



HAL
open science

Report on CIRP Information Technology: Notes from 46th CIRP General Assembly Presentation on CIRPNET

Bruno Denis, Dominique Feautrier

► **To cite this version:**

Bruno Denis, Dominique Feautrier. Report on CIRP Information Technology: Notes from 46th CIRP General Assembly Presentation on CIRPNET. CIRP Annals - Manufacturing Technology, 1996, 45 (2), pp.667-674. 10.1016/S0007-8506(18)30215-4 . hal-03745245

HAL Id: hal-03745245

<https://hal.science/hal-03745245>

Submitted on 4 Aug 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Report on CIRP Information Technology

Notes from 46th CIRP General Assembly Presentation on CIRPNET

B. Denis, D. Feautrier
LURPA, Ecole Normale Supérieure de Cachan, France

Abstract: The first goal of this handout is to introduce you to CIRPNET, its making-of and its main aims. We also would like to introduce the Internet and the advantages the CIRP Academy could draw from it. We then describe the contents of CIRPNET and give statistics that show its impact on the scientific community. Finally, we give examples of navigations through CIRPNET in the appendices.

Keywords: Internet, World Wide Web, CIRPNET, Annals Database

Acknowledgments

We would like to thank the CIRP Task Group for Information Technology and more specially its Chairman Professor I. HAM. We also like to thank Mr. Daniele Dalmiglio for his efficiency in the organization of the technical means at our disposal for the CIRPNET demonstration in COMO.

1. CIRPNET Project

CIRPNET goals were both to broad CIRP activities through the Internet and to provide a structure allowing to help CIRP Members to use Internet resources.

- R. HOCKEN, USA
- F. KIMURA, Japan
- T. KJELLBERG, Sweden
- F.-L. KRAUSE, Germany
- S.R.T. KUMARA, India (**Secretary**)
- J. MEIJER, Netherlands
- L. MONOSTORI, Hungary
- M. SANTOCHI, Italy
- R. TETI, Italy
- J.P. Van GRIETHUYSEN, Switzerland
- F.J.A. VAN HOUTEN, Netherlands
- M. VERON, France

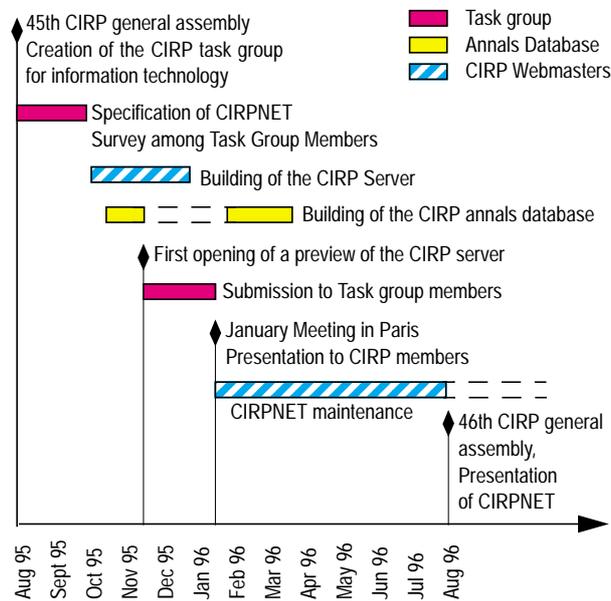


Fig. 1 Main dates and tasks of CIRPNET Project

With this end in view, the creation of a CIRP Task Group for Information Technology has been decided at the 45th CIRP General Assembly in Enschede (Netherlands) in September 1995. It is composed of the 16 following members,

- P. BOURDET, France
- L. CSER, Hungary
- N.A. DUFFIE, USA
- I. HAM, Korea (**Chairman**)

Professor P. Bourdet proposed to host CIRPNET on his laboratory network and put us in charge of creating and maintaining CIRPNET. Figure 1 shows the main events that happened in CIRPNET short history.

