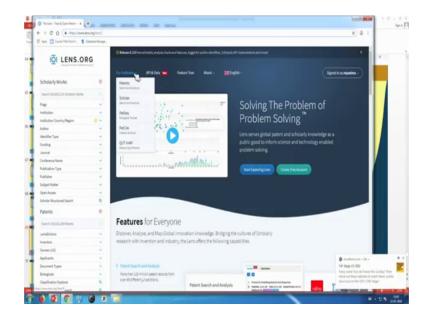
Patent Search For Engineers And Lawyers Prof. M. Padmavati Rajiv Gandhi School of Intellectual Property Law Indian Institute of Technology, Kharagpur

Lecture – 36 Analytical tools for Patent search and analysis (Contd.)

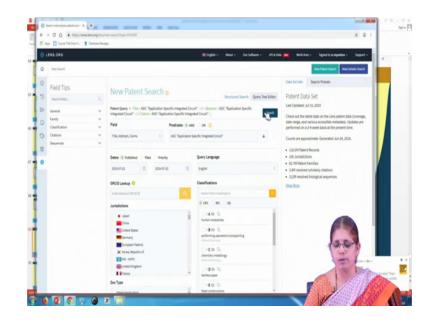
So, having understood the different aspects of the tools that are available under the lens database, let us look at the demo of the lens tool and understand the different functionalities for Patent analysis.

(Refer Slide Time: 00:38)



You can click on the our software under which these are the different tools available. So, the search analysis for patents. We discussed about the scholar works where you search analyze for the information in relation to publications in a particular technology area. PatSeq is the one with respect to search and analysis of information in relation to biological sequences. PatCite is for citation analysis and the proprietary tool additionally available is the, QUT In4M which helps in understanding the impact of a technology.

(Refer Slide Time: 01:29)



So, when you click on the patents link you get the new patent search and here you can see the different options that are available for searching as a part of this tool. One can also understand the last updation of information of the patent dataset, what are the jurisdictions data that is supported in this particular tool? And what is the total number of patent records which are available in the database? So, in this one can select the specific fields so, here you can select the title abstract and claims and you can given the keyword in this case I am giving in the keyword of ASIC Application Specific Integrated Circuit.

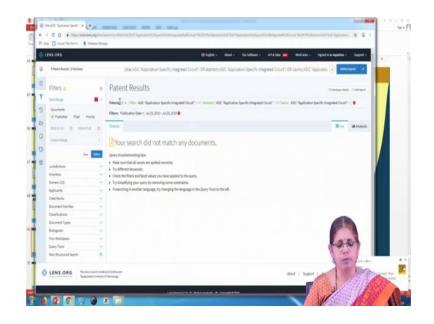
So, by giving this key term one can actually search for patents in relation to the area. So, as you can see the patent query is automatically created. So, in the initial tools for patent databases one needed to prepare the query in this case the tool itself is preparing the background query based on the terms that you have provided. Then one can looked at filed patent filing information, publication information, one can also decide on the specific dates for the information to be so, one can say from 2. So, you can go for the last 10 year information.

Normally if you are looking at trends emerging trends the last 5 year information is useful in order to understand trends. If you are looking at growth at least a 10 year data will be useful in relation to the patent information. So, one can actually specifically look at that particular information. So, in this case we are selecting 2010 to. So, we are looking at the last information from 2010 to 2019 and here if you do not select the

jurisdiction it would consider all of it, one can select for IPC or select for CPC queries can be run in different languages.

And for ease of use the IPC information is given here so, one can actually select on specific IPC code A which represents human necessity. So, the entire group including it is subclasses it is classes and subclasses will be searched for from the point of view of this particular information. So, once you select the different fields you actually conduct the search.

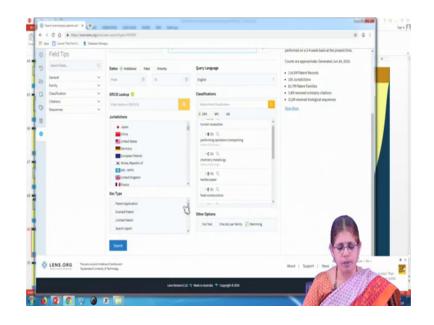
(Refer Slide Time: 05:18)



By submitting the search one can actually get the data in relation to a particular area. So, it is possible that for the ranges that you have searched the data may not be represented. So, one needs to clear this and go back to the patents link to conduct the search.

So, this is the search interface that is available whereby one can look at the data in relation to the information. So, it is possible that one can look at an information based on different fields. So, this is how one can use the database itself by using the options.

(Refer Slide Time: 06:17)



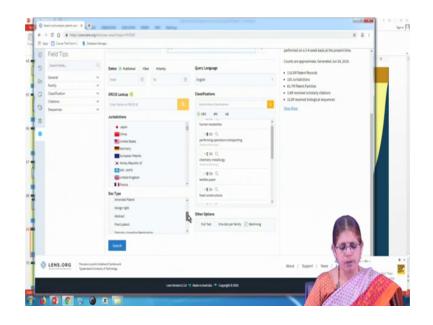
So, if you have the document type also can be selected in this case where you are looking only at the as the patent applications or the granted patents and then conduct the search.

(Refer Slide Time: 06:24)

8 Field	Tips			performed on a 3-4 week basis at the present time.
	faith. Q	Dates: Published Filed Priority	Query Language	Counts are approximate. Generated Jun 24, 2023.
S General Family	~ ~	too II Is II	tigisk I.	106.5M Patent Records 205 Jurisdictions K0.7H Patent Families
Classific		ORCID Lookup 🤤	Classifications	3.8M resolved scholarly citations
Clation		Enter Name of ORCO ID	Taylor Herel Casalhation	312M resolved biological sequences View.More
Sequen	os v	Jurisdictions	erc inc us	LOCK HOLE
D		Chose	Bit C_ Bit C_	
IĞI LEN	5.ORG Television	Search .		About / Support / Here /

So, this database also has plant patent information, it also has supplementary protection certificate information which is typical in the case of the European Union, statutory invention registration system is available was available in the United States post the America invents act it is not available.

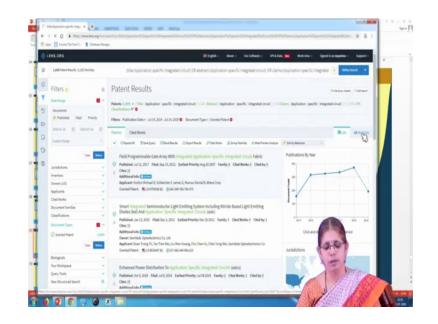
(Refer Slide Time: 06:46)



So, one can look at specifically that sort of document information. One can actually access information in relation to designs as well from this database, one can look at the search reports as well as amended patent information. So, this is one way in which. So, based on the patent search information you get the results and then one can actually look at the results and the analysis based on that.

So, when you look at this particular area of application specific integrated circuits ASIC. So, one can enter in the keyword select the field identify the dates of the search that is the period of search that is the last 5 years which represents the emerging trends. Here we are looking at all jurisdictions and you can select the specific class for instance you can select the class H which is electricity, then specific document type you can select granted patents and allow for stemming.

