to the area of nanotechnology.

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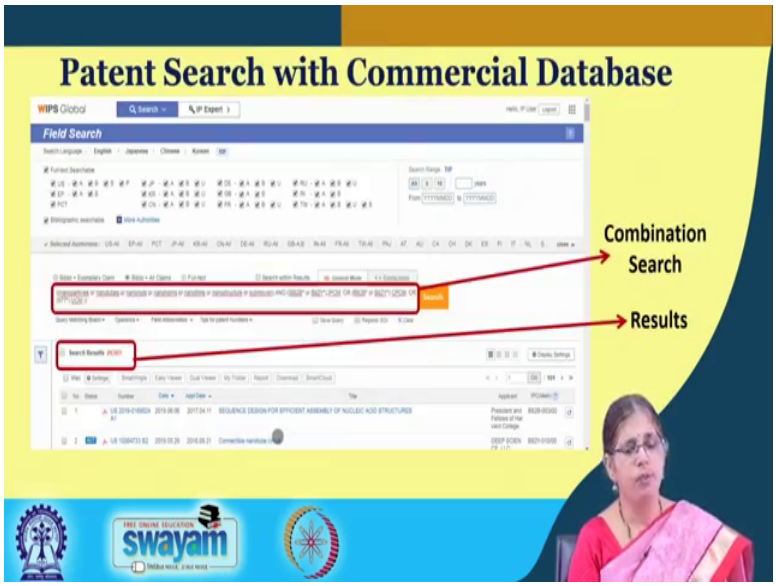

Today this forms a very important area for pattern search. Let us look at one example for search using a particular subscribe database which is WIPS global. So, you have the query window at which one can actually do a combination search of looking at the entire set of keywords for instance let us say we are looking at it very generally, we are looking at anything in relation to nanotechnology which could be nano particles nanotubes nano films all of that and we are also interested in looking at the IPC.

So, you can create a nested the option of keywords and the IPC and look for the results; obviously, this is a very very broad search. So, one would get 20000 at the hits here, but when you look at specific areas of let say nanorods and applications, you would find very smaller set of inventions represented. For instance one may be looking today into the area of nano vaccines and a specific disease in which case you will get a smaller set of inventions which could throw up as the hits and one can actually go into those results and then analyze them for with using different analysis options that are available.

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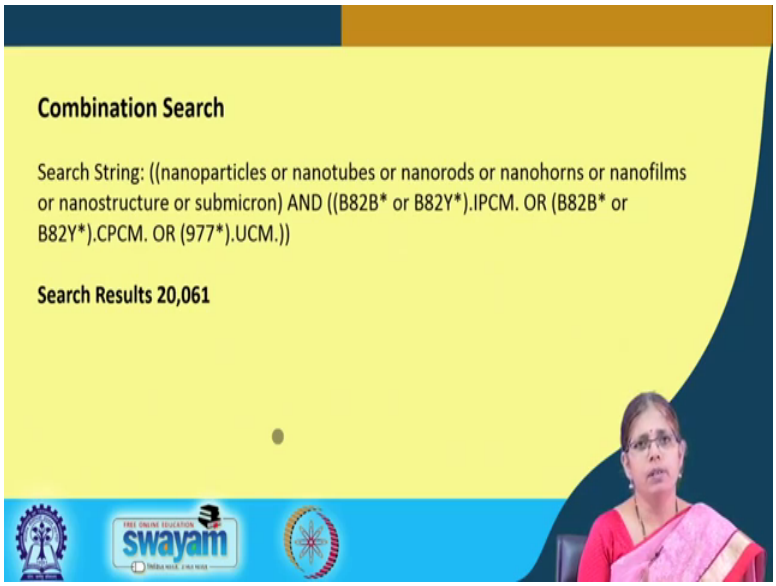

So, the search results that you get in this case are huge; this is just a very broad search, but what does this broad search tell us? The broad search tells us that there are as big as these number of patents available as on date which means the area is very well populated and of course, one can actually narrow down the search further into specific areas to get the information in relation to those interventions.

