



FIZ CHEMIE BERLIN

Fachinformationszentrum Chemie GmbH

Jost T. Bohlen, René Deplanque, Michael Langner

The ChemGuide Access to Chemistry Information on the Web

ACS Fall Meeting, Chicago, August 27, 2001



Average Number of Hosts (Netsizer)

| | |
|--------------|-------------|
| January 1999 | 44,281,500 |
| January 2000 | 70,339,700 |
| January 2001 | 105,959,000 |
| June 2001 | 125,709,000 |

Growth: > 35 mill. per year
Number of Pages ???



Harris Poll #19, April 2001

- **52% of US citizens accessing health care information (i.e. 75% of all adults online) use portals or search engines**
- **24% go directly to a site focused on health-related topics**
- **16% go first to a general site that focuses on many topics and may have a section on health issues**



The ChemGuide Access to Chemistry Information on the Web

Portal

<[*World-Wide Web*](#)> A [web site](#) that aims to be a "doorway" to the [World-Wide Web](#), typically offering a [search engine](#) and/or links to useful pages, and possibly news or other services. These services are usually provided for free in the hope that users will make the site their default [home page](#) or at least visit it often.

Most portals on the [Internet](#) exist to generate advertising income for their owners, others may be focused on a specific group of users and may be part of an [intranet](#) or [extranet](#).

FOLDOC, Copyright 1993 by Denis Howe, Imperial College of Computing



The ChemGuide Access to Chemistry Information on the Web

■ Directories

- list (registered) sites
- clustered by topic

■ Search Engines

- spider based
- try to cover the entire web

■ Link Lists

- topic related
- individually maintained



The ChemGuide Access to Chemistry Information on the Web

■ Yahoo

- Category 'Organic Chemistry' lists only 49 sites

■ AltaVista

- Search for 'Organic near Chemistry' retrieves > 370,000 pages

■ Google

- Search for 'Organic Chemistry' retrieves >40.000 pages



The ChemGuide Access to Chemistry Information on the Web

■ Directories

- arbitrary results
- few hits

■ Search Engines

- too many (off topic) hits
- almost impossible to evaluate

■ Link Lists

- time consuming to follow
- often outdated



■ The 'Guide' Concept

- **Pre-selected and topic-related Web sites**
- **Automated frequent updates**
- **Full-text indexing**
- **Sophisticated retrieval**
- **Combined searches in bibliographic databases and the Internet**



■ The 'Guide' Concept - Procedure

- 1. Start with a list of relevant URL's**
- 2. Robots collect all entry pages and all links**
- 3. Linked pages on the same server are collected as well**
- 4. Collected content is indexed and stored**



■ The 'Guide' Concept - Procedure

- 5. Links to external servers are parsed and those servers identified.**
- 6. If an external server is cited by five or more different servers it is added to a list for evaluation.**
- 7. New URL's are individually evaluated by scientists and added to the pool if considered relevant.**