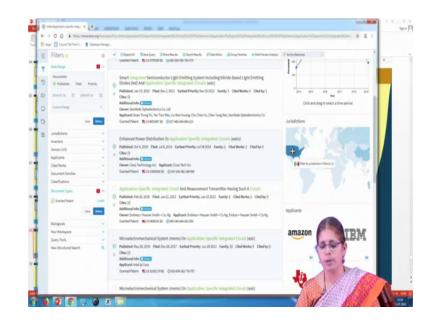
(Refer Slide Time: 08:06)



When you click on the search button here you see the different patents identified as part of the result. So, there are in this search has resulted in 1694 patents when the search was done with respect to title abstracts and the claims, Here you see the patents listed this is the patent list one by one, you have the basic information in the form of the title published when filed the earliest priority, how many members are represented as part of the patent family, cited works and cited by.

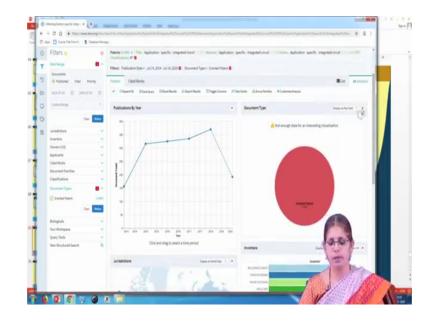
The additional information that is present you can access it in the form of the full text of the particular patent, applicant information and granted patent belonging to specific countries so, you can see the country flag. Besides this you can see the analysis that has come up with respect to the data that has been selected. So, we had selected 2014 July to 2019 July with the specific date of 14th of July, here you see the document count and the listing as per the number of years.

(Refer Slide Time: 09:35)



Further on one can see the jurisdictions which are represented. So, mouse over will give you that information. So, here you see the side by side representation of the patent information and the analysis.

(Refer Slide Time: 09:56)



If you click on the analysis you can see the complete window with the analysis detail. Now, since we are looking at only the granted patent data set here we are getting only the general total number. So, there is no comparison with the published as well as the granted in this case.

(Refer Slide Time: 10:13)



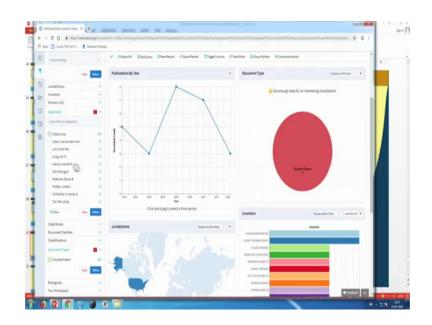
The jurisdictions information is provided where you can see the in the case of US, how many numbers of applications are there. Then in the case of Canada, what are the number of applications, in China what is the number of patents represented. So, you can see it on the world map what are the patents in the form of the representation.

One can also find the inventor chart and the total number of patents represented by the inventor in the form of this color coding, mouse over will give us a value with respect to what is the number of patents as well as the index in terms of the inventor indexing.

 Image: Image:

(Refer Slide Time: 11:06)

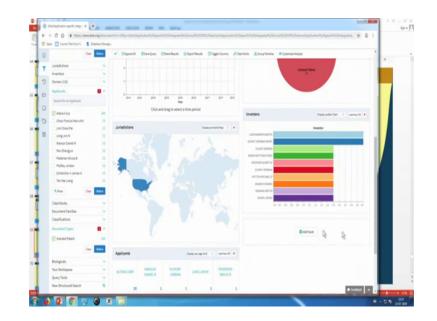
What are the different applicants which have patents in the area of application specific integrated circuits? These are the different companies that or institutions which actually own patents in relation to. So, one can actually filter by the applicant. So, if you click on ALTERA Corporation you would get the information only relation to ALTERA.



(Refer Slide Time: 11:35)

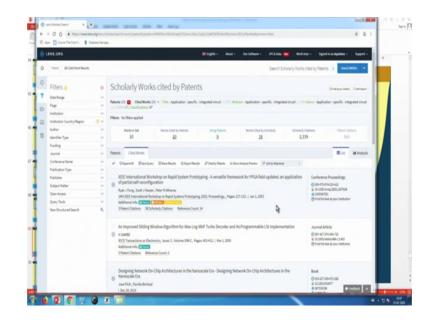
So, here it is generating the analysis this the same set of graphs, but specifically only for ALTERA. So, this is how one can look at specific information.

(Refer Slide Time: 11:53)



One can also filter the information as per inventor and you can have this workspace where you can actually create notes in relation to the workspace. So, this is how you can see the listing and the analysis of patents, one can edit the search by adding additional terms in relation to the particular area.

(Refer Slide Time: 12:19)



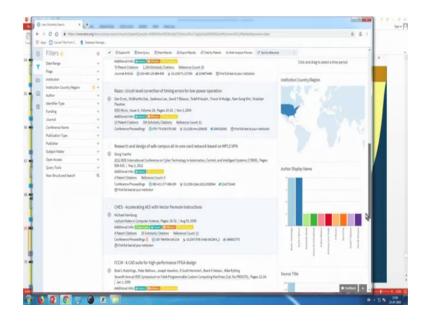
If you want to look at the cited works one can click on the cited works link to get the information in relation to the cited works.

(Refer Slide Time: 12:31)

9	LENS.ORG	M English - About	v OurSoftware v APL&Data 🧰 WorkA	tva v Signed in as myadma v Support v	16.1
9	Front 20 Ched Work Results		Search Scholarly Works	cited by Patents 🕴 Search Motion 🔹	
0	Filters .	scholarly Works cited by Patents		Oracian has Gathers	
T	Date Range	, , , , , , , , , , , , , , , , , , , ,			
	Fag	Anna (20) Ched Works (20) Title (Application specific integrated circuit) Of (A Of Checking and Checking M*	Intract: Application (specific (integrated circuit)) (11	Cains: Application specific (integrated circuit	
8	Institution				
0	Institution Country/Region	Bare: No libers applied			
	Author	Works in Set Works Cited by Patents Citing Patents	Works Credity Scholarly Scholarly	Citations Palant Citations	
60	identifier Type	20 20 2	18 2,3	39 NJA	
	Funding				
	Journal	dants Cited Works		Lizt M.Analysis	
	Conference Name	Charles Elevine Elevine Startmite Startstein in	Ida Analysis Preview F Sorthy Relevance		
	Publication Type				
	Publisher	IEEE International Workshop on Rapid System Prototyping - A versatile fram updates: an application of partial self-reconfiguration	ework for FPGA field Institution Na	Ine .	
	Subject Hatter	pupdates: an application of partial self-reconfiguration Run J Forg, Soutt J Harper, Peter M Athanas			
	Open Access	14th IEEE International Workshop on Rapid Systems Prototyping, 2003. Proceedings., Page	: 117-123. Jan 1, 2013 BYU	(intol) (Par	
	Query Tools	Additional Infer (II France) Contraction (II France)	BRIGAN TON	- (inter m	
	New Structured Search	1 Patent Citations 38 Scholarly Citations Beforence Count: 14 Conference Proceedings © 026-076-074-205-412 ≤ 18.1285/htmp.308.1201708 € 2085 (© Prod.M-Res. at your Institution	7461		
		An improved Skilling Window Algorithm for Max Log MAP Turbo Decoder an implementation isolate ECC Securities in Determins, Noise (SR-C, Naper 45142). Mar L2005 Additional the Company Company Company Company Company Johnst Colomis - Memory Count 5 Johnst Colomis - Memory Count 5 Johnst Colomis - Memory Count 5	ANN Contradition	an ATELLahn Basility Says of Destroy Says of Destroy, 5 Connuc. Exp. Virgina Polyteck, Int 4. State Long, UKA	

You can go for an analysis preview to get information in relation to the institutions that are available in relation to.

