Universidade de São Paulo
Instituto de Ciências Matemática e de Computação
SSC 5905 - Revisão Sistemática

Dicas para Buscas de Estudos Primários durante a Condução da Revisão Sistemática

Milena Guessi

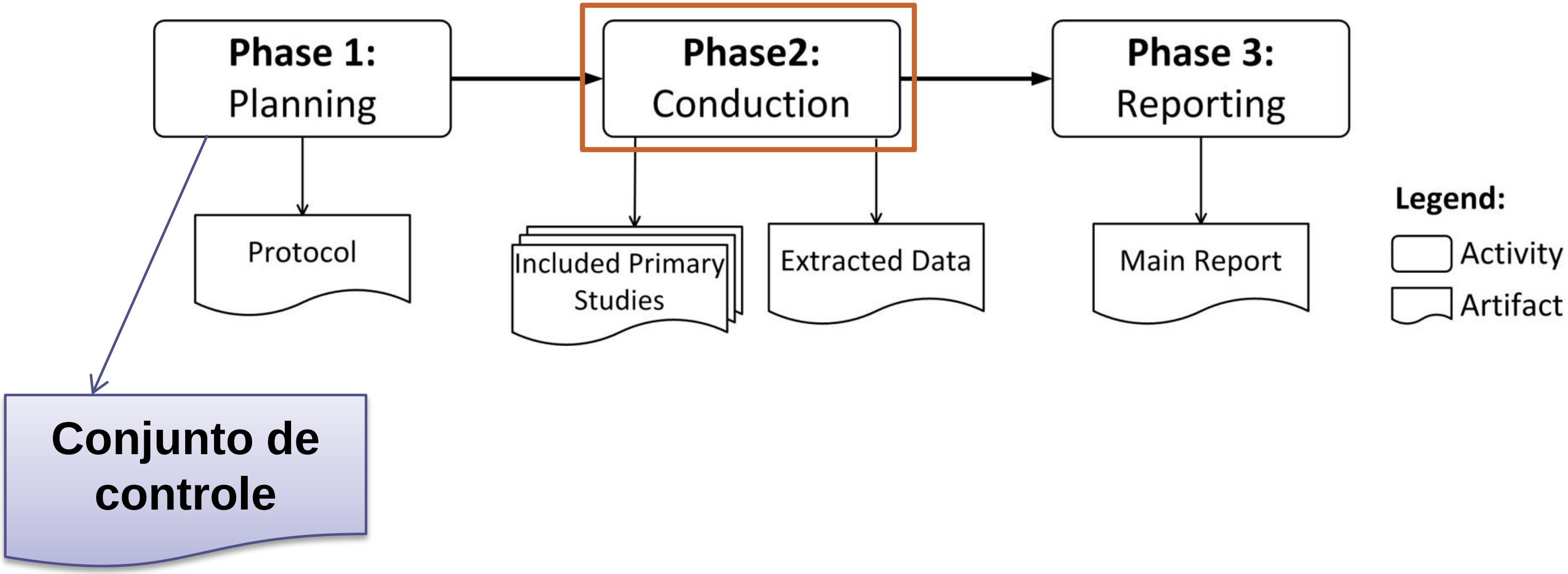
Profa. Dra. Elisa Yumi Nakagawa

1. Semestre de 2013

Roteiro

- Visão geral do processo
- Passos
- Ferramentas de Apoio
- Dicas sobre a seleção
- Conclusão

Visão geral do processo


Phase 1: Planning
Phase2: Conduction
Phase 3: Reporting
Protocol
Included Primary Studies
Extracted Data
Main Report
Legend:
Activity
Artifact

Conjunto de controle

Passos

1. Customizar a string de busca para cada base
    1. Fechar termos compostos com aspas
2. Testar a string em cada base
    - *Verifique se os resultados são compatíveis com o que você espera*
3. Exportar resultados das bases

Customização da string para cada base

- Usar opção de pesquisa avançada
  - Opção para restringir busca ao título, resumo e palavras-chave
  - **DICA: escreva em um editor de texto simples**

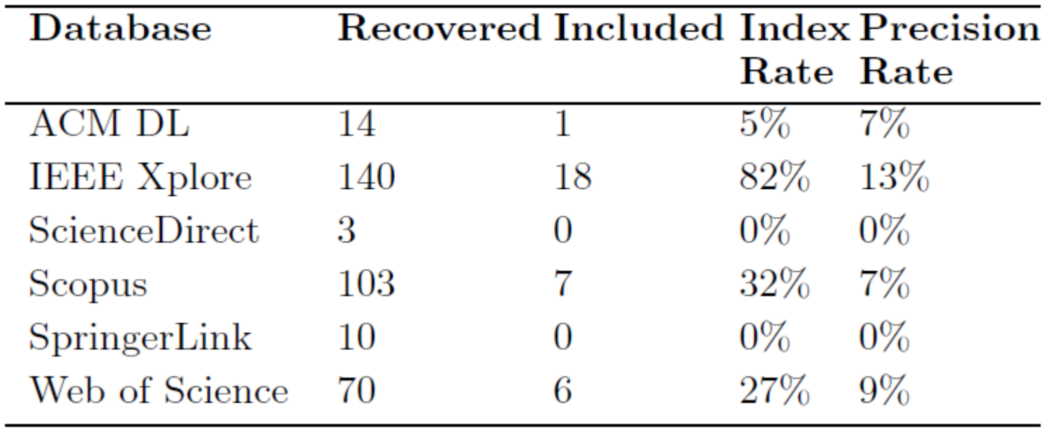
Base	Formato	Link
ACM	((Title:(string)) or (Abstract:(string)) or (Keywords: (string))) Obs: nessa base **and** e **or** usar minúsculos	http://dl.acm.org/
IEEE Xplore	-	http://ieeexplore.ieee.org/
ISI Web of Science	TI=(string) OR TS=(string)	http://apps.isiknowledge.com/
Science Direct	TITLE-ABSTR-KEY(string)	http://www.sciencedirect.com/
Scopus	TITLE-ABS-KEY(string) Obs: Troque as "" por {}	http://www.scopus.com/
SpringerLink	-	http://www.springerlink.com/

Exemplo

- Revisão sistemática conduzida em 2012
  - String:

(representation **OR** description) **AND**
(“embedded”) **AND**
(“software architecture” **OR** “architecture model” **OR** “architectural model” **OR** “reference architecture” **OR** “reference model” **OR** “architecture framework”)

  - 248 estudos primários únicos
  - 22 incluídos na revisão sistemática



Database	Recovered	Included	Index Rate	Precision Rate
ACM DL	14	1	5%	7%
IEEE Xplore	140	18	82%	13%
ScienceDirect	3	0	0%	0%
Scopus	103	7	32%	7%
SpringerLink	10	0	0%	0%
Web of Science	70	6	27%	9%