2. WWW Concepts

The Internet proposes a client/server structure (Fig. 2) allowing a client to get remote informations. The World Wide Web is a sub-part of the Internet providing two kind of informations

- formatted text pages
- multimedia materials (e.g. images and audio files)

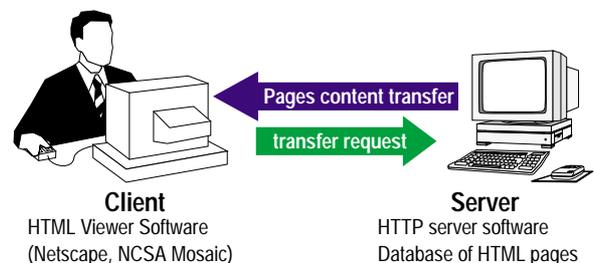


Fig. 2 Client/Server structure

The WWW permits to link these informations together. One can get these informations either by knowing their exact addresses or by following the links. Using the second way is commonly called to *navigate*. CIRPNET is a navigation tool.

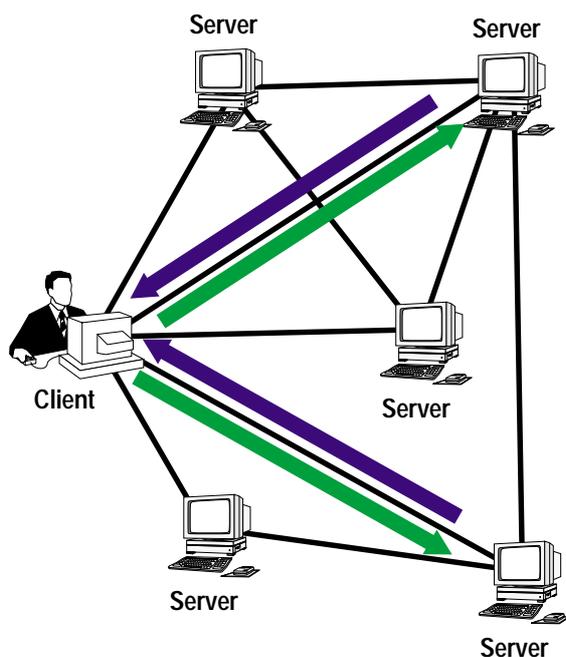


Fig. 3 Internet advantages

3. Introduction to CIRPNET

CIRPNET is a navigation tool hosted by the Internet allowing to answer to the previous requirements by giving,

- General Informations about the CIRP Academy
- A database of Publications
- Links to CIRP-related Pages of the Internet

Its structure permits to use the main advantage of the internet, i.e. a multi-servers and multi-clients structure.

Figure 4 shows that CIRPNET comprises three kind of nodes,

- The CIRP Server:
 - It is maintained by CIRP Webmasters and contains,
 - General informations about CIRP
 - Table of contents of CIRP Annals
 - Seminar announcements
 - Newsletters
- CIRP-related Servers
 - These servers are maintained by Members. Our work here consists in linking URLs¹ to the CIRP server. These URLs deal with,
 - Seminar announcements
 - CIRP Members Labs Homepages
- Client
 - Type: PC, Macintosh, Unix Workstation
 - Viewer: Netscape, NCSA Mosaic, Lynx...

Although flexible, navigate through the Internet can be hard to manage, specially the very first times you connect. As lots of servers do, we gathered CIRP related links in the same page (i.e. CIRPNET home page). We have adopted this structure because it only requires the client to know

¹ The World Wide Web uses Uniform Resource Locators (URLs) to specify the location of files on other servers. A URL includes the type of resource being accessed (e.g., Web, gopher, WAIS), the address of the server, and the location of the file.

the CIRPNET Server URL and not all CIRP-related URLs. This help we provide does not prevent the client to bookmark the pages he is interested in, and go directly to one of these bookmarks the next connections. Thus, CIRPNET still allows to take advantage of what makes the Internet so convenient, i.e. the easiness of going from one point to another.