(Refer Slide Time: 12:40)



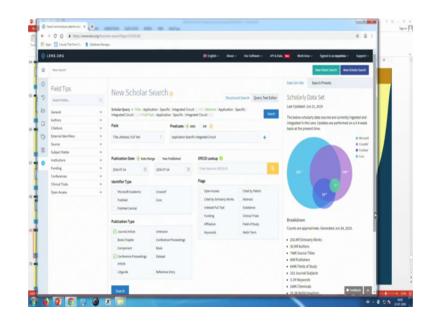
So, whole lot of analysis can be done from the general information to the specific information in relation to this particular areas. So, one can filter the information based on different options that are available and there are different ways in which one can actually go about with the search and the analysis.

(Refer Slide Time: 13:16)

🗐 Apps 🚺 Course Title Form 1. 💲	Satubase Manage						
🔮 LENS.ORG		H English	✓ About ✓ Our Software ✓	APL&Data 👥 WorkAwa v	Signed in as mp	adma v Support v	
Q Front 20 Chef Work Results			Patients District Level (191	wich Scholarly Works cited	by Patents 👔	Search Million +	1
© Filters •	Scholarly W	Vorks cited by Patents	Patient Constants		(track	periods Quarters	
Date Range Flags	(1))) AND CPC Classification	Works (20) = (Title: Application specific integrated cir Gene H*	suit())()()(Abde Patite (1977)0-444(79)	integrated circuit ()) (H Claim	Application ape	cffc (integrated circuit	
Institution Institution Country/Region	Filters: No filters applied	4	QUT INVER				
Author Mentifier Type	V Works in Set V 20	Works Cited by Patents Citing 20	Patients Works Cited by Sci 2 18	tobarly Scholarly Citatio 2,339	~	N/A	
Funding Journal	V Patents Cited Work	la la				Cist M Analysis	
Conference Name Publication Type	V V Objectil Bi	laniquery Stanikaulis Stapolikaulis PCharley	Palenta Lil Hole Analysis Preview LP So				/
Publisher Subject Watter Open-Access	Updates: an app Ryan J Fong, Scott	nal Workshop on Rapid System Prototyping - A ve plication of partial self-reconfiguration L Harper, Peter H Athanas		Institution Name		0.000	
Query Tools New Structured Search	V Additional Info:	ional Workshop on Rapid Systems Prototyping, 2003. Procee Street Control Control Street Stree	edings., Pages: 117-123. Jan 1, 2003	BELEVAN TOTAL	Intell me		
	Conference Procee	adings 🖞 028-073-074-236-022 🕏 10.1339/horsp.2003.12070 our institution	08 d 206547853				
	Implementation H GAMEE EXE Transactions Additional Info:	on Electronics, Issue 3, Volume EBB-C, Pages 403-412.		ARM Lindudfiadr	ATSTURE	Bradley Dept. of Electron, & Commun. Eng., Veginia Pulytech. Inst. & State Unio., Blacksburg, VR, USA	
		0 001-421-514-364-72K \$ 30.3000/emic/488-c.3.400 (\$ Fee	I full next at your institution	1		1 1	

Let us go to the another part of this lens tool which is about scholarly works.

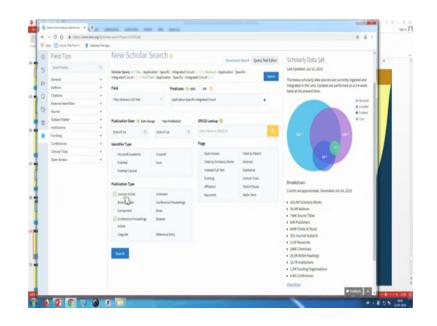
(Refer Slide Time: 13:24)



Now, in the new scholar search we can get information in relation to the non patent literature in the form of publications, conference proceedings, journal articles and the statistics in relation to the specific area. So, here you have the identifier type; that means, the database has the collection in relation to Microsoft Academic, PubMed, PubMed Central, Crossref and Core.

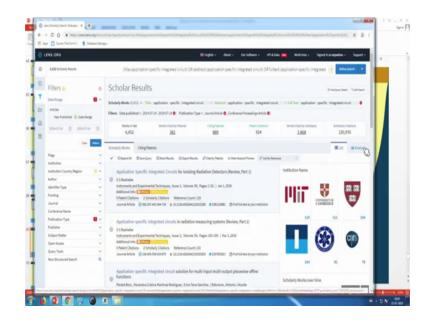
One can select again the fields of information here you are looking at not patents you are looking at the journal information or preceding information where again you can search for title abstract and the full text. You can identify the same area that is application specific integrated circuits and then identify to what extent there is the clustering of literature information, either in the form of conference proceedings or journal information.

So, one can select journal articles, conference proceedings which takes into consideration all of these one can actually define the year as well. So, if you are looking at the data spread in relation to the same set of years one can get the data in relation to the publication information which is available in as a part of the literature. So, let us input the word here again of applied application specific integrated circuit into this window ok, you can ask for a data range of 2014 to 2019 and identify a type we are not specifically selecting any. (Refer Slide Time: 16:21)



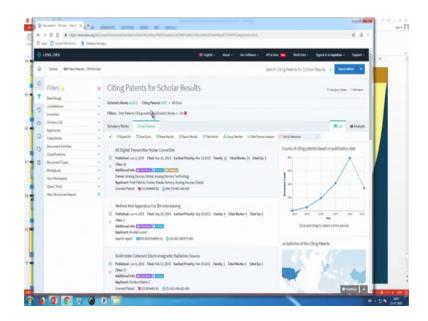
We would like the publication type journal articles or the conference proceedings to be shown up.

