



# STN Clusters – How to find what you are looking for when you don't know where to look

Jim Brown - FIZ Karlsruhe, Inc.

# Agenda


- Explain STN Clusters
- How to find STN Clusters and what databases are contained in them
- How to add/subtract databases to search using clusters
- How to create a user-defined cluster
- Search example



# STN Clusters

- STN database clusters group together databases of the same or similar subject areas
  - i.e., AGRICULTURE or TOXICOLOGY
- STN database clusters may share a similar feature
  - i.e., FULLTEXT
- Use FILE or INDEX command with clusters

# Clusters on STNNext

- Pre-defined STN clusters can be found on **History** tab
- Click on information  on next to cluster name to see list of databases in that cluster
- Manually add/subtract database(s) to search using pre-existing cluster
- Create your own cluster

# STNext has compiled databases with technologies of interest into Clusters

- Clusters are a good place to start if you are not sure which databases would be appropriate for a particular search
- Pre-defined clusters are accessible under STNext Databases tab

The image shows a sequence of three screenshots illustrating the navigation process in the STNext interface:

- First Screenshot:** The top navigation bar includes 'History', 'CAS Lexicon', and 'Databases' (highlighted with a red box). Below the search bar, 'View Databases' and 'Clusters' (highlighted with a red box) are visible.
- Second Screenshot:** The 'View Databases | Clusters' panel is shown. A list of clusters includes 'ELECTRICAL', 'ENGINEERING', 'ENVIRONMENT', 'FOOD', and 'FORMULATIONS'. The 'ENGINEERING' cluster's information icon (a circle with an 'i') is highlighted with a red box.
- Third Screenshot:** A dark-themed panel titled 'Engineering and Technology Cluster' displays a list of databases: '1MOBILITY', '2MOBILITY', 'AEROSPACE', 'APOLLIT', 'AUPATFULL', 'BIOTECHNO', 'CANPATFULL', 'CAPLUS', and 'CFARA-VTR'.

Red arrows indicate the flow from the 'Clusters' tab to the 'ENGINEERING' cluster, and then to the 'Engineering and Technology Cluster' database list.

Click here to see a list of databases for that cluster.

# STNext Clusters modification

- To add other databases in a Clusters search
  - Simply add additional database names to FILE or INDEX command
  - i.e., **FILE ENGINEERING INPAFAMDB**
- To subtract databases in a Clusters search
  - Put a minus sign before database name(s) after cluster name to FILE or INDEX command to remove that database from the search
  - i.e., **FILE ENGINEERING -1MOBILITY**

# Create a user-defined Cluster on STNext

- Type in command **SET CLUSTER**
- Name cluster
  - Name must start with a .
- List databases to be included in user defined cluster
- System will ask if more files are to be added. If there are no more databases to be added, type in **NONE**
- Cluster will now be under **Favorite Clusters** under Databases tab

# Create user-defined Cluster example

```
=> SET CLUSTER
```

```
ENTER CLUSTER NAME OR (?): .PATFAMS
```

```
ENTER LIST OF FILE NAMES OR (?): WPINDEX HCAPLUS INPAFAMDB
```

```
MORE FILES, (NONE) OR ?: NONE
```

```
CLUSTER '.PATFAMS' DEFINED AS 'WPINDEX, HCAPLUS, INPAFAMDB'
```

```
SET COMMAND COMPLETED
```

View Databases | Clusters Clear | Collapse All

Favorite Clusters

.PATFAMS

.PATSNPS

All Clusters

2ANAVIST

2HANAVIST



# Search example - Find patent and non-patent literature records that reference hydrogels in 4D printing

- Enter cluster of interest using STN INDEX command
- Formulate first level search queries
- Modify strategy as needed
- D RANK to see which databases have the most hits
- FILE HITS to enter all databases which have answers or FILE *database* to enter specific database
- S last queried command
- Display records of interest
  - Look at unique value-add indexing in database records to help refine the search strategy for a particular database

# Engineering Cluster

=> **INDEX ENGINEERING**

=> S 4D (3A) PRINT?

2	FILE 1MOBILITY
1	FILE AEROSPACE
194	FILE AUPATFULL
82	FILE CANPATFULL
379	FILE CAPLUS
61	FILE CEABA
268	FILE CNFULL
340	FILE COMPENDEX
214	FILE DEFULL
2	FILE ENCOMPLIT
2	FILE ENCOMPLIT2
251	FILE EPFULL
45	FILE FRFULL
60	FILE GBFULL
248	FILE IFIALL
16	FILE INFULL
200	FILE INSPEC
767	FILE JPFULL
263	FILE KRFULL

5	FILE METADEX
2	FILE PATDPAFULL
361	FILE PCTFULL
30	FILE PIRA
58	FILE PQSCITECH
99	FILE RAPRA
1	FILE RDISCLOSURE
360	FILE SCISEARCH
158	FILE TEMA
899	FILE USPATFULL
17	FILE USPATOLD
430	FILE USPAT2
1	FILE WELDASEARCH
140	FILE WPIDS
256	FILE WPINDEX
9	FILE WSCA

35 FILES HAVE ONE OR MORE ANSWERS, 49 FILES SEARCHED IN STNINDEX

# Refine search strategy

=> S L1 AND HYDROGEL?