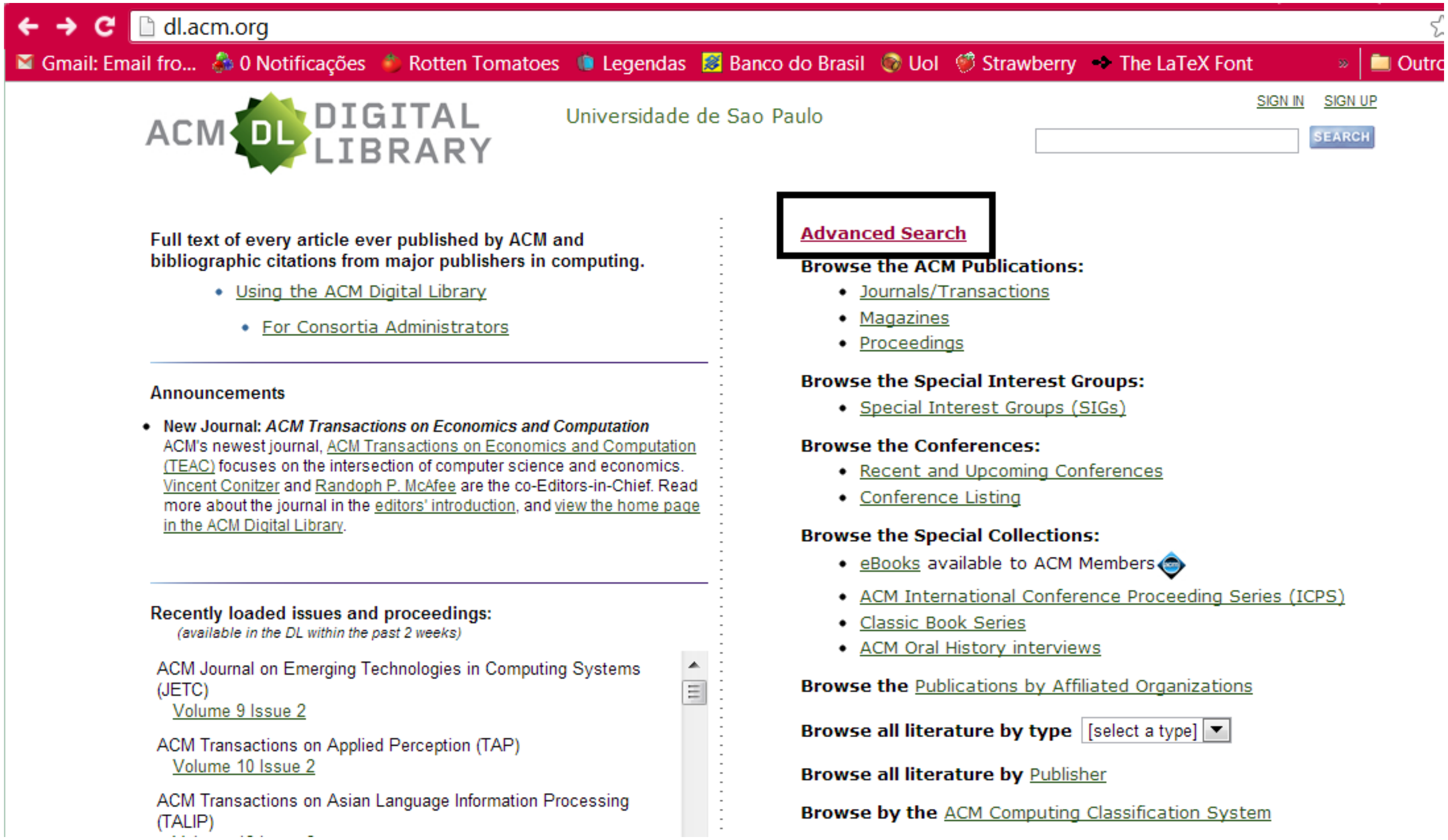
Index rate: included/total included
Precision rate:included/recovered

ACM

String formatada:

(Title:((representation or description) and (“embedded”) and (“software architecture” or “architecture model” or “architectural model” or “reference architecture” or “reference model” or “architecture framework”)) **or Keywords:**((representation or description) and (“embedded”) and (“software architecture” or “architecture model” or “architectural model” or “reference architecture” or “reference model” or “architecture framework”)) **or Abstract:**((representation or description) and (“embedded”) and (“software architecture” or “architecture model” or “architectural model” or “reference architecture” or “reference model” or “architecture framework”))**)**

ACM



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Full text of every article ever published by ACM and bibliographic citations from major publishers in computing.

- Using the ACM Digital Library
  - For Consortia Administrators

Announcements

- **New Journal:** ***ACM Transactions on Economics and Computation***
  ACM's newest journal, ACM Transactions on Economics and Computation (TEAC) focuses on the intersection of computer science and economics. Vincent Conitzer and Randoph P. McAfee are the co-Editors-in-Chief. Read more about the journal in the editors' introduction, and view the home page in the ACM Digital Library.

Recently loaded issues and proceedings:
(available in the DL within the past 2 weeks)

ACM Journal on Emerging Technologies in Computing Systems (JETC)
Volume 9 Issue 2

ACM Transactions on Applied Perception (TAP)
Volume 10 Issue 2

ACM Transactions on Asian Language Information Processing (TALIP)

Advanced Search

Browse the ACM Publications:
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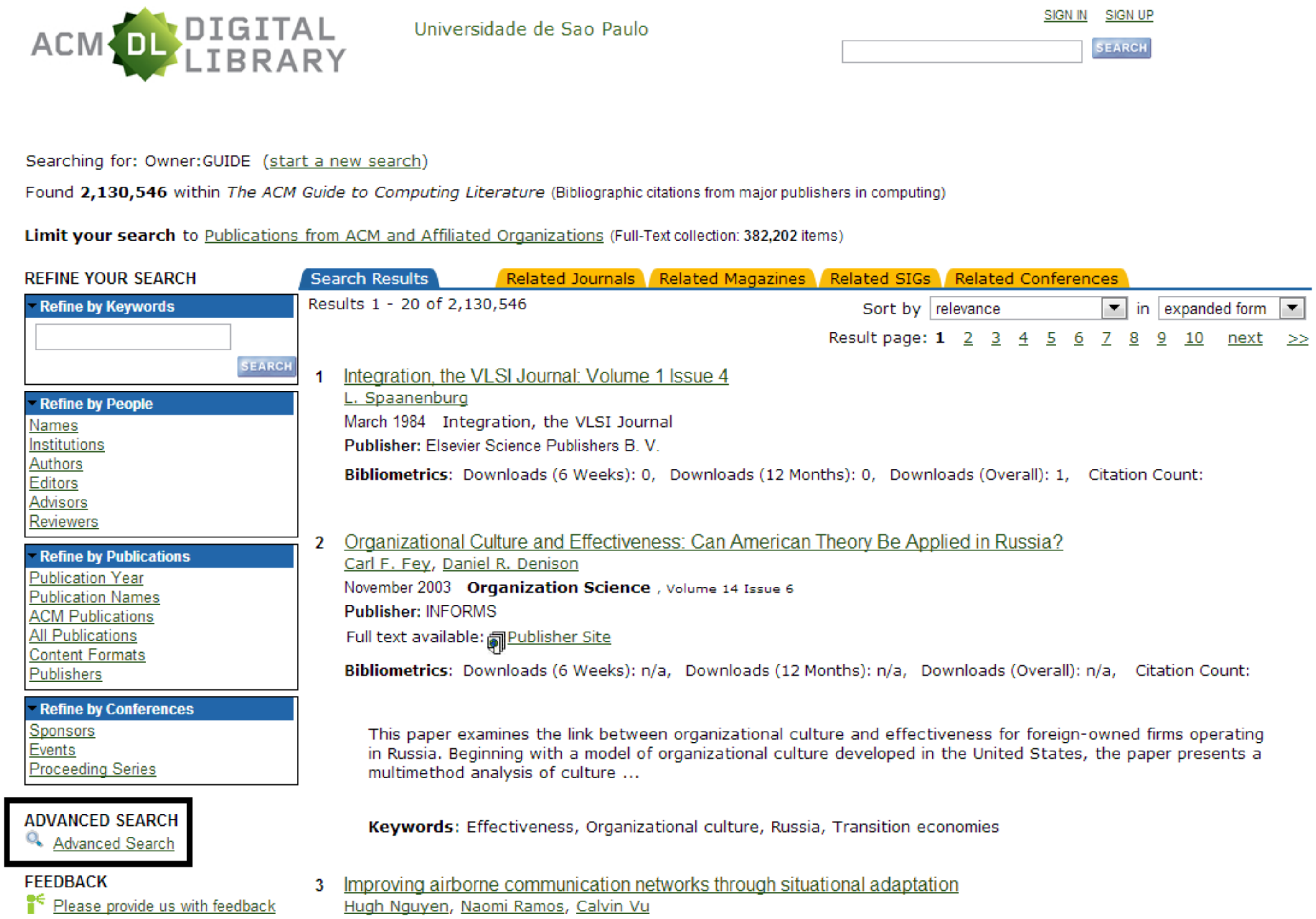
Browse all literature by type [select a type]

Browse all literature by Publisher

Browse by the ACM Computing Classification System

ACM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Searching for: Owner:GUIDE (start a new search)

Found **2,130,546** within *The ACM Guide to Computing Literature* (Bibliographic citations from major publishers in computing)

Limit your search to Publications from ACM and Affiliated Organizations (Full-Text collection: **382,202** items)