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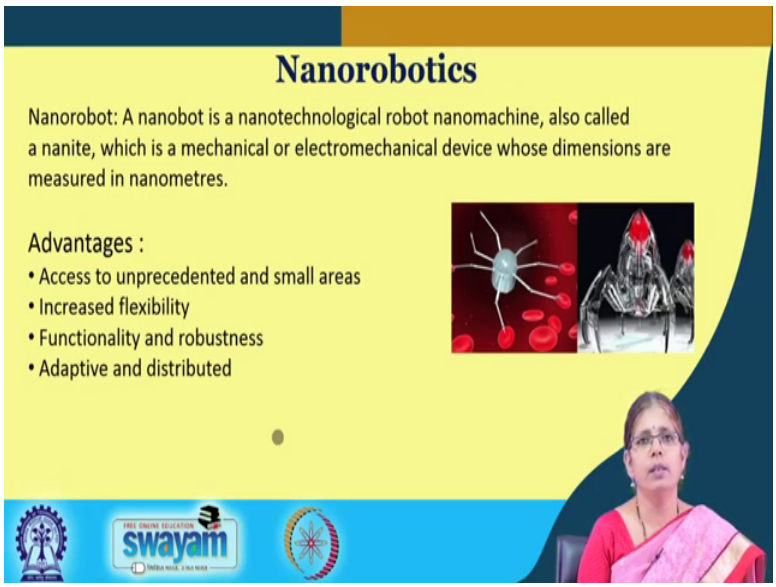

So, here is one example, today nano robotics has caught the imagination of many people not only researchers, but also even the general public. The options in relation to their

value is not only important for manufacturing for small scale manufacturing, it is also has lot of value in relation to the potential uses in surgery and many other such areas. Little understand the meaning of this particular technical term called nano robot first of all what is a nano robot? A nano robot is a machine fundamentally. So, it is a robot nano machine it is also called a nanite in the technical area it is also called a nano bot more simple in a more simpler way. So, which is either a mechanical or electromechanical device and whose dimensions are in the area in the nanometer.

So, fundamentally what does that mean? It means that any structure that is created out of mechanical means or utilizing electromechanical means such a device which could function for you know in the in the range of nanometers would be potentially a nanobot. Now there are lot of advantages of nano robots; fundamentally today people are looking of using at using nano robots in areas where one cannot reach easily.

So, access to unprecedented and small areas; for instance if one is looking at an intervention in relation to a biological system many areas are inaccessible. So, one can actually send nano robots in the human body and understand and micromanipulation can be done. So, this is something which is very revolutionary and this is one potential use which is projected.

There is a lot of flexibility in terms of using nano robotics and that is what this area comes with that potential and promise and in terms of functionality and robustness is again where a lot of applications are realized and the adaptiveness and distributive nature is also expected to have a lot of promise in relation to the area of nanorobotics.

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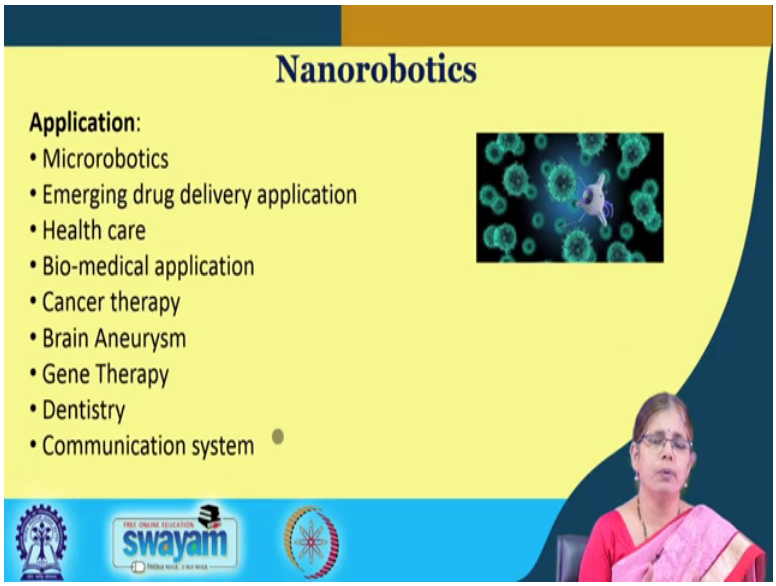

So, why is it that we are looking at the definitional concentrations of nano robot as well as looking at the applications? It is that it is this is important because it is from here that you pick up your keywords in relation to looking at this particular area.

So, there are many applications of nanorobotics today, the area of micro robotics itself is one where there are none of these applications realized. Drug delivery is one option, general healthcare, several biomedical applications into in the area of cancer therapy again there is a lot of use projected; certain areas of brain aneurysm is where they are projecting, gene therapy dentistry and in communication systems also the use of nanorobotics show a lot of potential.

