

**The University of Birmingham
School of Computer Science**

**Project Induction
Information retrieval with Inspec**

Coverage

Inspec is a bibliographic reference database with very strong coverage in Computer Science. (A bibliographic reference database gives you references and usually abstracts (a short summary of the paper).)

You can read the full text of the paper by:

- finding it online in the University's electronic journal collection;
- finding it on paper in the School or University Libraries;
- find it online using Google Scholar;
- requesting the paper through the Inter-Library Loan service. (Consult your supervisor first as this is an expensive service.)

Sometimes there is a direct link from a service such as Inspec to the University's electronic journal collection (as is shown in the search performed here).

Inspec indexes journal papers and conferences well. It is usual for all papers in a publication to be indexed. As both journals and conferences are important in Computer Science, Inspec should be the first choice for general Computer Science searching.

Currency

Generally newly published journals and conferences are rapidly entered into the Inspec database.

Formulating a search

Inspec is a keyword based searching tool. You can search by authors but it is more usual to use subjects such as concurrency, "robot controllers". It is important to avoid very common search terms. For instance, a search for "computer" found 2,765,810 items. It is plainly daft to use such a general keyword in a database that is largely about computing.

If you have difficulty in deciding what keywords to use, try the trick of completing this sentence:

I want to find papers on

Setting the parameters for the search

The Inspec database is selected; only papers in English will be retrieved; the dates of papers will be from 2008-2011.

The screenshot shows the Engineering Village search interface. On the left, a sidebar lists databases: Compendex, GEOBASE, Inspec, and Referex. The 'Inspec' database is selected. Below the sidebar is a 'Personal Account' section with 'Register or Login' and a 'Username' field. The main search area is titled 'SELECT DATABASE' and includes checkboxes for 'All', 'Compendex', 'Inspec' (checked), 'GEOBASE', and 'Referex'. Below this are 'SEARCH FOR' and 'SEARCH IN' sections with input fields and dropdown menus. The 'LIMIT BY' section includes dropdowns for 'All document types', 'All treatment types', and 'All disciplines', and a date range selector set to '2008 TO 2011'. The 'SORT BY' section has radio buttons for 'Relevance' (selected) and 'Publication year', and a checkbox for 'Autostemming off'. A 'Search' button and a 'Reset' button are at the bottom. Callouts point to the 'Inspec' database selection, the 'Quick Search' button, the date range '2008 TO 2011', and the language dropdown set to 'English'.

Select Inspec database

Use *Quick Search*

Limit by date

Limit by language

Searching for keywords in the title

The search is intended to find papers on the process of propagation in a programming language called Constraint Handling Rules (CHR). This search uses index entries from the title of the papers:

The screenshot shows the Inspec search interface. At the top, there is a 'SELECT DATABASE' section with checkboxes for 'All', 'Compendex', 'Inspec' (checked), 'GEOBASE', and 'Referex'. Below this is the 'SEARCH FOR' section with three input fields: 'Constraint Handling Rules', 'CHR', and 'propagation'. The search operators are 'OR' and 'AND'. To the right is the 'SEARCH IN' section with three dropdown menus, all set to 'Title'. Below the search fields are 'LIMIT BY' and 'SORT BY' sections. The 'LIMIT BY' section has dropdowns for 'All document types', 'All treatment types', 'All disciplines', and 'English'. The 'SORT BY' section has radio buttons for 'Relevance' (selected) and 'Publication year', and a checkbox for 'Autostemming off'. At the bottom right are 'Search' and 'Reset' buttons. Two callout boxes are present: one pointing to the search terms with the text 'Keywords entered here', and another pointing to the 'Title' dropdowns with the text 'Searching in the title field only'.

Results of title-field search

Searching in titles usually gives good precision but poor recall. There is only one item retrieved: it is relevant but there are probably more relevant papers in the database.