Results 1 - 20 of 2,130,546

Sort by relevance in expanded form

Result page: **1** 2 3 4 5 6 7 8 9 10 next >>

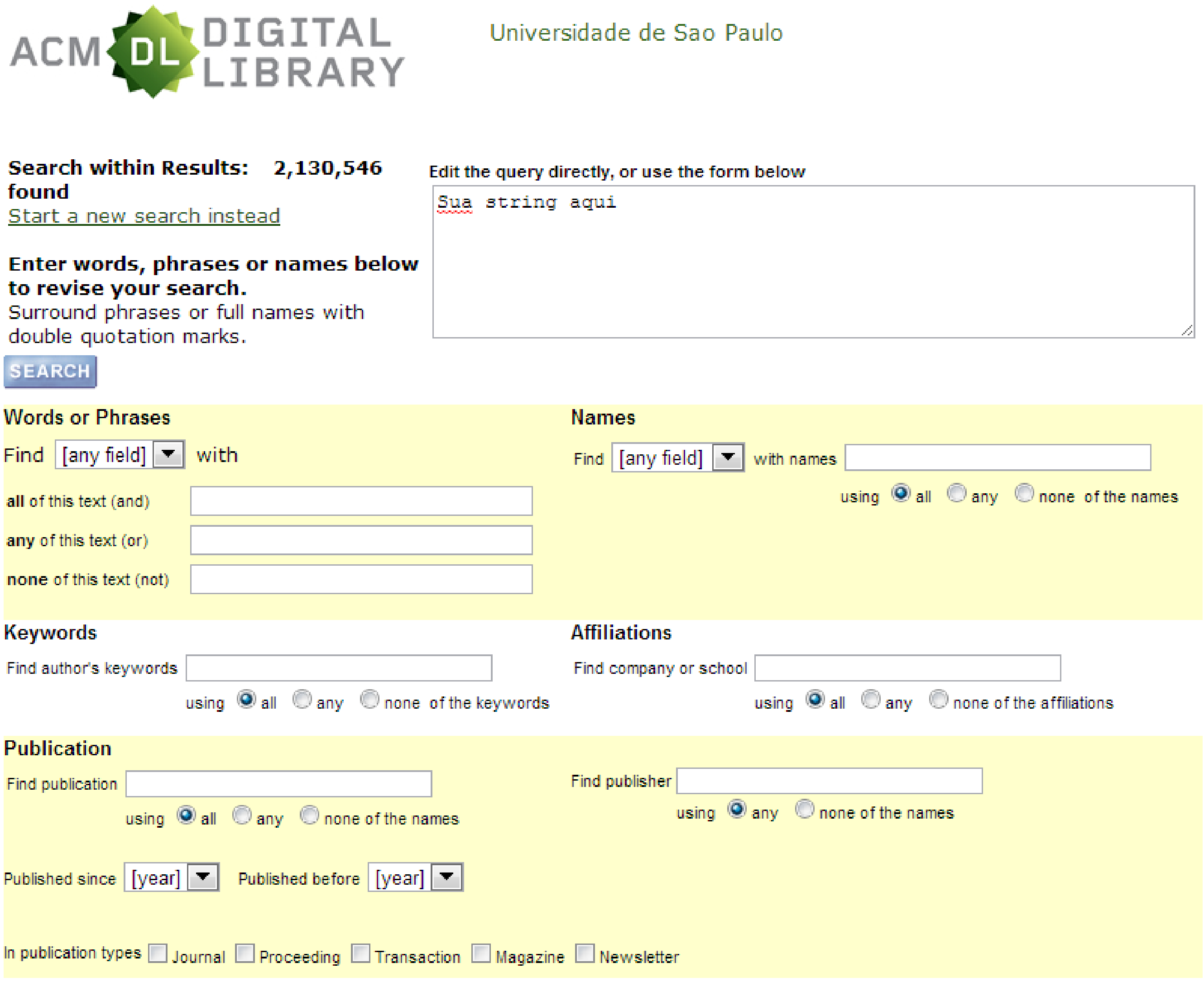
1 Integration, the VLSI Journal: Volume 1 Issue 4
L. Spaanenburg
March 1984 Integration, the VLSI Journal
Publisher: Elsevier Science Publishers B. V.
Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 0, Downloads (Overall): 1, Citation Count:

2 Organizational Culture and Effectiveness: Can American Theory Be Applied in Russia?
Carl F. Fey, Daniel R. Denison
November 2003 **Organization Science** , Volume 14 Issue 6
Publisher: INFORMS
Full text available: Publisher Site
Bibliometrics: Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Downloads (Overall): n/a, Citation Count:

This paper examines the link between organizational culture and effectiveness for foreign-owned firms operating in Russia. Beginning with a model of organizational culture developed in the United States, the paper presents a multimethod analysis of culture ...

Keywords: Effectiveness, Organizational culture, Russia, Transition economies

3 Improving airborne communication networks through situational adaptation
Hugh Nguyen, Naomi Ramos, Calvin Vu



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Enter words, phrases or names below to revise your search.
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Edit the query directly, or use the form below

```
Sua string aqui
```

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Find [any field] with

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any of this text (or)

none of this text (not)

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Find [any field] with names

using ● all ○ any ○ none of the names

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Find author's keywords

using ● all ○ any ○ none of the keywords

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using ● all ○ any ○ none of the affiliations

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using ● all ○ any ○ none of the names

Find publisher

using ● any ○ none of the names

Published since [year] Published before [year]

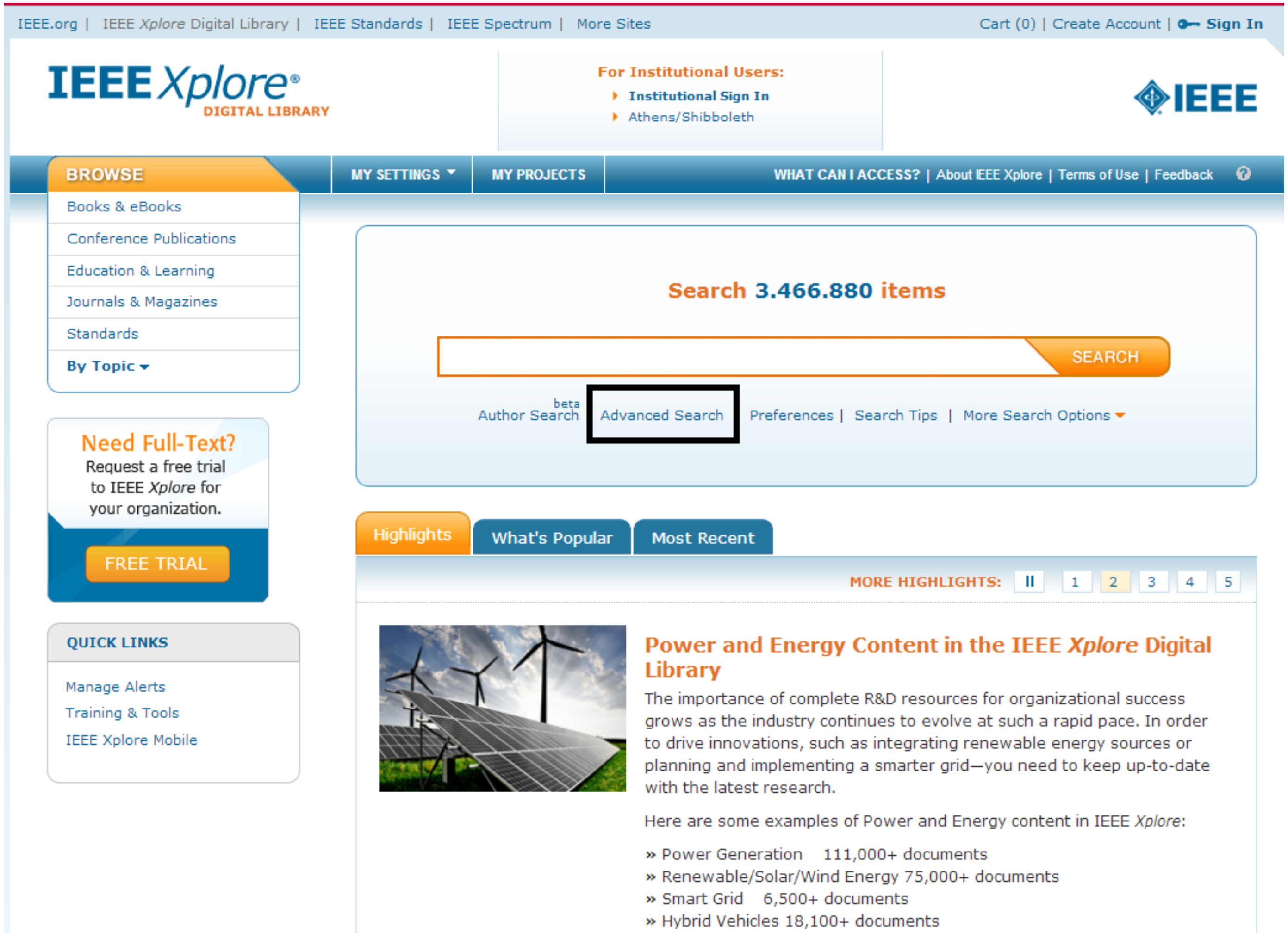
In publication types ☐ Journal ☐ Proceeding ☐ Transaction ☐ Magazine ☐ Newsletter

IEEE Xplore

- String formatada:

((representation OR description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework"))

IEEEXplore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The importance of complete R&D resources for organizational success grows as the industry continues to evolve at such a rapid pace. In order to drive innovations, such as integrating renewable energy sources or planning and implementing a smarter grid—you need to keep up-to-date with the latest research.