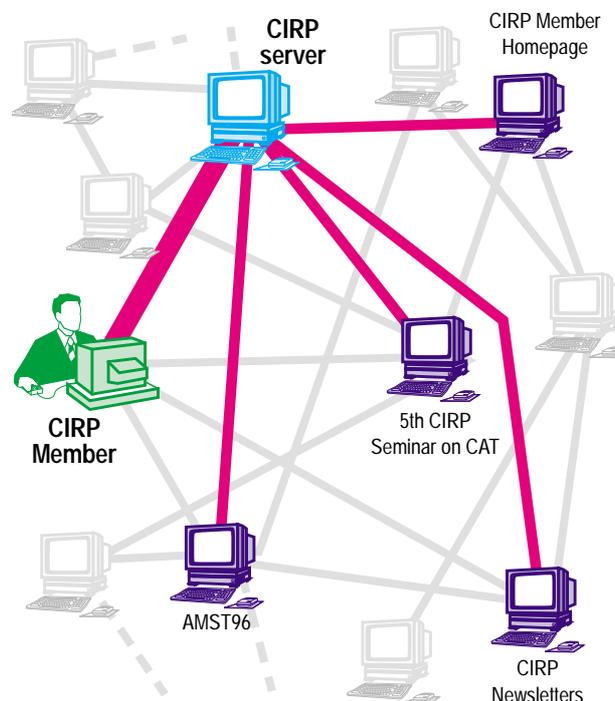


Fig. 4 The CIRPNET structure and its different nodes as a sub-net of the Internet

The Starting point to CIRPNET (i.e. CIRP Server URL) is the following address,

<http://www.lurpa.ens-cachan.fr/cirp.html>

Concerning the organization of the CIRP Server, we propose a hierarchical structure allowing to view sub-pages of CIRPNET though enabling to go back to the main pages at any time.

4. CIRPNET Contents

The CIRP Task Group for Information technology required the following items to appear in CIRPNET:

Home Page

- General Information
- Announcements and call for papers
- CIRP Newsletter
 - Newsletter #8
 - Newsletter #7
- Table of contents of CIRP Annals
 - CIRP Annals (year by year)
 - References of Authors
 - Search by keywords
- Course Materials
- Links to CIRP Members Labs

These informations are not homogenous as for their nature. Table 1 shows how we sort the different type of pages.

Table 1 Map of the CIRP Server contents

	Permanent pages containing static data	Pages Made temporarily on particular demand	Permanent pages containing reactive data
General Presentation	9 pages		
Announcements			1 page 6 links
Newsletter	#7 7 pages		
	#8 7 pages		
Table of contents of CIRP Annals	CIRP Annals (year by year) 139 pages		
	References of Authors 27 pages	2140 pages	
	search by keywords 1 page	infinity of pages	
Course Materials	1 page		
Links to CIRP Members Labs			1 page 10 links

Permanent pages containing static data

The goal of these pages is to provide Internet surfers with general informations about CIRP (e.g. STCs aims and goals, Newsletter...). To do so, three steps are necessary. The first step consists in either typing paper documents on a computer or getting word processor files if they already exist (e.g. Newsletters). Then it is necessary to translate all layout commands and all paragraphs and characters properties in the HTML language. Finally we enhance the contents of the HTML pages by adding navigation possibilities with hypertext link commands.

Pages Made temporarily on particular demand

We wanted to be able to give the client the possibility to perform either Author list of publications queries or Keywords queries. To do so, we first built an author database from the database of publications (whose format is the same as the table of contents of the CIRP Annals format). We then wrote two Perl² scripts that (depending on whether you search by Authors or by Keywords respectively) first open the database of Authors or the database of publications, then either look for the matching Authors

² *Practical Extraction and Report Language*: Perl is an interpreted language optimized for scanning arbitrary text files, extracting information from those text files, and printing reports based on that information.

or the matching Keywords and finally built the report in the format of the table of contents of the CIRP annals.

Permanent pages containing reactive data

Here we aimed at allowing a client to navigate not only within the CIRP Server but also through the entire CIRP-NET. It is done by linking all informations provided by CIRP Members. Members can get in touch with CIRP Webmasters via e-mail to send them the informations they need to link either seminar pages or their lab home page. This is what makes this category of pages reactive.

Table 1 also gives the number of pages and links available in each category of the CIRP Server.

One can finally notice the frames surrounding certain cells. We wanted to point out here the fact that it is not possible to find any of the informations within these cells anywhere else than by entering the CIRP Server Home-page. For example we have built an index of Authors. On the contrary, informations such as CIRP Newsletters and the General Presentation of CIRP Academy are available on two media: CIRPNET and Paper Handouts. It shows it is useful to gather in the same location an as comprehensive as possible list of CIRP-related informations.