The ChemGuide Access to Chemistry Information on the Web

■ ChemGuide

~ 3.0 mill. chemistry URL's

■ MedPharmGuide

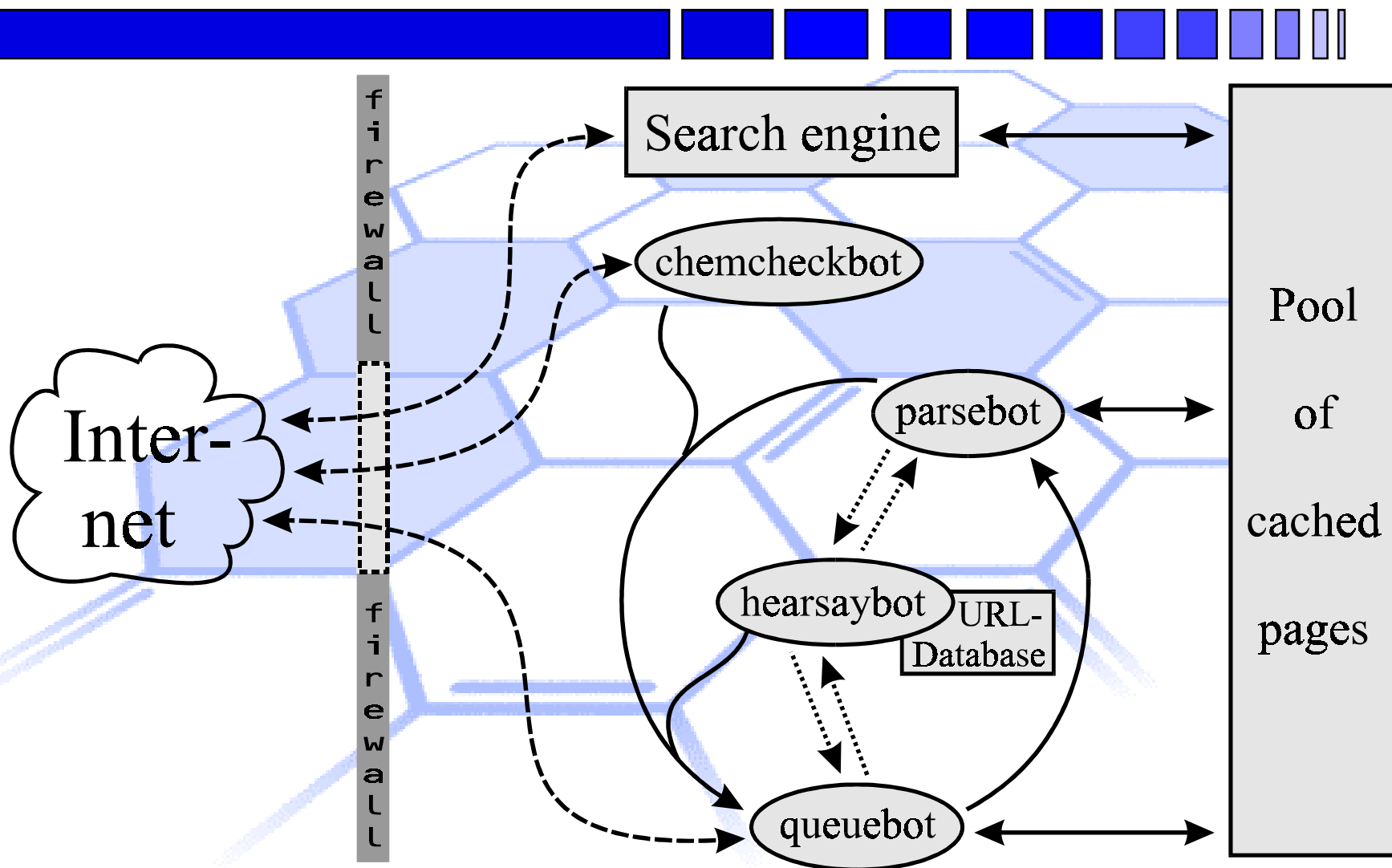
~ 3.0 mill. URL's featuring pharmacology, medicine, etc.

■ PublishersGuide Science and Technology

~ 1.5 mill. URL's from publishers, scientific organisations and societies



The ChemGuide Access to Chemistry Information on the Web





■ Retrieval

- Searches document text and/or meta tags and/or host
- Full index support for all search fields
- Versatile truncation options
- Boolean and proximity operators
- List management in expert search mode
- SDI's
- Hit terms are highlighted within retrieved documents



■ Truncation

- ? Left and right truncation
any number of characters
- # Right truncation with one or zero characters
vapor# = vapor or vapors
- ! Exactly one character within or at the end of a search term
sulf!!yl = sulfenyl or sulfoxyl



■ Operators

– Boolean

And, Or, Not

– Proximity

With, Adjacent

(nW) liquid(w)crystal

(nA) system(a)information

**= 'system information' or
'information system'**

n = maximum number of words between search terms



FIZ CHEMIE BERLIN

Fachinformationszentrum Chemie GmbH

The ChemGuide Access to Chemistry Information on the Web

http://www.fiz-chemie.de/en/datenbanken/chemguide/ - Microsoft Internet Explorer

DATEI BEARBEITEN ANSICHT FAVORITEN EXTRAS ?