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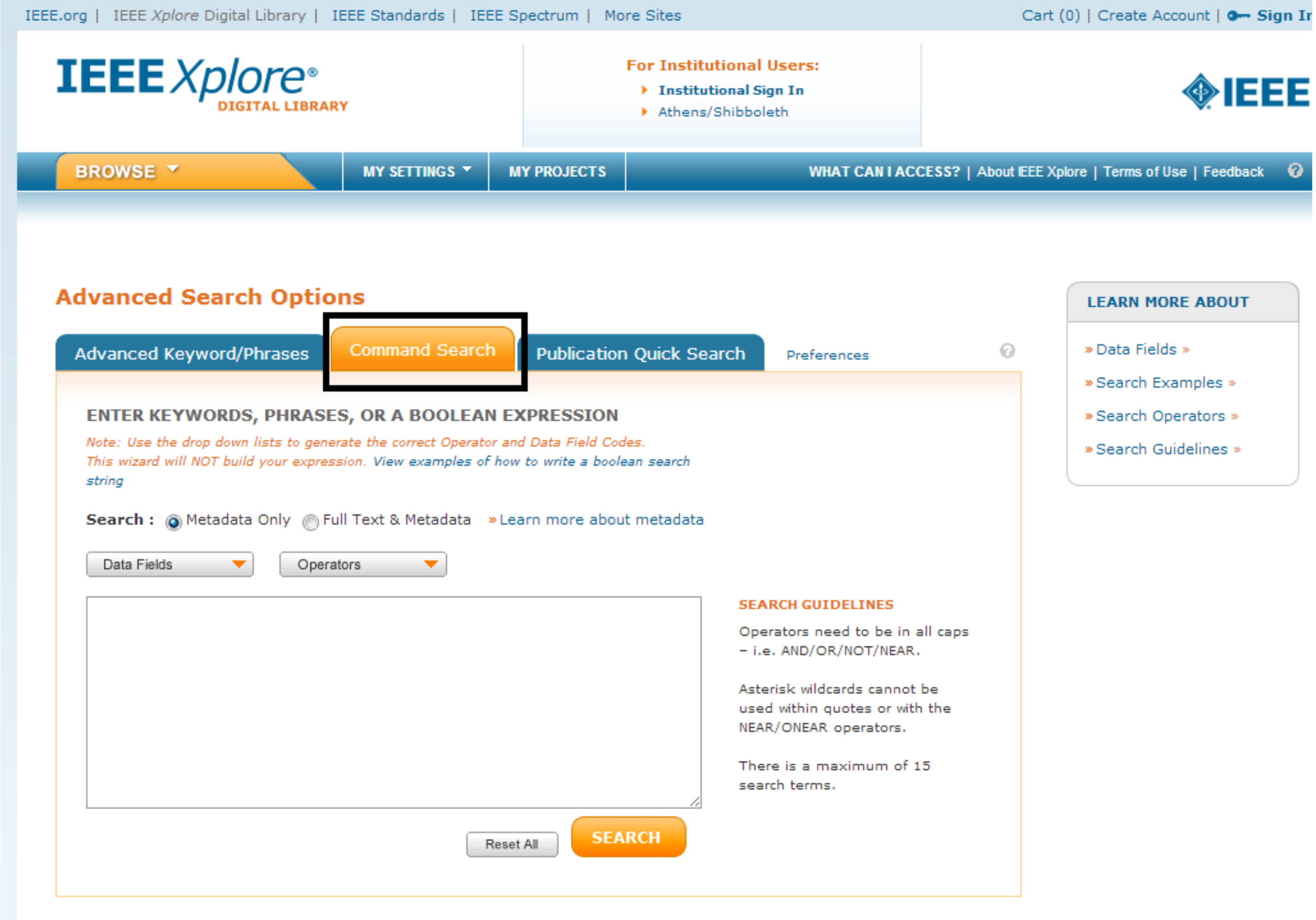
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Operators
Reset All
SEARCH

ENTER KEYWORDS, PHRASES, OR A BOOLEAN EXPRESSION

Note: Use the drop down lists to generate the correct Operator and Data Field Codes. This wizard will NOT build your expression. View examples of how to write a boolean search string

Search : ● Metadata Only ○ Full Text & Metadata » Learn more about metadata

SEARCH GUIDELINES

Operators need to be in all caps – i.e. AND/OR/NOT/NEAR.

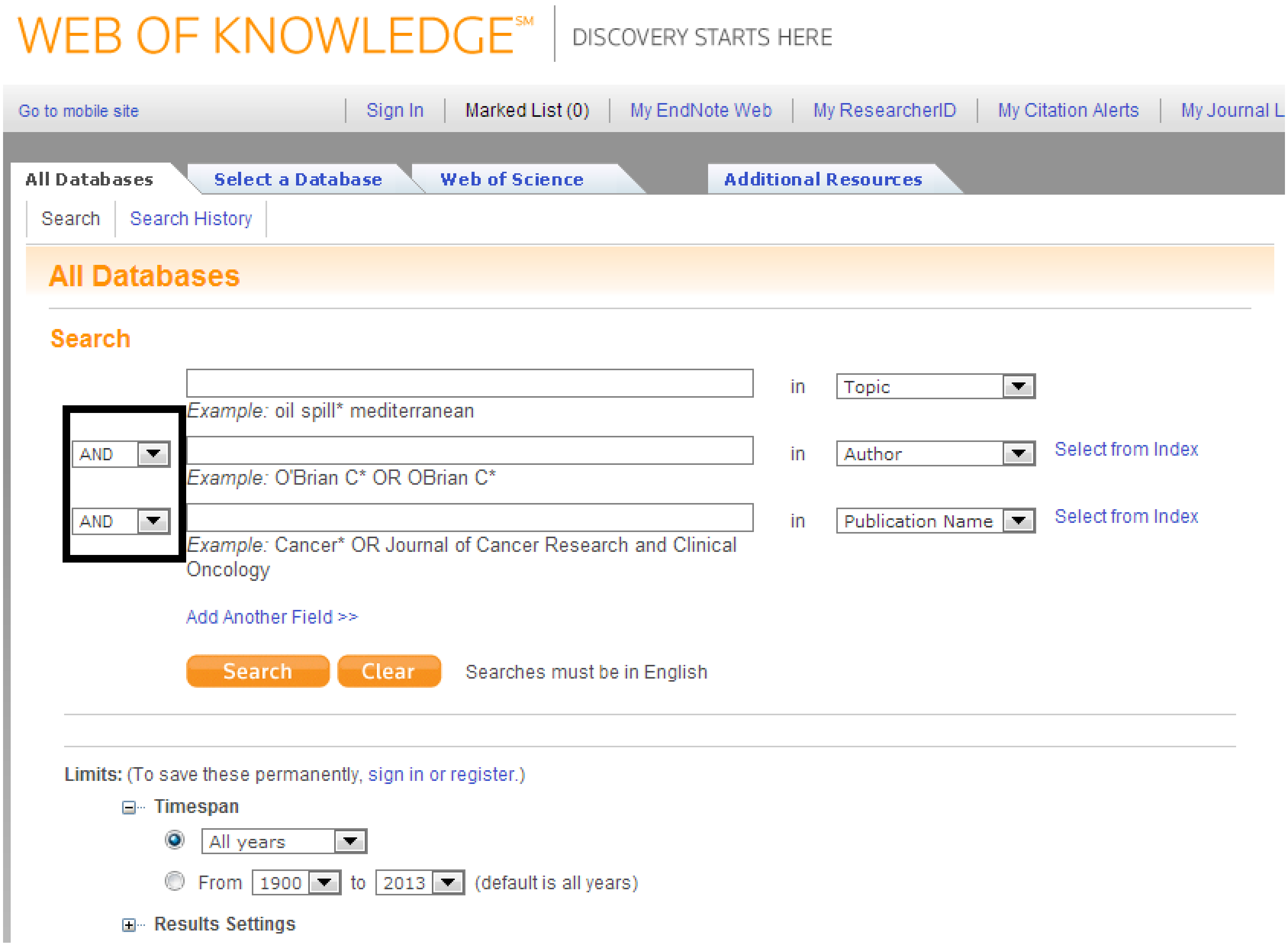
Asterisk wildcards cannot be used within quotes or with the NEAR/ONEAR operators.