(Refer Slide Time: 16:34)



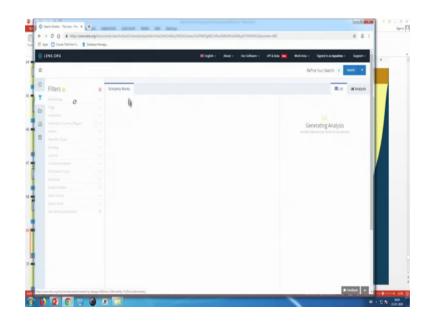
So, if you click on this search you get a whole lot of literature which is there with respect to the area of application specific integrated circuits. The each of these literatures which are shown up on this particular window are indicated by the field of study and the affiliation. One can export all these results, one can look at the analysis, one can actually also sort by relevance from the point of view of the highest in the scholarly citations to the lowest. And since the there are citing patents information as well so, one can actually look at citing patents information also in relation to.

(Refer Slide Time: 17:36)



So, here you have citing patents for the particular area. So, one can look at this and look at the analysis.

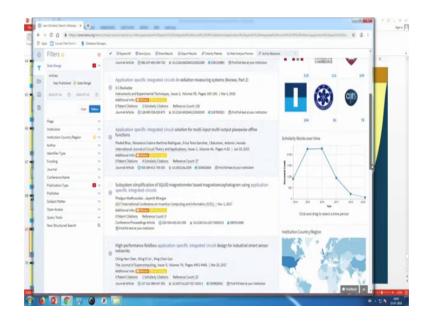
(Refer Slide Time: 17:49)



So, if you look at these scholarly works back again and go back to do the analysis one can actually analyze the information in relation to the specific area. So, the one can see

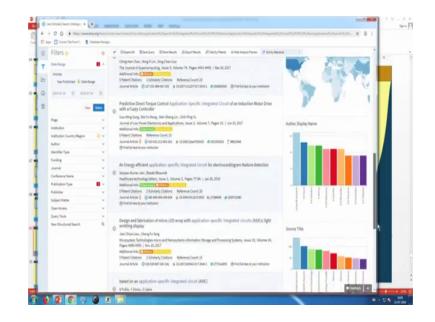
the different analytical options available in relation to the data obtained in relation to the non patent literature.

(Refer Slide Time: 18:19)



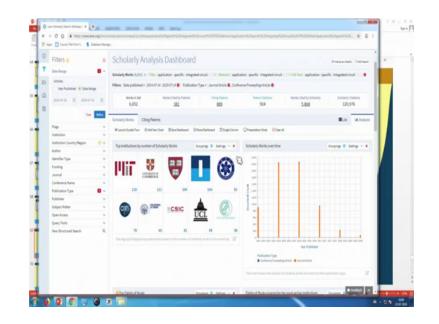
So, for all of this one can find out what is the institutional strength in that particular area in terms of the number of publications in the form of journal articles or conference proceedings.

(Refer Slide Time: 18:35)



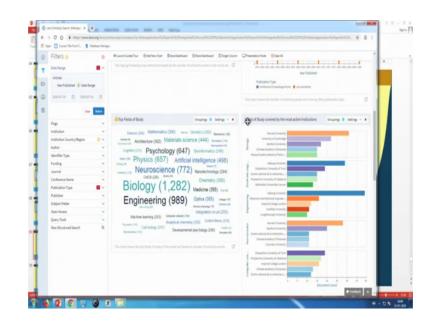
The number per time the country region representation and the maximum publications by author then field of study. So, one can see this information side by side.

(Refer Slide Time: 18:52)



And if you click on the graphical analysis option one can see the details in more particular in the particular fashion. So, here you see the top institutions which are represented in this particular area or these different institutions from different parts of the world, one can select by the institution to look at the specific data in relation to that particular institution. Here what you see on the right side is the publication type vis a vis the document, count, whether it is a conference preceding article or a journal article.

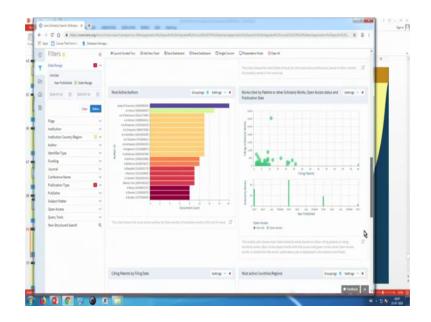
(Refer Slide Time: 19:32)



So, the relative publication number is shown, what you can see here is the field of study covered by the institutions. So, here you have different institutions and represented in a color code with respect to each different area for instance, computer science, neuroscience, engineering, electrical engineering and biology.

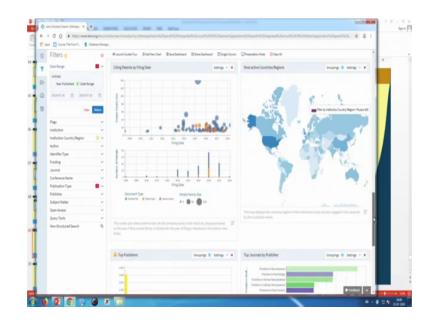
As we had discussed in the lecture one can also see the strength represented in a particular area by the document count in terms of the numbers represented in the bracketed beside the term. So, engineering biology is the largest number. So, there are there are some in the case of artificial intelligence, some represented in the area of psychology, some documents in relation to physics and so on and so forth. So, this is displaying the top fields of study based on the number of the scholarly works.

(Refer Slide Time: 20:37)



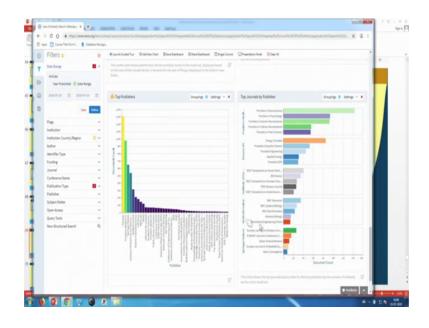
So, one can actually look at the further information in terms of the most active authors in a particular area, understand work cited by patents or by other in other scholarly work.

(Refer Slide Time: 20:55)



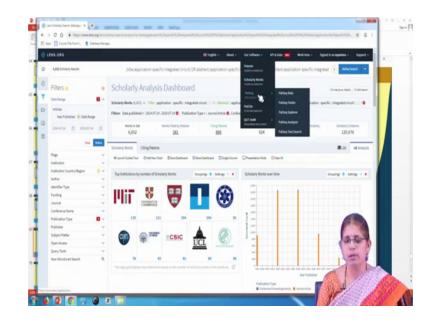
Most active regions which are represented which indicates those which are actively engaged in the research in this particular area.

(Refer Slide Time: 21:09)



It also provides a top publisher information and also top journals by public publisher. So, it is almost one can get the entire information in relation to the growth of a research in a given area, one is the institution wise and the other is the strength of publications then which are the fields of study which are most worked, what is the level of research and the level of publication.

(Refer Slide Time: 21:49)



Let us look at the another tool which is the patent sequence tool under the lense database.