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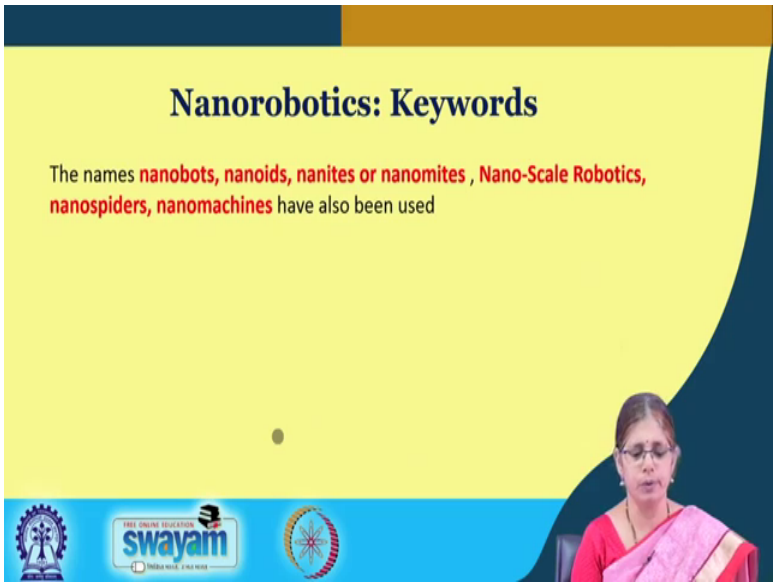

So, given that how do we now assemble the set of keywords to now look at this particular area. So, nanobots nanoids nanites nanomites nano scale robotics nanospiders nanomachines. So, today the area is growing in such a way that you have a lot of not only common terms, but they are also not of coined terms. So, taking that adequate consideration of the variation of keywords that are possible in this particular area is important and; obviously, looking at specific interventions dependent on the combined use of the keyword with other set of words in terms of the either the application or this specific area is also important.

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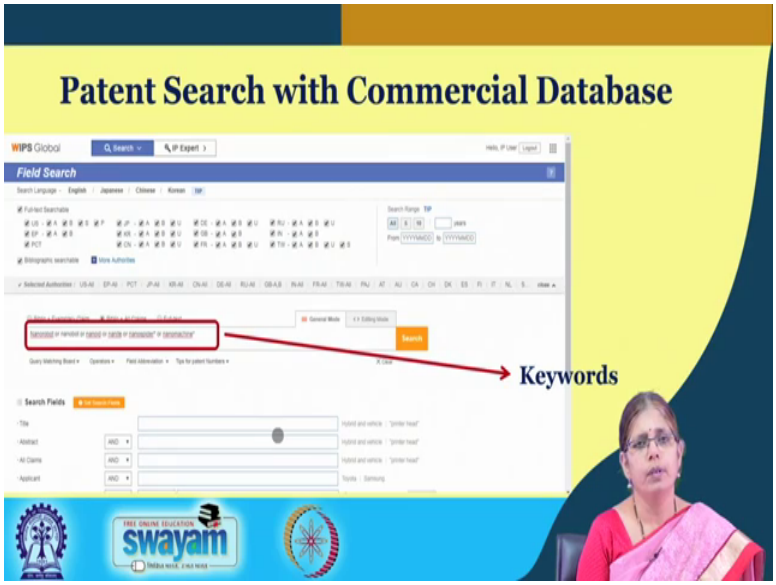

So, let us say we are looking at the search for this particular set of keywords that we want to carry out. You can actually have a very general search done, you can use the word nanorobot because in many patents you may not find the word nanorobots specifically you may find the word nanoid or nanite. So, here their difficulty in this type of research is that, the representation this in this particular area may not be very uniform. There are as they say you know the patentee can be his own lexicographer, which means a lot of coined words that are possible in some of these emerging areas and so, its often very difficult to say whether word particular keyword is consistently used in a particular patent specifications.

So, initially it would be good to really look at a very broader type of research to make sure that you are not having any documents missed in the entire patent collection when you get the results. So, one can look at this particular keyword input into the particular window here the search window and then look at the search. So, after conducting a general search one can go into what we call the specific search. A good way to really do a search in this area is to look at the uniform way of representation in this particular area often we have this difficulty in many other areas also when we do search ah.