There is a maximum of 15 search terms.

ISI Web of Science

- String formatada:

TI=((representation or description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework")) OR TS=((representation or description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework"))


WEB OF KNOWLEDGE℠
DISCOVERY STARTS HERE
Go to mobile site
Sign In
Marked List (0)
My EndNote Web
My ResearcherID
My Citation Alerts
My Journal L
All Databases
Select a Database
Web of Science
Additional Resources
Search
Search History
Add Another Field >>
Search
Clear
Select from Index
Select from Index
Results Settings

All Databases

Search

☐ in Topic
Example: oil spill* mediterranean

AND ☐ in Author
Example: O'Brian C* OR OBrian C*

AND ☐ in Publication Name
Example: Cancer* OR Journal of Cancer Research and Clinical Oncology

Searches must be in English

Limits: (To save these permanently, sign in or register.)

Timespan

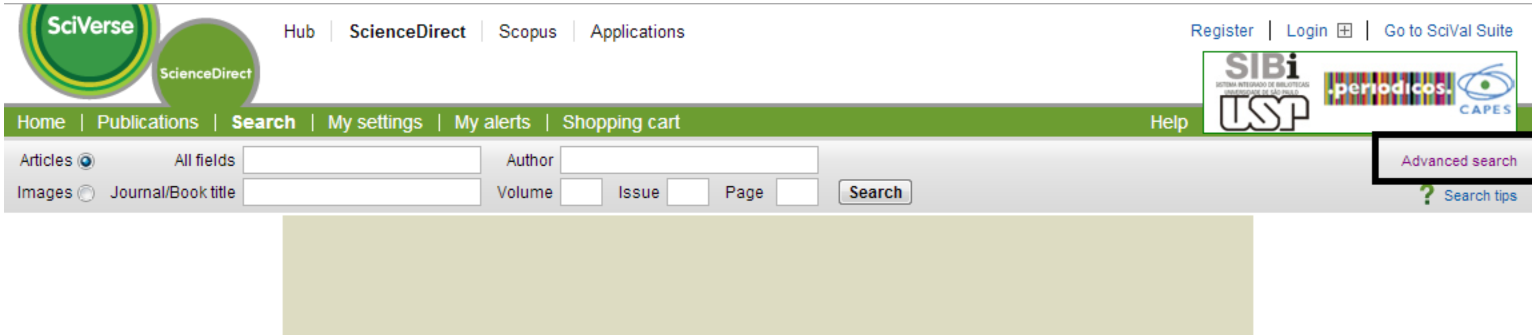
● All years

○ From 1900 to 2013 (default is all years)

Science Direct

- String formatada:

TITLE-ABSTR-KEY((representation or description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework"))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Hub | ScienceDirect | Scopus | Applications
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periodicos CAPES
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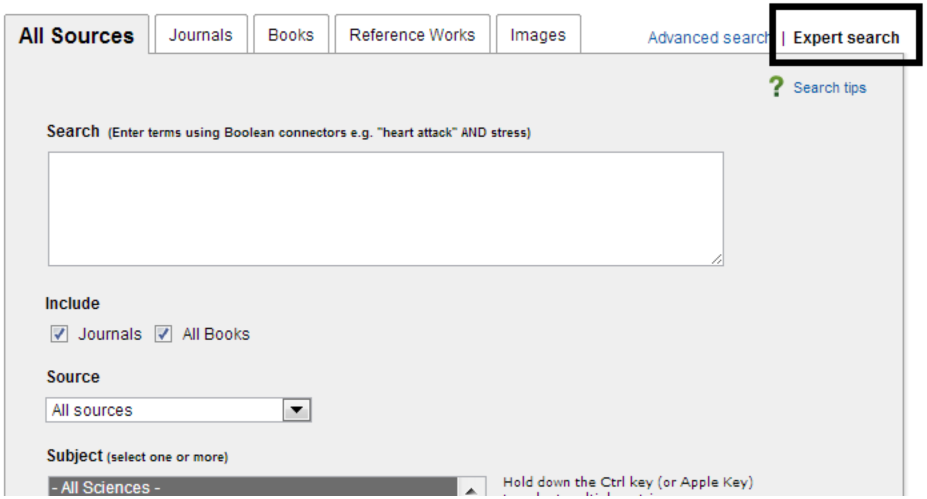
Articles ●

Images ○


All Sources
Journals
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Search (Enter terms using Boolean connectors e.g. "heart attack" AND stress)

Include

☑ Journals ☑ All Books

Source

All sources

Subject (select one or more)

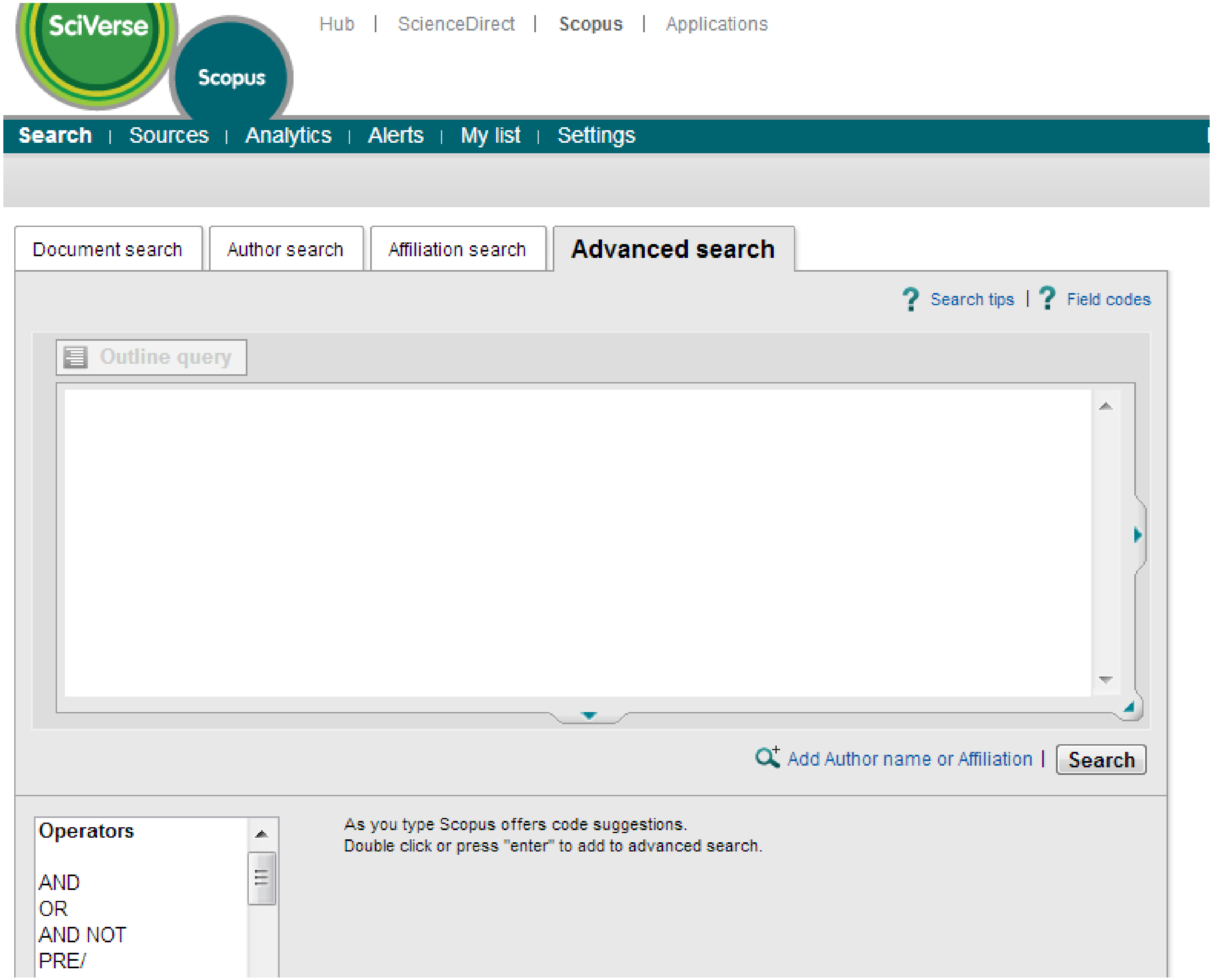
- All Sciences -

Hold down the Ctrl key (or Apple Key)