(Refer Slide Time: 21:58)

H App. Course Title Fore 1. S Calabase Manage.			India Analy De			
e LENS.ORG			Erglik - Abad - Ou	Sofiware - APL&Data 🥅 We	ult Area v Signed in an expanse	
A hospitally					And Speed Search	we totale teach
Pattieg Home Data Text Explorer Fi	inder Analyzer					
		IOI LENS	[DATSEO]			
			Imperiate Distance			
The Lent' unique one	a facilita allour una te	rearch analyze and that	on the biological case	ences disclosed in patents.	This is the world's	
				5 apps available to you to s		
in Best hannely a rain		DNA, RNA and protein se			concernor or norpos	
The second				- 10000		
		and interest		- Second		
					•	
			- 0			
	• # v		• • • • • • • • • • • • • • • • • • •		• • •	
			0			
Paties Data	♥ ● ::: V	Pagig bolowr	() :: vimeo	Picke Analyzer Conservation of the		
	C :: V		Cited seguran maged a polo pick integri	Patter Analyzer Patter Analyzer Briefe Analyzer Briefe Analyzer Briefe Analyzer	hromosomal locus or gene y patent attributes to	
Patcles Otal	C :: V	Pupple Deform Weight and any a path dis-	Cited seguran maged a polo pick integri	Compare patenting activity at the clavel, filter by sequence or search by	hromosomal locus or gene y patent attributes to	
Parse bras Prese bras Compa de referencia de la falta	C :: V	Packa Dolorer Negata et a angles parted before esta angles parted before esta angles parted	Cited seguran maged a polo pick integri	Compare patenting activity at the o level, filter by sequence or search by analyse extent and scope of invento	hromosomal locus or gene y patent attributes to	
Parse bras Prese bras Compa de referencia de la falta	C :: V	Packa Dolorer Negata et a angles parted before esta angles parted before esta angles parted	Cited seguran maged a polo pick integri	Compare patenting activity at the o level, filter by sequence or search by analyse extent and scope of invento	hromosomal locus or gene y patent attributes to	

So, here you have Patent sequence data, patent explorer, patent analyzer.

(Refer Slide Time: 22:08)

ven Tite Form L. S Database Merupe.	1			C Not C		1.000
► ²⁴⁰	0 :: V		et 0 :: vimeo	• • • • • • • •	tt vimeo	
PatSeo Data		PatSeg Explorer		PatSeg Analyzer		
Compare biological patient hole and regional patient offices data declosures across jurisdictions	phases, view sequence	Navigate and analyse patent d onto periories and chromoson between sequences and pheno	nes and explore linkages	Compare patenting activity at the chromoso level, filter by sequence or search by patent analyse extent and scope of invertion at the	attributes to	
Launch PatSeq Bata		Launch Patting Explorer		Launch Patting Analyses		
	But Palling Beach And Report 19	and the second	Manne aspiere, Human			
			Escherichia coli, E. Coli			
	Instants Instants	of the same	Arabidepsis thelena, Thai			1
	San Change Street		Connorhabelits elegens, R			
		(And a local data of the local	📕 Drosspihle melonogester,	ny		
	1. And in concept Carl estimate free (2. 2017	AUTO IN LABOR	The mays, Malas			
	PatSeq Finder		PatSeq Text Search			
	Lens Pattleg database, and de	uence()) to find matches in the stempine schether the results have of a patent, or just disclosed	Search for patents that declare sequence listings section as de Use keywords to perform fuil t			
	Launch PatSeq Finder		Launch PatSeq Text Search		200	
			Second Second		(a)	2
		Back to LENS (spene)	Second Second		100	
						Aller

Patent sequence finder and text search.

(Refer Slide Time: 22:26)

+ + C O * http://www.lens.org.toru/o	ulpatosybela#globe%3		0.01	
🗄 Apps 🚺 Course Title Form 1. 💲 Database Menap	h-			
And/or Use and a cost to parets distributed parets spaces with the deviation of product spaces and the deviation of product spaces and the deviation of product spaces and the spaces of product spaces and the space spaces of product spaces and the spaces of product spaces and the spaces and the spaces of product spaces and the spaces of product spaces and the space of product space spaces and product spaces and the spaces and the space space of the space of product spaces and the space of product space of product space of product spaces and the space of product space of product spaces and the space and the space of product space of product spaces and the space and the space of product space of product space of product space of product spaces and the space of product space of product spaces and the space and the space of product space of	Order trades of the second secon	1150 1150 200 200 200 200 200 200 200 200 200 2		

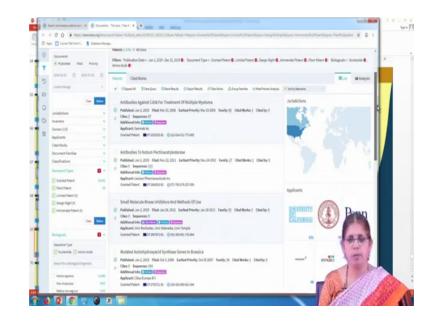
So, once you have the registration details for the lens information you can actually go to patent sequence each of these to explore and understand the value of searching and analysis in relation to the biological sequences as well. So, here you have the early representation of the documents which are available under the lens database which have which disclose sequences. So, the period of time period is from 1970 to 2019. So, here you have so, for instance for the current year you have 11,109 documents which disclose sequences. Those which are represented by grants relatively you will find lesser number of documents that is; obviously, many applications are not moving into grants.

 Instructions provide integrations that is a state of the state of

(Refer Slide Time: 23:25)

So, let us look at for the current year these are the different types of documents which include sequences disclosed. So, here you have see the 38 is one such the molecule for which you have the sequence information deposited. In this case you have antibodies for pectinacetylesterase enzyme, rnase Inhibitors in another case.

(Refer Slide Time: 24:04)



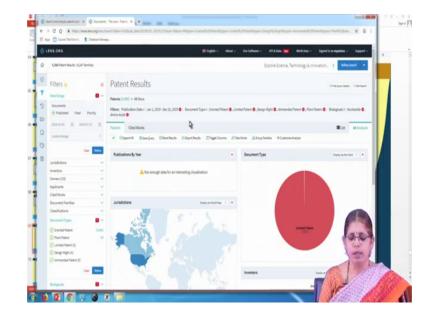
So, you have a whole lot of sequences of different type, here you have acetohydroxy hydrate synthase, acetohydroxy acid synthase which are from. So, the there are various sources and depending on the grants of patents sequences are being disclosed from different organisms. So, this way one can understand what are the new sequences that have being claimed in patent documents.

(Refer Slide Time: 24:43)



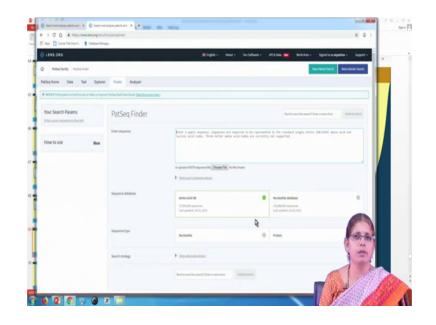
Again one can look at the analysis in relation to this particular data. Since we are looking at only one particular type of document grant there is not much information since it is only granted patents. However, you can look at the, what are the different type of applicants in the current year who have claimed sequences in relation to patent documents. Then who are the inventors, who have claimed sequences as part of the who are the inventors, who are at the part of the patent and one can see the index.