2	FILE AUPATFULL
2	FILE CANPATFULL
64	FILE CAPLUS
16	FILE CEABA
21	FILE CNFULL
49	FILE COMPENDEX
5	FILE EPFULL
1	FILE GBFULL
7	FILE IFIALL
23	FILE INSPEC
5	FILE JPFULL
10	FILE KRFULL

2	FILE METADEX
32	FILE PCTFULL
4	FILE PIRA
14	FILE PQSCITECH
20	FILE RAPRA
86	FILE SCISEARCH
24	FILE TEMA
31	FILE USPATFULL
4	FILE USPAT2
4	FILE WPIDS
7	FILE WPINDEX
1	FILE WSCA

24 FILES HAVE ONE OR MORE ANSWERS, 49 FILES SEARCHED IN STINDEX

# D RANK

=> D RANK

F1	86	SCISEARCH
F2	64	CAPLUS
F3	49	COMPENDEX
F4	32	PCTFULL
F5	31	USPATFULL
F6	24	TEMA
F7	23	INSPEC
F8	21	CNFULL
F9	20	RAPRA
F10	16	CEABA
F11	14	PQSCITECH
F12	10	KRFULL
F13	7	IFIALL

F14	7	WPINDEX
F15	5	EPFULL
F16	5	JPFULL
F17	4	PIRA
F18	4	USPAT2
F19	4	WPIDS
F20	2	AUPATFULL
F21	2	CANPATFULL
F22	2	METADDEX
F23	1	GBFULL
F24	1	WSCA

# Sample record from COMPENDEX

=> FILE COMPENDEX; S L2

16880 4D  
244788 PRINT?  
340 4D (3A) PRINT?  
51718 HYDROGEL?  
L3 49 L1 AND HYDROGEL?

=> D BIB AB CC CT ST

```
L3 ANSWER 1 OF 49 COMPENDEX COPYRIGHT 2020 EEI on STN.
AN 2020-3409092330 COMPENDEX Full-text
TI Progress in 4D printing of stimulus-responsive composites and its
   applications
AU Zeng Cheng-Jun(1); Liu Li-Wu(1); Liu Yan-Ju(1); Bian Wen-Feng(2); Leng
   Jin-Song(3)
   Correspondence(s): Liu Yan-Ju(1); Bian Wen-Feng(2)
CS (1)Department of Astronautical Science and Mechanics, Harbin Institute of
   Technology, Harbin, China, 150001
   (2)Department of Civil Engineering, Harbin Institute of Technology,
   Weihai, China, 264209
   (3)National Key Laboratory of Science and Technology on Advanced
   Composite in Special Environments, Harbin Institute of Technology,
   Harbin, China, 150080
   EMAIL: yj_liu@hit.edu.cn; bianwf@163.com
SO Cailiao Gongcheng/Journal of Materials Engineering (20 Aug 2020), Volume
   48, Number 8, pp. 1-13, 80 refs.
   ISSN: 1001-4381
   DOI: 10.11868/j.issn.1001-4381.2020.000211
   Published by: Beijing Institute of Aeronautical Materials (BIAM)
   URL (Document): http://jme.biam.ac.cn/CN/1001-4381/home.shtml
CY China
DT Journal; General Review
LA Chinese
SL English; Chinese
ED Entered STN: 31 Aug 2020
   Last updated on STN: 31 Aug 2020
```

# Sample record from COMPENDEX (cont.)

AB The stimulus-response composite is a kind of intelligent material, which usually possesses the characteristics of self-perception, autonomous response, shape memory, adaptive and self-healing. The stimulus-response materials used in 4D printing were reviewed in this paper, and the application research progress of 4D printed shape memory composite hydrogels and shape memory polymers (SMPs) and their composites was focused. Finally, the application status of 4D printing in the biomedical and aerospace fields was summarized, and the development trend and application prospect of 4D printing were prospected. 4D printing is an emerging manufacturing technology. Although various printing methods, printable smart materials and driving methods have been developed, 4D printing still faces many challenges in practical engineering applications. Novel printing technologies, smart materials, structural design and modeling software need to be developed to facilitate the practical application of 4D printing in the fields of soft robotics, biomedicine, aerospace and intelligent electronic equipment.

CC 408.1 Structural Design, General; 723 Computer Software, Data Handling and Applications

CT \*Application programs; Electronic equipment; Intelligent materials; Shape-memory polymer; Structural design

ST Application research; Autonomous response; Development trend and application prospects; Intelligent electronic equipment; Manufacturing technologies; Practical engineering applications; Printing technologies; Shape memory composites

Consider unique, value-added indexing to refine search in a specific database.

# Summary

- STN Clusters can be a valuable tool when searching technologies that you may not be an expert on
- STN Clusters are also valuable when using databases that you are not familiar with
- STN Database summary sheet explains which clusters a particular database is part of

# Contact Us



**CAS** [help@cas.org](mailto:help@cas.org)  
[www.cas.org](http://www.cas.org)

**FIZ Karlsruhe** [helpdesk@fiz-karlsruhe.de](mailto:helpdesk@fiz-karlsruhe.de)  
[www.stn-international.de](http://www.stn-international.de)