Scopus

- String formatada:

TITLE-ABS-KEY((representation or description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework"))


SciVerse
Scopus
Hub | ScienceDirect | Scopus | Applications
Search | Sources | Analytics | Alerts | My list | Settings
Document search
Author search
Affiliation search
Advanced search
Search tips | Field codes
Outline query
Add Author name or Affiliation |
Search

Operators

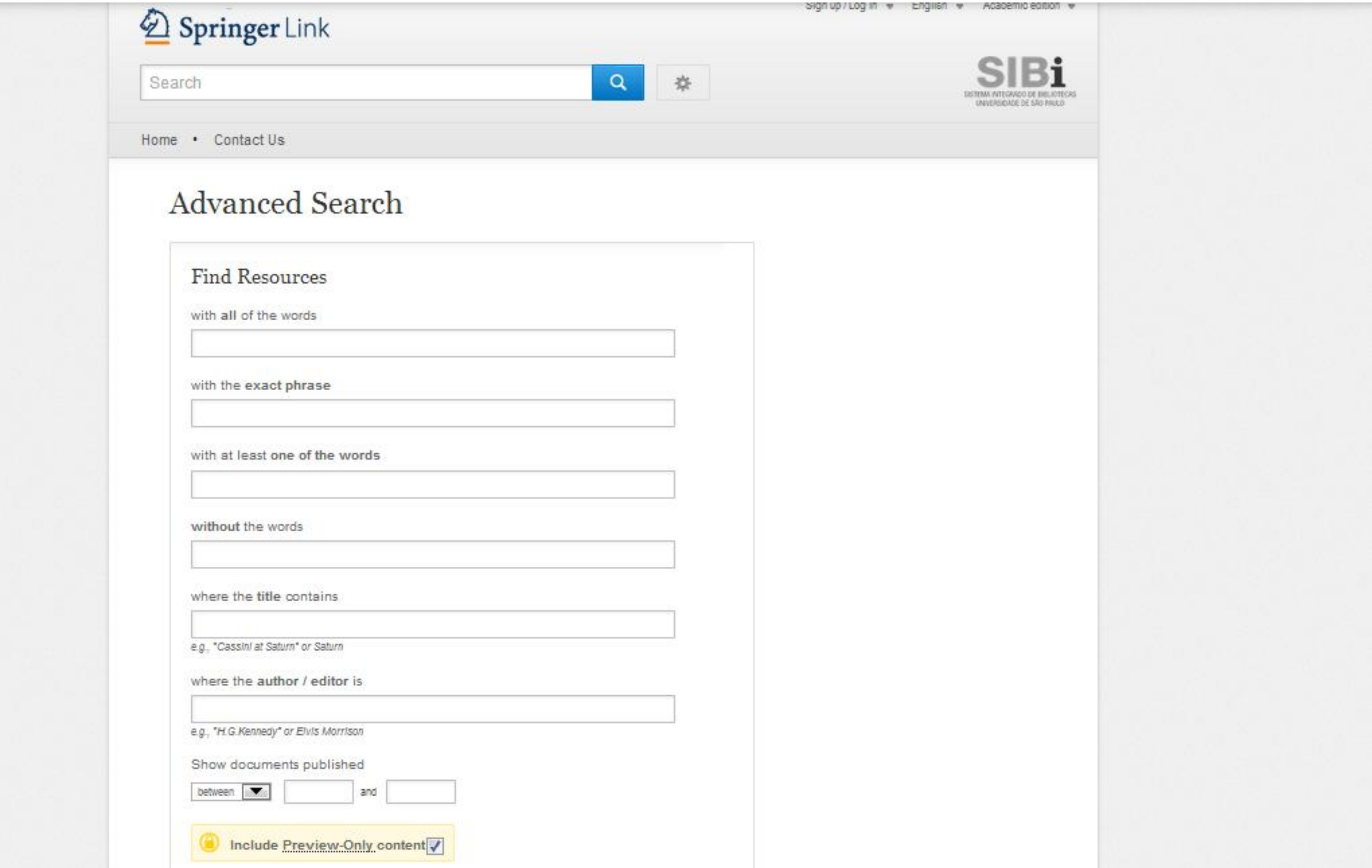
AND
OR
AND NOT
PRE/

As you type Scopus offers code suggestions.
Double click or press "enter" to add to advanced search.

Springer

- String formatada:

((representation or description) AND (embedded) AND ("software architecture" OR "architecture model" OR "architectural model" OR "reference architecture" OR "reference model" OR "architecture framework"))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Find Resources

with **all** of the words

with the **exact phrase**

with at least **one of the words**

without the words

where the **title** contains

e.g., "Cassini at Saturn" or Saturn

where the **author / editor** is

e.g., "H.G.Kennedy" or Elvis Morrison

Show documents published

between ▼ and

Include Preview-Only content ☑

Teste da string

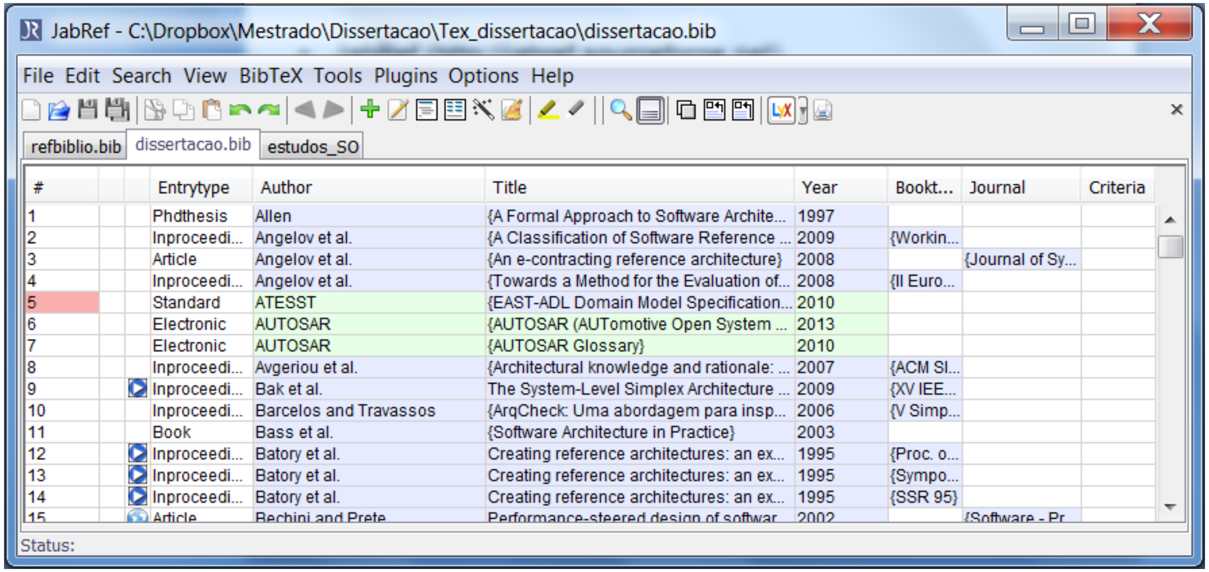
- Antes de extrair, verifique os estudos recuperados:
  - Os estudos trazem todas as palavras-chave?
  - Os termos compostos foram recuperados separadamente?
  - O grupo de controle foi retornado?
    - Se não, há uma justificativa para isso?
      - Ex: muito recente, divulgado internamente, capítulo de livro
      - Pode ser preciso alterar a string

Exportação dos estudos recuperados

- Verificar em cada base procedimento disponível
  - Automático ou manual
    - Manualmente: ACM e Springer
  - Exportar como .bib, .cvs, dentre outros
- Utilizar uma ferramenta de apoio para gerenciar os estudos

Ferramentas de Apoio

- JabRef (http://jabref.sourceforge.net)