Zurück Vorwärts Abbrechen Aktualisieren Startseite Suchen Favoriten Verlauf E-Mail Größe Drucken Bearbeiten Real.com Messenger

Adresse http://www.fiz-chemie.de/en/datenbanken/chemguide/ Wechseln zu Links >>

FIZ CHEMIE BERLIN

HOME CONTACT SEARCH

Our Company
Databases
Services
News
Catalogue

ChemGuide
Fulltext search engine for
chemistry-related Internet servers

DISCLAIMER

Number of Pages: 2820264

Fertig Internet



The ChemGuide Access to Chemistry Information on the Web

| Search Field | Index | Search Terms | Hits |
|--------------|-------|-------------------------------------|------|
| Fulltext | INDEX | ORGANIC (W) CARBON (4A) DEGRADATION | 9 |
| META Tags | INDEX | | |
| Web Site | INDEX | | |
| Total Hits: | | | 9 |

Quick Help

- * Use the the usual Boolean operators 'And', 'Or', and 'Not' in any combination.
- * Keybord input offers several truncation characters:
 - ? Left and right truncation any number of characters
 - # Right truncation with one or zero characters vapor# = vapor or vapors
 - ! Exactly one character within or at the end of a term sulf!yl = sulfenyl or sulfoxyyl
- * ChemGuide features proximity operators for more sophisticated full-text retrieval
 - (nW) liquid(w)crystal
 - (nA) system(a)information = 'system information' or 'information system'with n being the maximum number of words allowed between search terms.
- * Use Indexsearch as expand command and to check spelling.



FIZ CHEMIE BERLIN

Fachinformationszentrum Chemie GmbH

The ChemGuide Access to Chemistry Information on the Web

http://www.fiz-chemie.de/en/datenbanken/chemguide/ - Microsoft Internet Explorer

Adresse <http://www.fiz-chemie.de/en/datenbanken/chemguide/>

FIZ CHEMIE BERLIN

HOME CONTACT SEARCH

Our Company
Databases
Services
News
Catalogue

1/9 Distribution of CaCO₃ on the Sea Floor
Predict the Distribution of CaCO₃ on the Sea Floor Overlying Water Conditions O₂ (umol/kg): Temperature (C): Salinity (ppt): Rain Rates Organic C Rain Rate (micromoles / cm² yr): Calcite Rain Rate (mi...
<http://geosci.uchicago.edu/~archer/cgimodels/sedlys.html> (1401 Bytes) 19.06.2001

2/9 Deep Sea Sedimentary Porewater Chemistry
Deep Sea Sedimentary Porewater Chemistry Calcite Concentration (% dry weight) Depth (meters) Delta CO₃ (umol/kg) O₂ (umol/kg) Temperature (C) Salinity (ppt) Organic C Rain Rate (micromoles / cm² yr) Ca...
<http://geosci.uchicago.edu/~archer/cgimodels/sedfix.html> (1363 Bytes) 19.06.2001

3/9 No title
No Text...
<http://geosci.uchicago.edu/~archer/reprints/nature94/emr.html> (15930 Bytes) 19.06.2001

4/9 No title
No Text...
<http://geosci.uchicago.edu/~archer/reprints/paleo91/paleo.html> (49124 Bytes) 19.06.2001

5/9 Mudmodel
A data-driven model of the global calcite lysocline David Archer Department of the Geophysical Sciences 5734 South Ellis Avenue University of Chicago Chicago, Ill 60637 Abstract Gridded maps of sedimen...
<http://geosci.uchicago.edu/~archer/reprints/gbcprep2mudmodel.html> (61119 Bytes) 19.06.2001

6/9 coretop_mudmap3-galleys
An atlas of the distribution of calcium carbonate in sediments of the deep sea David Archer Department of the Geophysical Sciences 5734 South Ellis Avenue University of Chicago Chicago, Ill 60637 Abstr...
http://geosci.uchicago.edu/~archer/reprints/gbc96/coretop_mudmap3-.html (63138 Bytes) 19.06.2001

7/9 No title
No Text...
<http://geosci.uchicago.edu/~archer/reprints/paleo93/opal.html> (55493 Bytes) 19.06.2001

8/9 Introduction
Next: The biological pump Up: Modeling of marine biogeochemical Previous: Abstract Introduction The world ocean is a very complex dynamical system that permanently redistributes large amounts of ener...
<http://www.awi-bremerhaven.de/GEO/Publ/PhDs/RUsbeck/node4.html> (15234 Bytes) 07.06.2000