So, looking for what we call technical classification in a given area is important. So, this is another important concept which I am bringing in here is that this type of a classification is not the same as IPC, which we talked about the international patent classification. This is about the how the area of technology considers the use of that particular keywords. As many of you are aware that in a particular area there is a standardized way in which certain technical words are used. Now as the area develops the definitional concentrations become much more clear. But when the area is just emerging it is possible that you can have different keywords for the same set of concepts.

So, understanding this is very important. So, normally we look for what we call is there a standard way of classifying keywords in a particular technical area. Often when we conduct searches we come across this as a big challenge for instance a you are searching the area of bio energy then the question is that bio energy means what there are different technologies which encompass biology.

So, looking at this area means that you have to understand what are there different applications, what could be the sources of biology and so, therefore, understanding

technology based classification is important and more or less there are different bodies standard bodies which actually also announce what we call the technical classification of the areas.

So, understanding the technical classification is important in order to embark on deciding on the keywords and often much of this also goes into the what we call patent classification system as well. So, in an area like nanotechnology which is an emerging area, one cannot just search by the word nanotechnology because; that means, the word nanotechnology would not be there in claims of patents. So, we are now bringing that into smaller terms in terms of looking at what is the aspect of nanotechnology, whether it is a nanowire or its it an annoyed, is it a carbon nanotube. So, understanding that is important.

Now, for instance we are looking at carbon nanotubes here there could be single walled multi walled. So, in which case if you are looking at the technology the nanotechnology in relation to carbon nanotubes, and you are looking at interventions in relation to multi walled carbon nanotubes one is to go into inputting this specific keyword. So, more or less understanding the technical classification in the area becomes imperative in order to construct keywords. So, that this search can be specific and also can be accurate.

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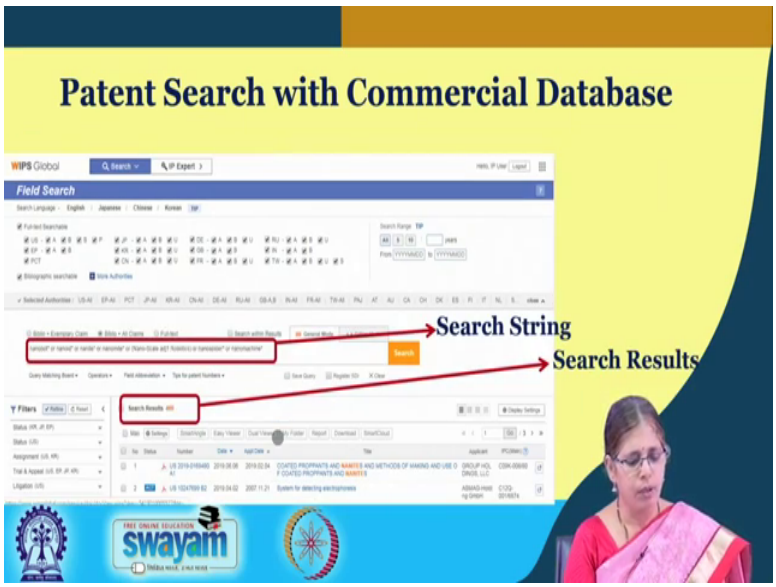

So, here we are in a search of this set of keywords wherein we have given nanobot or nanoids or nanite or nanomite with we want these adjacent to the context of what we care

robotics or we want nano machine or nano spider all of that is one search string. Now when you hit it against the database you get the search results; here in this case there are 409 results provided. Now you can find the highlighting of that particular keyword which you have used as a in the query window in the title of the application.

So, if you go through these different titles one can actually make out how many of that those keywords are represented in the title of these particular patents. So, this is what would be a general aspect of research, but then the best way to go about is to really refine the search into using specific key terms. But for a beginner in the area of patent search who is curious to understand what is nanotechnology and what is the entire breadth of the inventions coming in this area a general search would be good enough to be a good starting point.