(Refer Slide Time: 25:19)



So, this is how one can actually look at the information in relation to a particular year and access the document access the information in relation to that document. One can actually look at the information in relation to cited works one can customize the analysis further. So, this is how one can actually utilize the information that is presenting the PatSeq data.

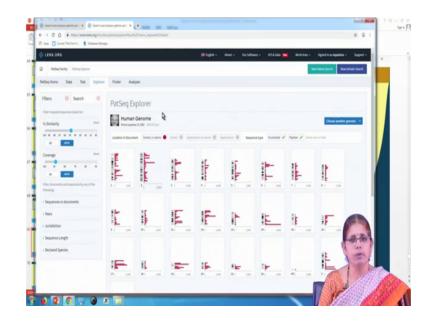
(Refer Slide Time: 25:52)



So, one can go to the PatSeq finder to look at the information in relation to certain patent sequences. So, here one can input the query sequence as per the standard representation in the area whether it is gene or in the case of a protein by 3 letter amino acid codes ok. So, either the in this case the nucleic acid codes or the can be actually inputted into this particular query window or one can actually choose a file where you can upload a faster sequence into this particular query.

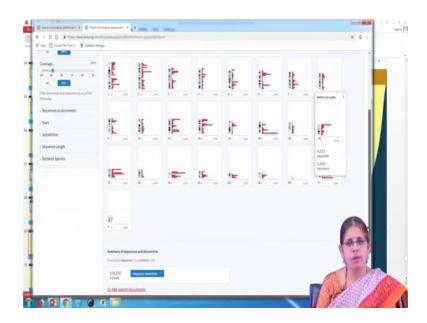
Then you can search the specific database so, whether you call it an amino acid database you are looking at similar proteins, you can go for the nucleic acid database to look at the gene sequences. So, you can select the sequence database and then run the search. So, that way you will get the similar sequences and it will also list information in relation to from where the similar sequences are and which is the organism. One can also utilize the other tools that are available under PatSeq, for instance you can look at PatSeq explorer.

(Refer Slide Time: 27:18)



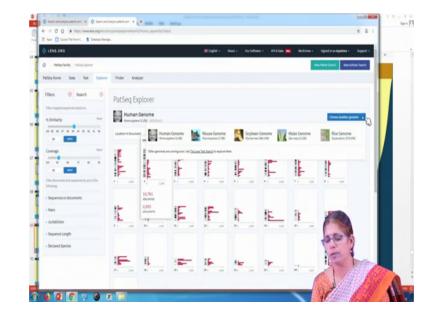
By clicking on the specific link here you can actually explore sequences from different genomes. Here you have by default the human genome and you have the representation of each of the chromosomes the total number of sequences and how many documents are represented.

(Refer Slide Time: 27:49)



So, this way one can actually understand the, growth of the area in relation to isolation of sequences and claiming of sequences in patents in relation to given genome. One can

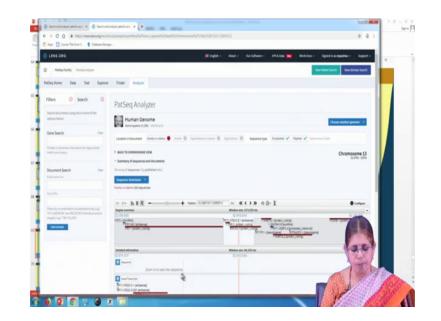
actually download bulk sequence information using the download option. There are additional databases that are genomes that are available.



(Refer Slide Time: 28:15)

So, if you click on choose another genome you can find mouse genomes, soybean genome, maize, rice. So, the entire listing of genomes are available and based on the total number of genomes available under this tool one can select and then identify the sequences, there is also an option for analyzing sequences under the PatSeq using the analyzer option.

(Refer Slide Time: 28:42)



Where one can actually look at analyzing the sequence from it is different parts. So, one can understand in the entire stretch of the sequence which are the protein coding regions. How are the different regions represented in relation to that particular sequence.

Filters by a combination of publication long, e.g.: VIS 1220785 BJF and SEQ 10 90 0md/induat and/or ranges), e.g.: 7900-713,3007	Region everview	Window size: 473,559 ats	
Tel: Norther	sz IN 600 ND1- gyultat Herrigines (song		31.20.391
	Perfailed information 32:171:537	Window size: 14(19) etc. 32 303 614	22 996 791
	Sport in to view the sequence		
	C Gene Taractal		
	0 10 ²		
	Pelder - Gente In Center Sign 0: 1 (P 120020 B) Frider - B Sign 0: 1 (D 120020 B) Frider - B		
	10 Q D 1 05 MITTARE A - MEQ D 1.01 (P 1000000 01)		
	150 (P 2 US SETTING A 15 150 (P 2004 US SETTING A 15	1010 0 101 000 007 A 500 007 A	10 2100
	- 56Q-ID 1004 US 1256894 82		A 100 -

(Refer Slide Time: 29:19)

So, this gives a handle to understand the presence of the different genes in a given stretch and look at analysis beyond. So, here you can see in this panel, in a given stretch how many different sequence IDs are there and how many of those are claimed by different patents. Here you have an EP patent, another stretch in which you have the US patent taken. So, this gives you a complete view on the different patents claimed in relation to the sequences and that is how one can actually look at the gene information. (Refer Slide Time: 30:25)

+ -> C O + https://www.lens.org/oru/br	is/gatim				0.01
📑 Apps 🚺 Course Title Assoc L. 💲 Database Menag	A.				
E LENS.ORG		III English + Almat +	Dur Software - API & Data 🚾	Work Area - Signed in an expedient -	- Sepert v
Attentativy Packing Text Search				Non-Falsed Stands Real	Scholar Search
PatSeq Home Data Text Explorer	Finder Analyzer				
Species and keyword Search	NOTICE: Participate in a brief survey to help as improve Patcleo, I	fulk Dreeviceds Salar Balaurum now a			
Search for patents that declare at least one sequence in their sequence listings section as derived from a specific species. As many	PatSeq Text Search				
disclosed sequences are unknown or unspecified, we recommend that you use	Species and Keyword Search				
keywords to perform full text searches within the corpus of more than 440,000 biological	Enter a keyword				
patents or combine species with keyword searches. Link to a species genome explorer via "View Explorer" shortcut.	and / or Specify at organism				
na new opener annear.	den la alterna				
PatSeq Explorer	Search				
Navigate sequence listing entries from granted and published patents as mapped with various similarity and coverage	Shortcuts to Species of Interest				
thresholds onto a specific genome. At present, we have explorers for the human, the	Homo sopiens, Human & Ves Dates	Coenorhabditis elegans, Roundwarm		Malus domestica, Apple	
mouse, the maize, the rice, and the soybean genomes. View the mapped and integrated patent and sequence data at the genome or	Mus musculus. House Mouse & non-taken	Drosophile melanoposter, Fly	9	Actinidia, Kiwi Fruit	
chromosome level and download any sequence you are interested in. Sequence data can be downloaded by academic or non-	Zeo mays, Malae 9, res busiser	Donio rerio, Zebrafish	0	Solonum (ycoperaicum, Tomato	1007 (Bab)
profit organisations under a <u>Creative</u> Commons Attribution NonCommercial- ShareAlke 1.0 Uncorted License. For any	Glycine max, Soybean & transformer	Gottus polius, Red Jungle Fowl		Solonum tuderosum, Potato	Sel.
other use, please contact. <u>ostnat.lefferson@iens.org</u> . Please cite Jefferson, O.A., Deniz Köllhofer, Probho	Cryse series, Rice & two bullers	Conis lupus familiaris, Dog	9	Mass, Banana	
Ajjikuttira & Richard A Jefferson (2015) Public disclosure of biological sequences in slobol	Excherichia coli.	Saracroft,	100	Information Association	X8000763

One can actually also look at SNP and further information based on the general information that is available. So, PatSeq analyzer can be used for analyzing sequence information. One can also actually use a keyword in order to search for sequences either from the point of view of using the species name or the gene or the protein name.