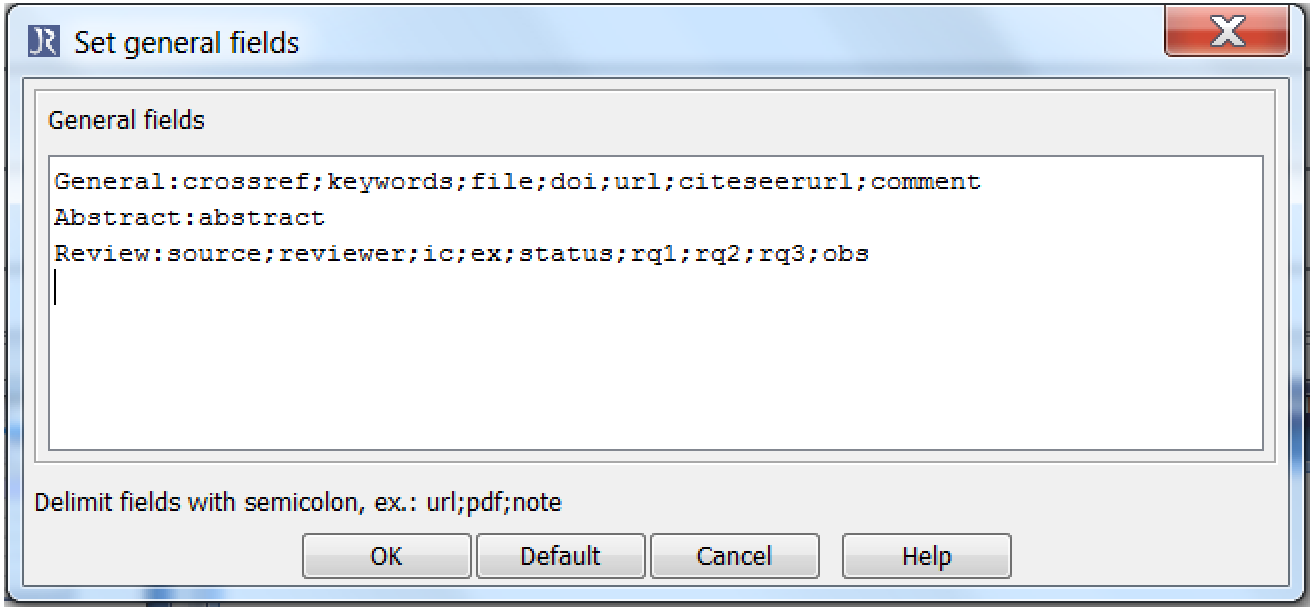

JabRef - C:\Dropbox\Mestrado\Dissertacao\Tex_dissertacao\dissertacao.bib
File Edit Search View BibTeX Tools Plugins Options Help
refbiblio.bib
dissertacao.bib
estudos_SO
Status:

#			Entrytype	Author	Title	Year	Bookt...	Journal	Criteria
1			Phdthesis	Allen	{A Formal Approach to Software Archite...	1997			
2			Inproceedi...	Angelov et al.	{A Classification of Software Reference ...	2009	{Workin...		
3			Article	Angelov et al.	{An e-contracting reference architecture}	2008		{Journal of Sy...	
4			Inproceedi...	Angelov et al.	{Towards a Method for the Evaluation of...	2008	{II Euro...		
5			Standard	ATESST	{EAST-ADL Domain Model Specification...	2010			
6			Electronic	AUTOSAR	{AUTOSAR (AUTomotive Open System ...	2013			
7			Electronic	AUTOSAR	{AUTOSAR Glossary}	2010			
8			Inproceedi...	Avgeriou et al.	{Architectural knowledge and rationale: ...	2007	{ACM SI...		
9			Inproceedi...	Bak et al.	The System-Level Simplex Architecture ...	2009	{XV IEE...		
10			Inproceedi...	Barcelos and Travassos	{ArqCheck: Uma abordagem para insp...	2006	{V Simp...		
11			Book	Bass et al.	{Software Architecture in Practice}	2003			
12			Inproceedi...	Batory et al.	Creating reference architectures: an ex...	1995	{Proc. o...		
13			Inproceedi...	Batory et al.	Creating reference architectures: an ex...	1995	{Sympo...		
14			Inproceedi...	Batory et al.	Creating reference architectures: an ex...	1995	{SSR 95}		
15			Article	Bechini and Prete	Performance-steered design of softwar...	2002		{Software - Pr...	

- Mendeley
  - Estilo diretório, compartilhamento de artigos
- Excel
- Zotero: http://www.zotero.org/

JabRef: Customização para revisão sistemática

- Customização da ferramenta para a condução da revisão:
  - Options > Set up general fields

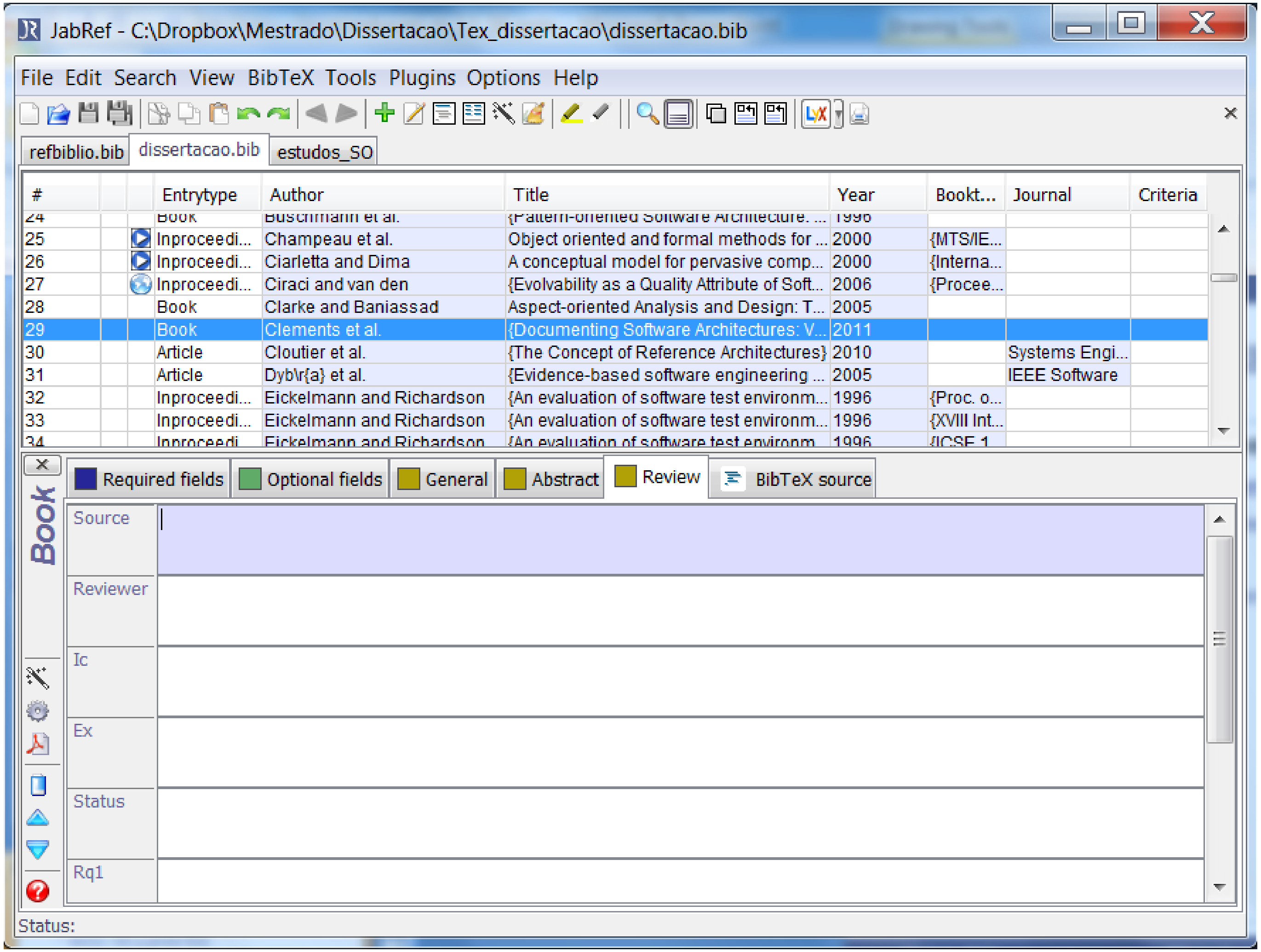

Set general fields
General fields

```
General:crossref;keywords;file;doi;url;citeseerurl;comment
Abstract:abstract
Review:source;reviewer;ic;ex;status;rq1;rq2;rq3;obs
```