Search Results

2 records in Inspec for 2008-2011

[Save Search](#) - [Create Alert](#) - [RSS](#) [?](#)

[+\(\(\(Constraint Handling Rules\) WN TI\) OR \(\(CHR\) WN TI\)\) AND \(\(propagation\) WN TI\), English only](#)

Sort by: [▼ Relevance](#) [Date](#) [Author](#) [Source](#) [Publisher](#)

1. A compositional semantics for CHR with propagation rules

[Gabbrielli, M.](#) (Dipt. di Sci. dell'Inf., Univ. di Bologna, Bologna, Italy); [Meo, M.C.](#); [Tacchella, P.](#) Source: *Constraint Handling Rules. Current Research Top. Database: Inspec*

[Abstract](#) - [Detailed](#) - [Find It @ Bham](#)

This gives access to the abstract of the paper.

Results of title-field search – accessing the abstract

By reading the abstract, we can decide whether the paper is relevant or not. (In this case, it is quite relevant because it mentions the semantics of CHR and propagation rules in the title.)

[Abstract - Detailed](#)

[Blog This](#)

Record 1 from Inspec for: (((Constraint Handling Rules) WN TI) OR ((CHR) WN TI)) AND ((propagation) WN TI), English only, 2008-2011

Check record to add to Selected Records

1. A compositional semantics for CHR with propagation rules

[Gabbrielli, M.](#)¹; [Meo, M.C.](#); [Tacchella, P.](#)¹ Source: *Constraint Handling Rules. Current Research Topics*, 119-60, 2008; ISBN-13: 978-3-540-92242-1; Publisher: Springer-Verlag, Berlin, Germany

Author affiliation:

¹Dipt. di Sci. dell'Inf., Univ. di Bologna, Bologna, Italy

Abstract: Constraint handling rules (CHR) is a committed choice declarative language which has originally been designed for writing constraint solvers and which is nowadays a general purpose language. In a trace based, compositional semantics for CHR has been defined. Such a compositional model uses as reference operational semantics the original "naive" one which, due to the propagation rule, admits trivial non-termination. In this paper we extend the work of by considering a more refined operational semantics which avoids trivial non-termination. (20 refs.)

Inspec controlled terms: [constraint handling](#) - [programming language semantics](#)

Uncontrolled terms: [compositional semantics](#) - [constraint handling rule](#) - [committed choice declarative language](#)

Classification Code: [C4210L](#) Formal languages and computational linguistics - [C6170K](#) Knowledge engineering techniques

Refining by searching more fields

Changing the search fields from *Title* to *Subject[keyword]/Title/Abstract* gives access to many more words. However, these words may be used in many different contexts and so recall is increased while precision is likely to decrease. In other words: we will find more documents (in this case, 21) but some of them will be irrelevant.

The screenshot shows the Inspec search interface with the following settings:

- SELECT DATABASE:** All, Compendex, Inspec, GEOBASE, Referex ?
- SEARCH FOR:** Constraint Handling Rules
- OR:** CHR
- AND:** propagation
- SEARCH IN:** Three dropdown menus, all set to "Subject/Title/Abstract". A callout bubble points to the top dropdown with the text "More fields are chosen."
- LIMIT BY:** All document types ?, All treatment types ?, All disciplines ?, English
- SORT BY:** Relevance ?, Publication year, Autostemming off ?
- Filters:** 2008 TO 2011, 1 Updates ?
- Buttons:** Search, Reset

Results of the broadened search

Note: items retrieved in the previous search turn up here too.