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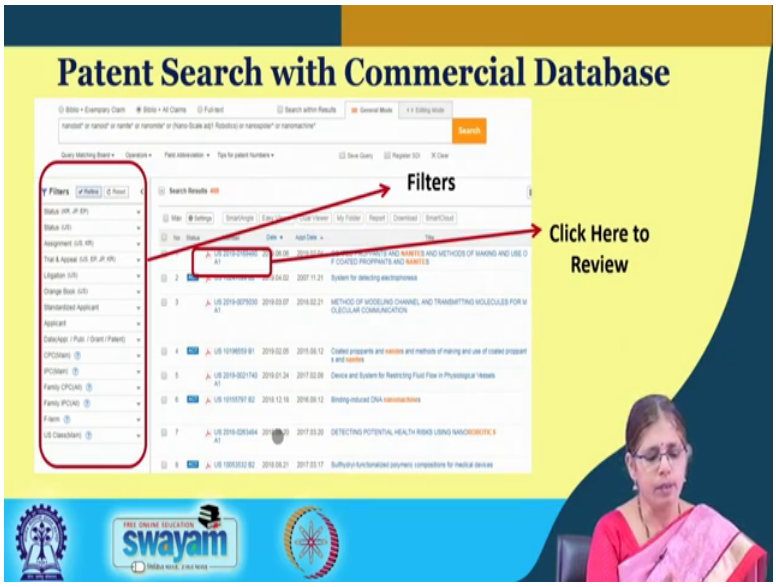

So, here you are with the entire details that are available the listing of the patents are provided in this window and one can actually go for the details in relation to applying different filters. So, this is one big advantage that you get from using subscribe databases where you have an integrated view of data that can be seamlessly you know accessed beside the basic information in relation to the patent applications. So, you can actually look for the status of particulars of this applicator corresponding US data, other different countries data, assignment data.

If this is an if this particular patent is under litigation is there any regulatory information associated with that particular invention in which case in this case the US orange book data is given. Orange book is nothing, but the register of the applications filed at the US FDA in relation to the medicines and the medical area.

So, today we have the E orange book and so, if this patent is also listed as in the orange book in which case this information is again relevant because in the case of US there is something called patent linkage. So, you have the regulatory information which is the US FDA information linked with the patent information. So, you would have the listing of the status of the pattern in the case of the orange book in the case of the US FDA.

They are called patent certifications which are there four different pattern certifications they are also called the para 1 para 2 para 3 and para 4. In the area of biotechnology and in the area of bio-pharma specifically and pharma, it is very relevant because many a time you are looking at challenging patterns and so, therefore, looking at the orange book status is also important for looking at the patent information.

Now, besides that of course, you can have a lot of information source on the IPC, the patent family information. So, all of this you can also have corresponding f term which is linkage with the Japanese patent information available. So, that is the advantage of using the database which is a subscribed database.

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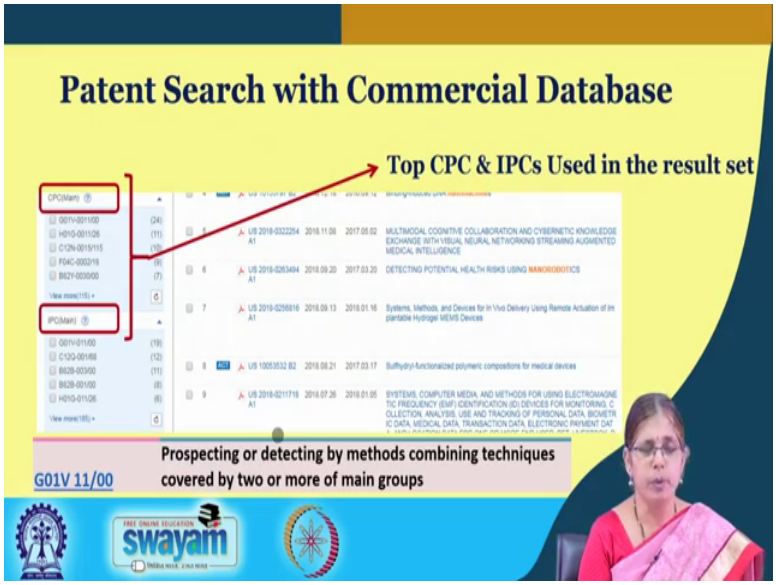

So, the top IPCs are listed in this particular case which has in the panel in the left end and one can actually utilize this well in the search results.