Delimit fields with semicolon, ex.: url;pdf;note

OK
Default
Cancel
Help

JabRef


JabRef - C:\Dropbox\Mestrado\Dissertacao\Tex_dissertacao\dissertacao.bib
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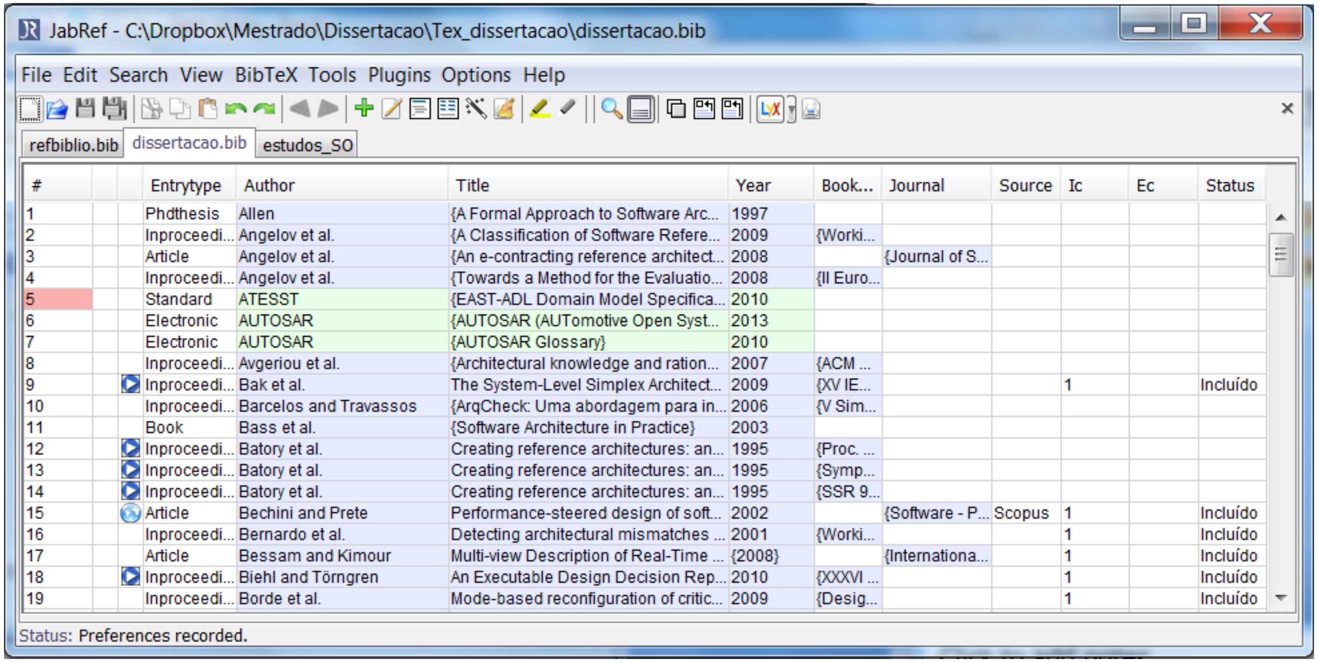
estudos_SO
Required fields
Optional fields
General
Abstract
Review
BibTeX source
Book
Source
Reviewer
Ic
Ex
Status
Rq1
Status:

#			Entrytype	Author	Title	Year	Bookt...	Journal	Criteria
24			Book	Buschmann et al.	{Pattern-oriented Software Architecture: ...	1996			
25			Inproceedi...	Champeau et al.	Object oriented and formal methods for ...	2000	{MTS/IE...		
26			Inproceedi...	Ciarletta and Dima	A conceptual model for pervasive comp...	2000	{Interna...		
27			Inproceedi...	Ciraci and van den	{Evolvability as a Quality Attribute of Soft...	2006	{Procee...		
28			Book	Clarke and Baniassad	Aspect-oriented Analysis and Design: T...	2005			
29			Book	Clements et al.	{Documenting Software Architectures: V...	2011			
30			Article	Cloutier et al.	{The Concept of Reference Architectures}	2010		Systems Engi...	
31			Article	Dyb\r{a} et al.	{Evidence-based software engineering ...	2005		IEEE Software	
32			Inproceedi...	Eickelmann and Richardson	{An evaluation of software test environm...	1996	{Proc. o...		
33			Inproceedi...	Eickelmann and Richardson	{An evaluation of software test environm...	1996	{XVIII Int...		
34			Inproceedi...	Eickelmann and Richardson	{An evaluation of software test environm...	1996	{ICSE 1...		

JabRef

- Customização da ferramenta para a condução da revisão:
  - Options > Preferences > Entry table columns
  - Adicione os campos adicionados anteriormente



JabRef - C:\Dropbox\Mestrado\Dissertacao\Tex_dissertacao\dissertacao.bib

#			Entrytype	Author	Title	Year	Book...	Journal	Source	Ic	Ec	Status
1			Phdthesis	Allen	{A Formal Approach to Software Arc...	1997						
2			Inproceedi...	Angelov et al.	{A Classification of Software Refere...	2009	{Worki...					
3			Article	Angelov et al.	{An e-contracting reference architect...	2008		{Journal of S...				
4			Inproceedi...	Angelov et al.	{Towards a Method for the Evaluatio...	2008	{II Euro...					
5			Standard	ATESST	{EAST-ADL Domain Model Specifica...	2010						
6			Electronic	AUTOSAR	{AUTOSAR (AUTomotive Open Syst...	2013						
7			Electronic	AUTOSAR	{AUTOSAR Glossary}	2010						
8			Inproceedi...	Avgeriou et al.	{Architectural knowledge and ration...	2007	{ACM ...					
9		▶	Inproceedi...	Bak et al.	The System-Level Simplex Architect...	2009	{XV IE...			1		Incluído
10			Inproceedi...	Barcelos and Travassos	{ArqCheck: Uma abordagem para in...	2006	{V Sim...					
11			Book	Bass et al.	{Software Architecture in Practice}	2003						
12		▶	Inproceedi...	Batory et al.	Creating reference architectures: an...	1995	{Proc. ...					
13		▶	Inproceedi...	Batory et al.	Creating reference architectures: an...	1995	{Symp...					
14		▶	Inproceedi...	Batory et al.	Creating reference architectures: an...	1995	{SSR 9...					
15		🌐	Article	Bechini and Prete	Performance-steered design of soft...	2002		{Software - P...	Scopus	1		Incluído
16			Inproceedi...	Bernardo et al.	Detecting architectural mismatches ...	2001	{Worki...			1		Incluído
17			Article	Bessam and Kimour	Multi-view Description of Real-Time ...	{2008}		{Internationa...		1		Incluído
18		▶	Inproceedi...	Biehl and Törngren	An Executable Design Decision Rep...	2010	{XXXVI ...			1		Incluído
19			Inproceedi...	Borde et al.	Mode-based reconfiguration of critic...	2009	{Desig...			1		Incluído

Status: Preferences recorded.

JabRef

- Vantagens:
  - Referências bibliográficas prontas
  - Compartilhar configuração entre diferentes revisores
  - Maioria das bases exportam no formato .bib
  - Fácil de usar, buscar e filtrar estudos

Dicas sobre a seleção

- Primeira etapa:
  - Inclusão/exclusão baseada na leitura de título e resumos
  - Se não ficar claro se deve incluir/excluir, adicionar o estudo na segunda etapa
- Segunda etapa:
  - Inclusão/exclusão baseada na leitura completa
  - Se ainda não ficar claro, levar para discussão (opinião de especialistas)

Dicas sobre a seleção

- Não apague os resultados da primeira etapa
    - Também é importante para a visualização
    - Interessante saber em quais estudos houve divergência e quais deles foram incluídos no final
- Na segunda seleção, já faça anotações sobre o estudo incluído
    - Se necessário, **justifique** suas decisões de seleção (ex: o que ficou vago, por quê decidiu excluir)
- Após finalizar a extração dos estudos incluídos, verifique se já referências interessantes que não foram recuperadas anteriormente
- Registre todos os critérios de inclusão e exclusão que se aplicam a um determinado estudo

Conclusão

- Ter um protocolo bem definido é essencial
  - Buscar antecipar possíveis problemas/dúvidas
  - Detalhar informações que devem ser extraídas para cada questão e adicionar no formulário de extração
    - Imagine nas quais conclusões gostaria de chegar
- Registre suas decisões
- Procure tirar suas dúvidas antes de começar a condução
  - Pode resultar em retrabalho!

Dúvidas?

Boa leitura ☺