Search Results

21 records in Inspec for 2008-2011 [Save Search](#) - [Create Alert](#) - [RSS](#) [?](#)

[+\(\(\(Constraint Handling Rules\) WN KY\) OR \(\(CHR\) WN KY\) AND \(\(propagation\) WN KY\)\), English only](#)

Sort by: [▼ Relevance](#) [Date](#) [Author](#) [Source](#) [Publisher](#)

1. Optimization of CHR propagation rules

[Van Weert, P.](#) (Dept. of Comput. Sci., K.U. Leuven, Leuven, Belgium) Source: *Logic Programming. Proceedings 24th International Conference, ICL 2008*

Database: Inspec

[Abstract](#) - [Detailed](#) - [Full-text](#) - [Find It! Bham](#)

2. Constraint handling rules: a tutorial for (Prolog) programmers

[Schrijvers, T.](#) (Dept. of Comput. Sci., K.U. Leuven, Leuven, Belgium) Source: *Logic Programming. Proceedings 24th International Conference, ICL 2008*

Database: Inspec

[Abstract](#) - [Detailed](#) - [Full-text](#) - [Find It! Bham](#)

3. A compositional semantics for CHR with propagation rules

[Gabbriellini, M.](#) (Dipt. di Sci. dell'Inf., Univ. di Bologna, Bologna, Italy); [Meo, M.C.](#); [Tacchella, P.](#) Source: *Constraint Handling Rules. Current Research 2008*

Database: Inspec

[Abstract](#) - [Detailed](#) - [Find It! Bham](#)

Use this link to access the full text.

Accessing the full text.

Following the [Find It! Bham](#) link to the University's ejournal collection:

UNIVERSITY OF
BIRMINGHAM

Library Services

[Find It! Bham](#)

These services are available to University of Birmingham

Title: Scheduling with uncertain durations: modeling β -robust scheduling with constraints

Source: Computers & operations research [0305-0548] Wu yr:2009 vol:36 iss:8 pg:2348 -56

Full Text

Full text available via **SwetsWise**

Year: Volume: Issue: Start Page: [GO](#)

Authentication: IP & Shibboleth

Full text available via **NESLI2 Elsevier ScienceDirect Freedom Collection**

Year: Volume: Issue: Start Page: [GO](#)

Authentication: IP & Shibboleth

[Click Here for Further Options](#)

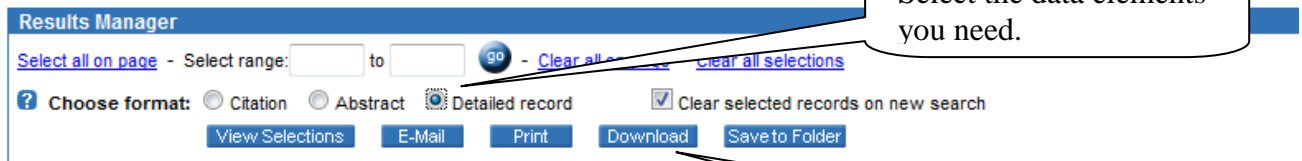
Link to the text.

until (via several other links) we get to the first page of the journal paper:

The screenshot shows the Adobe Reader interface with a document titled 'sdarticle.pdf'. The left sidebar contains a 'Bookmarks' panel with a tree view of the document's structure, including sections like 'Introduction', 'Background', 'The flowtime of a schedule with uncertain durations', 'beta-Robust schedules', 'Constraint models', and 'The combined model'. The main content area displays the journal's header, including the Elsevier logo and the journal title 'Computers & Operations Research'. The article title is 'Scheduling with uncertain durations: Modeling β -robust scheduling with constraints', and the authors are 'Christine Wei Wu^a, Kenneth N. Brown^{a,*}, J. Christopher Beck^b'. The abstract discusses a single-machine scheduling problem with uncertain processing times and the goal of finding a β -robust schedule. The introduction section begins with the text: 'Most scheduling research considers problems that are static and certain—all the activities and their durations are known in advance and do not change as the solution is being executed. However, many modeling libraries which allowed explicit representations of uncertainty and robustness criteria, and extensions to solution algorithms which support the optimization of such criteria, would bring significant practical benefits. These would allow robust scheduling to be tackled using constraint models without hand-crafting special...