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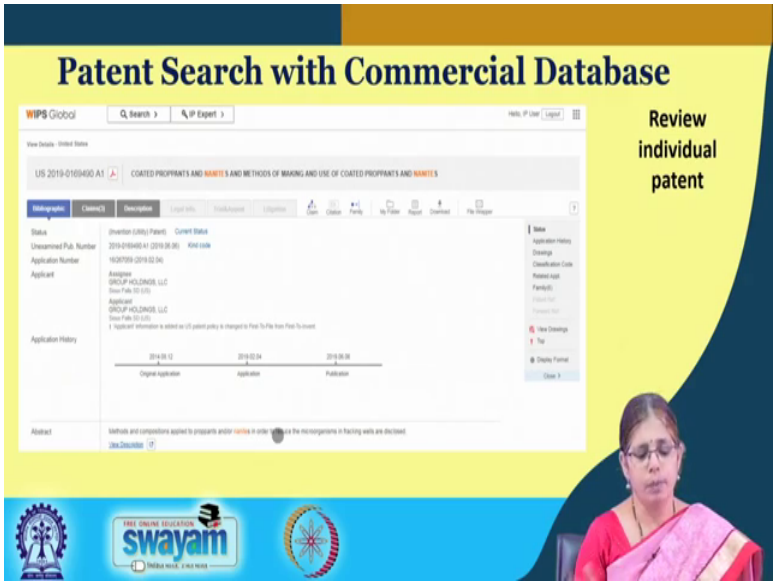

The search with the subscribed databases gives a complete end to end information to us in terms of the status of the application the results are also presented in a very user friendly format ah.

Now, for instance here again you are able to look at the detailed information in relation to the entire invention status from the point of view of the original application to the publication you can view drawings you can go to the related applications and also change the display format. So, this provides a lot of ease of actually looking at the further aspect of what we call as patent analysis you know from the search part of the in search part of the entire database.

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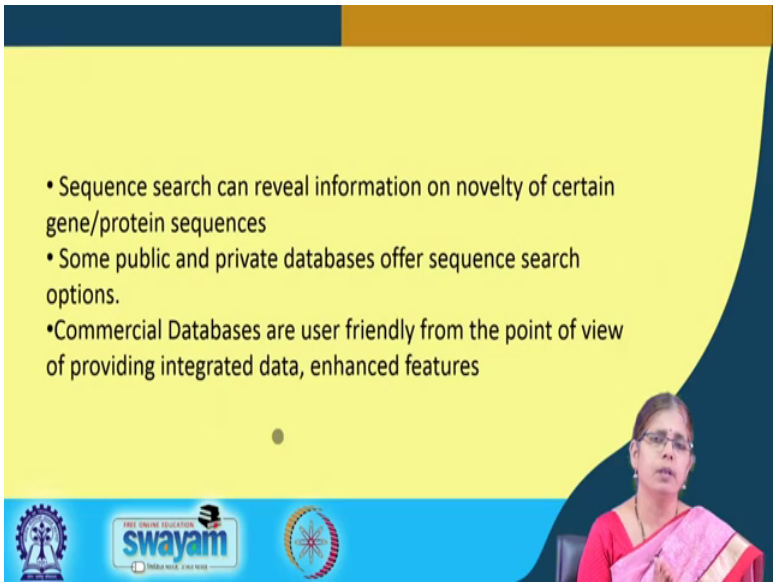

So, in summary we have understood the aspects of why sequence search is important from the point of view of genetic sequences and protein sequences, what is the value of genetic sequence and protein sequences to an agriculture agri agriculture biotech industry as well as the pharma industry and why the sequence search is an integral part of the domain in the case of agriculture and bio technology and pharma industry, where patentability considerations are very important, they start with the sequence also the aspect of where the value is in relation to freedom to operate search and also the validity searches.

Now, some of the public databases and private databases search options are different. So, understanding the value of search in public databases understanding the value of search and subscribed databases is often important because one can actually get a lot of value coming out in terms of one getting the integrated information and the updated information on particular sequences that are of value in relation to a particular search.

Commercial databases are again very user friendly; today there are a host of commercial databases which are available on subscription some are available on open access mode, and so, they have they provide a lot of integrated data and enhanced features and most of the databases provide varies various options in terms of analytical techniques and tools that are available for a searcher.

So, one aspect of patent search is the search part of the entire work. Now once the search is conducted the next aspect is what we call the analytical techniques options. So, the data that you get out of pattern search needs to be analyzed. So, the analysis is done post the search. So, fundamentally the search should be done well after the search is undertaken then the analysis of the search results is the second important aspect of the patent search and analysis.

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There are a few references for this particular lecture, the Indian patent office website is one, the WIPO has this particular website of the patent scope which gives you the link to sequence search and lens is one particular website where you can access the details in relation to the discussion that we did today in relation to the patseq, pat explorer, pat patseq finder all of these are available at the lens dot org which can be one can register and get the user id to use database.

Thank you.