9/9 Introduction
Next: The biological pump Up: Modeling of marine biogeochemical Previous: Abstract Introduction The world ocean is a very complex dynamical system that permanently redistributes large amounts of ener...
<http://www.awi-potsdam.de/GEO/Publ/PhDs/RUsbeck/node4.html> (15234 Bytes) 19.06.2001



The ChemGuide Access to Chemistry Information on the Web

http://www.fiz-chemie.de/en/datenbanken/chemguide/ - Microsoft Internet Explorer

File Bearbeiten Ansicht Favoriten Extras ?

Zurück Vorwärts Abbrechen Aktualisieren Startseite Suchen Favoriten Verlauf E-Mail Größe Drucken Bearbeiten Real.com Messenger

Adresse http://www.fiz-chemie.de/en/datenbanken/chemguide/ Wechseln zu Links »

FIZ CHEMIE BERLIN

HOME CONTACT SEARCH

Our Company
Databases
Services
News
Catalogue

Document 3 of 9

Effect of deep-sea sedimentary calcite preservation on atmospheric CO₂ concentration

D. Archer¹

Lamont-Doherty Earth Observatory
Palisades, NY 10964

and

E. Maier-Reimer

Max-Planck-Institut für Meteorologie
Bundesstraße 7, D-2000 Hamburg 54

¹Presently at: Department of Geophysical Sciences
5734 South Ellis Avenue
University of Chicago
Chicago, Ill 60637

The partial pressure of CO₂ (pCO₂) of the glacial atmosphere was 30% lower than pre-anthropogenic interglacial values¹. While the cause of this change is generally accepted to be oceanographic, the mechanism has not been determined. We present a global ocean/sediment circulation and carbon cycle model, and explore the relationship between deep sea sediment chemistry and atmospheric pCO₂. On time frames of thousands of years, the pH of the ocean (and hence atmospheric pCO₂) is determined by a steady state balance between the supply rate of carbonate alkalinity from terrestrial weathering and alteration and removal by calcium carbonate burial in sediments^{2, 3, 4}. Degradation of organic carbon in sediments promotes dissolution of calcium carbonate^{5, 6}, so that a change in the ratio of rain rates of organic carbon and calcite to the sea floor drives a compensating change in ocean pH to maintain steady state. When organic-driven calcite dissolution is included in our carbon cycle model, a 40% decrease in the calcite precipitation rate (production) is sufficient to decrease pCO₂ to glacial values. The response time of model pCO₂ to a change in calcite production is similar to the observed pCO₂ transition time following the last glacial termination¹.



Expert Search - ChemGuide

| L# | Treffer | Suchschritt |
|----|---------|---------------------------------|
| 1 | 1447 | PLANT# (2A) (GROWTH OR GROWING) |
| 2 | 296 | PLANT# (3A) PRESERV? |
| 3 | 18 | CROP# (3A) PRESERV? |
| 4 | 78 | HUMAN# (3A) PRESERV? |
| 5 | 31 | ANIMAL# (2A) PRESERV? |
| 6 | 1839 | (L1 OR L2 OR L3 OR L4 OR L5) |
| 7 | 1839 | L6 |

Suchschritt 8 : (Eingabe abschliessen mit ENTER oder Button SUCHEN drücken.)

Suchen Anzeigen Speichern Laden Neu



■ SDI (Selective Dissemination of Information)

- repetitive searches with identical queries
- complex search profiles
- run with every update
- results editable and distributable via e-mail