(Refer Slide Time: 30:47)

+ + C O + http://www.lens.org.tors/	Indexes .			2 3 1
II Apps 🚺 Course Title Form 1. 💲 Database Mena	Q4			
via "View Explorer" shortcut.	specify an organism			1
PatSeq Explorer	Search			
Navigate sequence listing entries from granted and published patents as mapped	Shortcuts to Species of Interest			
with various similarity and coverage thresholds onto a specific genome. At present, we have explorers for the human, the	None sapiers, Human & revolution	Contrabilità elegans, Roundworm	Malus domestica, Apple	
mouse, the maize, the rice, and the soybean genomes. View the mapped and integrated patent and sequence data at the genome or	Mus musculus, House Mouse Ryme Eastern	Drosophile melanogoster, Py	Actinida, Kwi Fruit	
chromosome level and download any sequence you are interested in. Sequence data can be downloaded by academic or non-	Zha maya, Malate 4, reactorer	Danio renio, Zertargia	Solonum (scopersicum, Tomato	
profit organisations under a <u>Creative</u> <u>Commons Attribution-NonCommercial</u> : <u>ShareAlike 3.0 Uncorted License</u> . For any other use, please contact.	Gycine max, Soybean R.vau balant	Golus police, Red Jungle Foul	Solarum tuberosum, Potato	
ober um, pesse consult <u>samat, jefferson (Hans.org</u> , Piesse cite Jefferson, O.A., Deniz Källhofer, Probho Ajikuttira & Richard A Jefferson (2021) Public	Oryde active, Rice & over balance	Conit Jupus familiaris, Dog	Senara	
disclosure of biological sequences in global patent practice (under review) for any use in your published and unpublished works.	Escherichia coli, E. Coli	Sus scroft, Wild Boar	Influenza virus, Influenza	
PatSeq Explorer also provides filter options by sequence-based criteria or search options by	Arabidgesis thations, Thale Cress	Enterna, Cattle	Pisamedium Miciparum, Malaria	
patent attributes. Zoom in to link to the patent collection in the	Soccharomyces cerevision, Yeast	Oryctologus curriculus, European Rubbit	Cotton	
Lens or to analyte the integrated information at the genome region or locus level in PatSeq Analyzer. The embedded Analyzer version allows you to ravigate, compare patenting				19:00
activity surrounding a particular gene region and even download the sequence under the same terms indicated above.				12h
in the human genome, additional links to the OMIH database is available at the				1 All As

So, here you have the different shortcuts to the species of interest. So, these are all the different genomes represented you have different animal genomes, microbial genomes,

plant genomes, east and the human genome. So, one can select out one or more and identify the sequences of interest in relation to using the PatSeq text search.

(Refer Slide Time: 31:17)

← → C O ▲ https://www.iers.org/loru/b III Apps. ① Course Title Form 1. S Database Interes						0.01
👰 LENS.ORG		H Ing	ish = About = Our Software =	API & Data	WorkArez - Signed in an expedient	v Seperty i
Addeq Racitly Pacting Test Search			Patients Statistics & American		See Falsed Search	ne Scholer Search
PatSeq Home Data Text Explorer	Finder Analyzer		Scholarly Works			
Species and keyword Search	NOTICE: Participate in a brief survey to help us improve Patiles)	NA Downloads <u>Table 2</u>	Milea enterior verso			
Search for patents that declare at least one sequence in their sequence listings section as derived from a specific species. As many	PatSeq Text Search		PatiOla Control Analoso QUT sures	a 🗰 Onton Ka	ang	
disclosed sequences are unknown or unspecified, we recommend that you use	Species and Keyword Search		Multiversit Sectors	- Anton	farking	
keywords to perform full text searches within the corpus of more than 440,000 biological	Batter a keyword					
patents or combine species with keyword searches. Link to a species genome explorer	and / or					
via "View Explorer" shortcut.	Specify an organism Search					
PatSeq Explorer						
Navigate sequence listing entries from granted and published patents as mapped	Shortcuts to Species of Interest					
with various similarity and coverage thresholds onto a specific genome. At present, we have explorers for the human, the	Homo sopiers, Human, Q vive fusione		senorhabdībis eiegans, sundwarm		Malus domestica, Apple	
mouse, the maize, the rice, and the soybean genomes. View the mapped and integrated patent and sequence data at the genome or	Mus musculus, House Mouse & conclusion	1	osophila melanogoster, Y	9	Actinidia, Khui Fruit	
chromosome level and download any sequence you are interested in. Sequence data can be downloaded by academic or non-	Ino mays, Malae Q mer tusine		anio renia, Ibrafiah	Ó	Solonum (jeoperaicum, Tomato	36-7
profit organisations under a <u>Creative</u> <u>Commons Attribution NonCommercial</u> <u>ShareAlike 3.0 Uncorted License</u> . For any other use, please contact.	Glycine max, Soybean & view fusioner		ollus pollus, ed Jungle Fowl		Solonum tuderosum, Potato	E
comat.lefferson@iens.org. Please cite Jefferson, O.A., Deniz Köllholer, Probha	Cryate softwa, Rice 4, view balance		onis lupus familiaris, M	5	Nost, Barana	
Alikuttira & Richard A Jefferson (2025) Public	Escherichia coli.	164 1	a sanda		Influenza virus	A STATE AND

So, this is how one can actually look at the sequence and sequence related information. The proprietary tool that is available under the lens is the Qut In4M which provides rankings of institutions and different entities in relation to particular technologies.

(Refer Slide Time: 31:46)



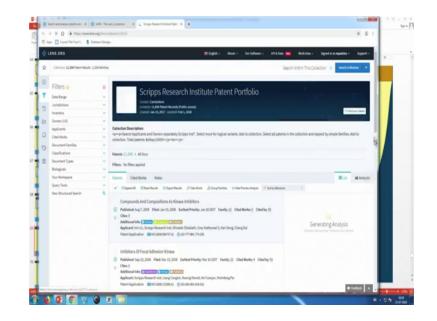
So, this is where one can look at the influence of the technology. So, one can understand from the basic write up on this particular technology on how the methodology is used to rank institutions.