Getting an electronic copy of the results of the search

You can select references that seem interesting and have them emailed to you or you can download them to your machine. The first stage is to select one or more references:



The screenshot shows the 'Results Manager' interface. At the top, there are options to 'Select all on page', 'Select range', and 'Clear all selections'. Below this, there are radio buttons for 'Choose format': Citation, Abstract, and Detailed record. A checkbox for 'Clear selected records on new search' is also present. At the bottom of this section, there are buttons for 'View Selections', 'E-Mail', 'Print', 'Download', and 'Save to Folder'. A callout bubble points to the 'Download' button with the text 'Select the data elements you need.'

Search Results

21 records in Inspec for 2008-2011 [Save Search](#) - [Create Alert](#) - [RSS](#) [?](#)
[+\(\(\(Constraint Handling Rules\) WN KY\) OR \(\(CHR\) WN KY\)\) AND \(\(propagation\) WN KY\)\), English only](#)

Sort by: [Relevance](#) [Date](#) [Author](#) [Source](#) [Publisher](#)

- 1. **Optimization of CHR propagation rules**
[Van Weert, P.](#) (Dept. of Comput. Sci., K.U. Leuven, Leuven, Belgium) **Source:** *Logic Programming. Proceedings 24th International Conference, ICLP 2008*
Database: Inspec
[Abstract](#) - [Detailed](#) - [Full-text](#) - [Find It! @Bham](#)
- 2. **Constraint handling rules: a tutorial for (Prolog) programmers**
[Schrijvers, T.](#) (Dept. of Comput. Sci., K.U. Leuven, Leuven, Belgium) **Source:** *Logic Programming. Proceedings 24th International Conference, ICLP 2008*
Database: Inspec
[Abstract](#) - [Detailed](#) - [Full-text](#) - [Find It! @Bham](#)
- 3. **A compositional semantics for CHR with propagation rules**
[Gabbriellini, M.](#) (Dipt. di Sci. dell'Inf., Univ. di Bologna, Bologna, Italy); [Meo, M.C.](#); [Tacchella, P.](#) **Source:** *Constraint Handling Rules. Current Research Topics 2008*
Database: Inspec
[Abstract](#) - [Detailed](#) - [Find It! @Bham](#)

Choose a downloading option.

Select the records you want.

Select your download format

Services usually provide several formats which are compatible with packages that enhance word processors (such as Word) or document preparation systems (such as LaTeX).

Download Selected Records

To download records, please select a format below.

RIS, EndNote, ProCite, Reference Manager

BibTex format

RefWorks direct import

Plain text format (ASCII)

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and the data is delivered to your machine:

```
<RECORD 1>
Accession number:10623111
Title:Optimization of CHR propagation rules
Authors:Van Weert, P. (1)
Author affiliation:(1) Dept. of Comput. Sci., K.U. Leuven, Leuven, Belgium
Source:Logic Programming. Proceedings 24th International Conference, ICLP 2008
Publication date:2008
Pages:485-500
Language:English
ISBN-13:978-3-540-89981-5
Document type:Conference article (CA)
Conference name:Logic Programming. 24th International Conference, ICLP 2008
Conference date:9-13 Dec. 2008
Conference location:Udine, Italy
Publisher:Springer-Verlag
Place of publication:Berlin, Germany
Material Identity Number:YXA8-1902-552
Abstract:Constraint Handling Rules (CHR) is an elegant, ... state-of-the-art CHR
systems.
Number of references:14
Inspec controlled terms:constraint handling - high level languages - optimisation
Uncontrolled terms:optimization - CHR propagation rules - constraint handling
rules - high-level programming language - forward chaining rules - propagation
history
Inspec classification codes:C6110L Logic programming - C6140D High level
languages - C1180 Optimisation techniques
Treatment:Practical (PRA)
Discipline:Computers/Control engineering (C)
DOI:10.1007/978-3-540-89982-2_42
Database:Inspec
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