SDI-Example ChemGuide

Microsoft Internet Explorer - hit

Suchschritt

| L# | Treffer | Suchschritt |
|----|---------|---|
| 1 | 1336 | (DIMER? OR TRIMER? OR TETRAMER? OR OLIGOMER? OR POLYMER? OR COPOLYMER?) (10A) (ETHEN? OR PROPEN? OR ISOBUTEN? OR BUTADIEN? OR ISOPREN?) |
| 2 | 1369 | (DIMER? OR TRIMER? OR TETRAMER? OR OLIGOMER? OR POLYMER? OR COPOLYMER?) (10A) (UNSAT? (2A) HYDROCARB? OR ALKEN? OR CONJUGAT? (2A)(DIEN? OR DOUBLE) OR OLEFIN?) |
| 3 | 242 | (L1 OR L2) (10A) (SOLVENT# OR SOLUTION OR AQUEOUS OR EMULSION OR AGENT# OR ANIONIC OR CATIONIC OR IONIC) |
| 4 | 300 | (L1 OR L2) (15A) (SOLVENT# OR SOLUTION OR AQUEOUS OR EMULSION OR AGENT# OR ANIONIC OR CATIONIC OR IONIC) |
| 5 | 94 | (L1 OR L2) (15A) (BULK OR SUSPENSION OR EMULSI? OR MEDIUM OR MEDIA OR GASEOUS OR AQUEOUS) |
| 6 | 1162 | (L1 OR L2) (20A) (CATALY? OR HYDROGENAT? OR OXIDA? OR EPOXIDA? OR REDUCT? OR ALKYLA? OR NEUTRALI?) |
| 7 | 575 | (L1 OR L2) (20A) (PREPAR? OR SYNTH?) |
| 8 | 1480 | (L3 OR L4 OR L5 OR L6 OR L7) |

Suchschritt 9 : (Eingabe abschliessen mit ENTER oder Button SUCHEN drücken.)

Suchen Anzeigen Speichern Laden Neu



The ChemGuide Access to Chemistry Information on the Web

74 Hitlister4
Hitlist Optionen

ChemGuide Hit-Lister

Fulltext-searchengine for chemistry related internet servers

1/1480 **del** **Contents List for Chemical Communications , issue 10 - 1998**
Products Contents List for issue 10 of Chemical Communications , 1998 1055 Precious metal polymers: platinum or gold atoms in the backbone R. J. Puddephatt 1063 The X-ray crystal structures of perdeu...
<http://chemistry.rsc.org/is/journals/current/chemcomm/contents/1998/cc998010.htm> (27046 bytes) 01.01.1970

2/1480 **del** **Contents list for Issue 19 of Chemical Communications , 1997**
Contents list for Issue 19 of Chemical Communications , 1997 Feature Article 1817 Solid-state chemistry of lithium power sources Peter G. Bruce There is much fundamental solid-state chemistry behind th...
<http://chemistry.rsc.org/is/journals/current/chemcomm/contents/clic/illcontlist/1997/cccc9719.htm> (24395 bytes) 01.01.1970

3/1480 **del** **Contents list for Issue 16 of Chemical Communications , 1996**
Contents list for Issue 16 of Chemical Communications , 1996 Feature Article 1851 Capillary electrophoresis: a major advancement in separation technology Patrick Camilleri 1859 Environmentally friendly...
<http://chemistry.rsc.org/is/journals/current/chemcomm/contents/clic/illcontlist/1996/cccc9616.htm> (27692 bytes) 01.01.1970

4/1480 **del** **Contents list for Issue 7 of Chemical Communications , 1998**
Products Contents list for Issue 7 of Chemical Communications , 1998 727 Crystal engineering: molecular networks based on inclusion phenomena Mir Wais Hosseini, André De Cian 735 No...
<http://chemistry.rsc.org/is/journals/current/chemcomm/contents/1998/cccc9807.sht> (31906 bytes) 01.01.1970

5/1480 **del** **RSC - Book Chapters On-line**
Products Catalysis Volume 14 Individual chapters from this title are available for purchase, allowing you online access for 30 days. Chapters are supplied as electronic PDF files but can be downloa...



■ From Guide to Portal

- **Create a customized search engine for given topic**
- **Generate a set of complex queries that produce hits for special points of interest**
- **Connect queries to corresponding search buttons**
- **Add additional features (link lists, discussion groups, billboards, etc.)**



■ New Portals

- **Applicable to any topic, set of hosts, or Intranet**
- **Automatic frequent updates**
- **Minimal maintenance after initial installation**
- **Answer sets for areas of interest are dynamically generated by fixed queries. Thus, they always resemble current content.**
- **SDI's available for registered users**



FIZ CHEMIE BERLIN

Fachinformationszentrum Chemie GmbH

The ChemGuide Access to Chemistry Information on the Web