(Refer Slide Time: 32:04)



So, here you can see the institutional ranking based on certain metrics in terms of patent citing scholarship, profile, the draft institution patent portfolio.

(Refer Slide Time: 32:19)



For instance if you click on Scripps research institution, for the Scripps research institute you have the different patents.

(Refer Slide Time: 32:29)



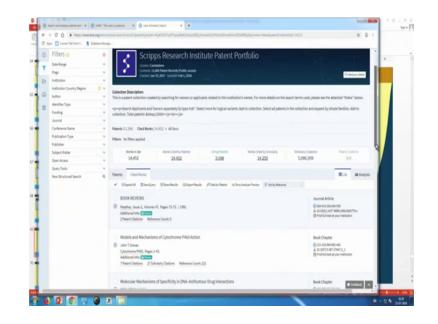
And if you click on the analysis tool one can see the information in relation to the documents vis a vis the number of years.

(Refer Slide Time: 32:43)



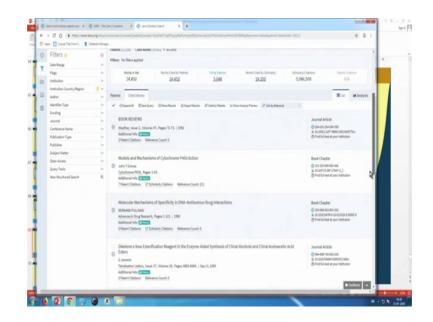
Also the jurisdictions in which the patents are represented, inventor information and the spread of the patent information in terms of applications and grants and so on. It also provides information in relation to cited works.

(Refer Slide Time: 33:05)

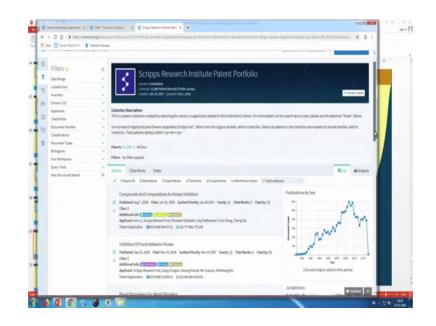


And one can actually also make notes based on the information obtained.

(Refer Slide Time: 33:12)



So, if one is undertaking a general search for institutional portfolio it may be simply to understand what is the patent portfolio, but many a time one may also look at comparing patent portfolio. And you may want to actually make notes in which case you can use the notes making option and input notes into that particular window. So, that is how one can look at analysis of the data. (Refer Slide Time: 33:50)

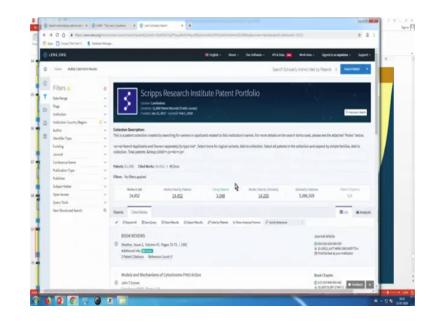


(Refer Slide Time: 33:53)

	ps 🚺 Course Title Form 1. 💲 Dat	otare Manag		Research institute Patent Portiono				
0	Filters 😐	Θ	Currentedan				11	1
T	Date Range	۷		ent Records (Public access) 7: Coulostit Feb 1, 2018		Brinderstein		
	Jurisdictions	¥						
9	invertors	v	Collection Description:					
ъ	Owners (US) Applicants	¥		sarching for owners or applicants related to this institution's names. For more details on	the search terms used, please see the attache	of "Notes" below.		
	Cited Works	-	+p++p-Search Applicants and Owners s	separately.Scripps Inst*. Select more for ingical variants. Add to collection. Select all pat	tents in the collection and expand by simple fa	amilies. Add to		
0	Document Families		collection. Total patents: &nbsg50000+	u/p=dru/p>				
5	Classifications	~						
~	Document Types	v	Patents (11,398) = All Docs					
60	Biologicals	¥	Filters: No filters applied					
	Your Workspace	v	Patents Cited Works Notes			Line M.Analysis		
	Query Tools	٧						
	New Structured Search		There are 0 notes saved against o	collection			/	
			Note	Assignment	Created	Tools		
			la nda					
6	80.	2	X 🗐			• Turbus 🔺 🖥	. 5 8	14 11 PA

So, here you have the notes option and you may want to input certain notes which are thoughts that you would have in relation to either a further search or there is a correlation that you would like to do with relation to particular information. So, those are saved in the background which can be utilized for further work. So, here you have for one particular institution how the information is represented.

(Refer Slide Time: 34:29)



If you go back and look at the entire set of institutions one can get the information in relation to the technology space which each of those represents.

So, in the background of this particular tool the information is sourced from different sources, for instance in this case Cambia Lens is the place from where you have the records available and there is by when was this information generated in terms of the patent portfolio and to when it is being updated. So, keeping track of this information is useful.

So, it is at this stage one should keep in mind that while the different analytical, tools are available for patent analysis, it is important to keep in mind the updation of database collections, understanding relevantly the analysis options available in a given database with respect to the search that is being undertaken. So, this is how one can look through the different tools that are available under the lens database.

(Refer Slide Time: 35:49)



So, in summary we have understood the value of enhanced analysis and visualization as a part of advanced patent tools. The demonstration that has been done with respect to some of the tools is representative in nature. There are many tools available in the public domain some which are available on which are freely accessible some which are available on subscription.

So, the databases that have been shown as a part of this lecture are only indicative in nature to encourage patent searchers to analyze utilizing some of these options. However, there are many proprietary databases that are available which are customized suiting to the needs of different type of search. One can go for a subscription of those databases to undertake analysis. Some of the public databases today also support a range of analytical tools. So, one can utilize as an academic person or a researcher one can utilize some of these tools in order to undertake patent analytics.

So, in summary the use of analytical tools is to enhance search from the point of view of providing ease of use and improvement in the speed. The option to look at information from the point of view of in depth review in an automated fashion is the other aspect of the use of analytical tools. We have understood the aspects of looking at global information in relation to patents and also looking at the visualization options locally that is as a part of a given network.

Interactive data analytics is very useful to understand the insights in relation to patent data many tools also provide analysis in relation to competitor portfolio. And so, therefore, this information is again useful from the point of view of the advanced analytics.

Citation analysis has moved from simple analytics to more complex analytics where we are looking at cited by information as well as the non patent literature information. So, an entire gamut of things can be done utilizing the analytical options available in different patent search tools.

References:
Code State S

(Refer Slide Time: 39:07)

There are references for this particular lecture the global patent index link, the Lens link, the tool for the web link for optimum and the web link for patent inspiration. There are several other tools which are available and we encourage patent searchers to look at many more tools that are available in order to understand, what are the different ways in which patent analysis can be done. The patent search workbook provides you some examples of these tools so, that one can use that as a model in order to undertake the search and analysis.

Thank you.