5. CIRP Server consultation statistics

Although only officially open to public access since January 1996, CIRPNET has been existing for almost 9 months. At the beginning of its life, we first prepared a preview of CIRPNET and gave its address to CIRP Task Group members. At that time we wanted to validate the formats we have chosen for the pages (fonts, style...) and also be sure we met the requirements sheet we had from the Task Group. That explains why the statistics are starting earlier than in January. At that moment (around week 9) we observed an increase in CIRPNET logs.

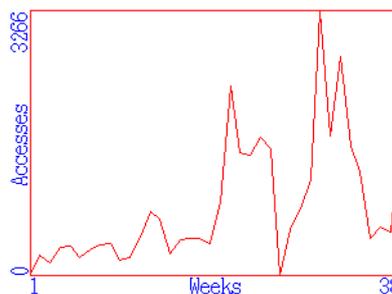


Fig. 5 Whole site consultations over 38 weeks

On August 20th we had a total number of 33719 consultations. This number has a general tendency to increase³ (Fig. 5). If we consider that CIRPNET has really started at the end of January 1996, we have an approximate average number of consultations of 1500 a week, which is quite important.

Figure 6 shows the distribution of consultations sorted by the main topics of the entry page of the CIRP Server. One

³ Due to changes in our organization network system, the CIRP Server was unreachable during the week of May 19th

can note that the publications database is what interests the most CIRPNET users. It is also interesting to notice that, as expected, users preferably consult the pages not available on other media.

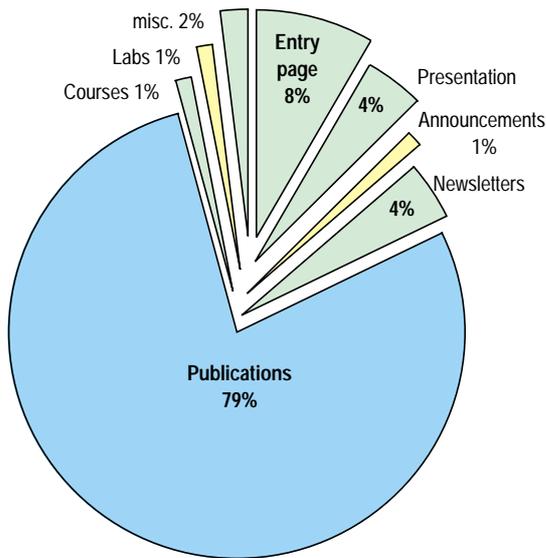


Fig. 6 Distribution of consultations

6. Conclusion

One year ago, the creation of CIRPNET has been decided. Six month later, we have presented a preview of CIRPNET at the January meeting in Paris. Today it is operational. Nevertheless, to be reactive, CIRPNET has to be in constant evolution. To do so, we need the help of all CIRP Members to keep it up to date. It can be done by mailing to CIRP Webmasters the home-page addresses of both CIRP Members Labs and Seminars.

Appendix A: CIRP Server Entry Page



Page 1: <http://www.lurpa.ens-cachan.fr/cirp.html>

This page is the official entrance to CIRPNET. It gives the table of contents of the CIRP Server, i.e. General Information, Announcements and call for papers, CIRP Newsletter, CIRP Annals, Course Materials and Links to CIRP Members Labs. When navigating it is always possible to come back to this page by clicking on the CIRP button (see Appendix B), except for the pages that are not located in the CIRP Server (e.g. links to CIRP Members Labs) and that we do not maintain.

The other useful informations in this page are:

- CIRP e-mail address: Official CIRP Secretary e-mail address; To be used only for CIRP-related matter
- CIRP Webmasters e-mail address: To be used only to comment the CIRP Server or to ask Webmasters to link pages to CIRPNET
- Statistics: CIRP Server usage essentially sorted by week, by domain and by page
- Task Group: List (and few Home pages addresses) the Members of the CIRP Task Group for Information Technology

Appendix B: CIRPNET Buttons as a navigation help

There are five types of buttons in the CIRP Server. They have two main uses:

- going back to the main pages of the server at any time
- allowing to navigate faster



leads users to the *entry page* of the CIRP server



leads users to the *Table of contents* of CIRP annals page



leads users to the *CIRP Annals (year by year)* page

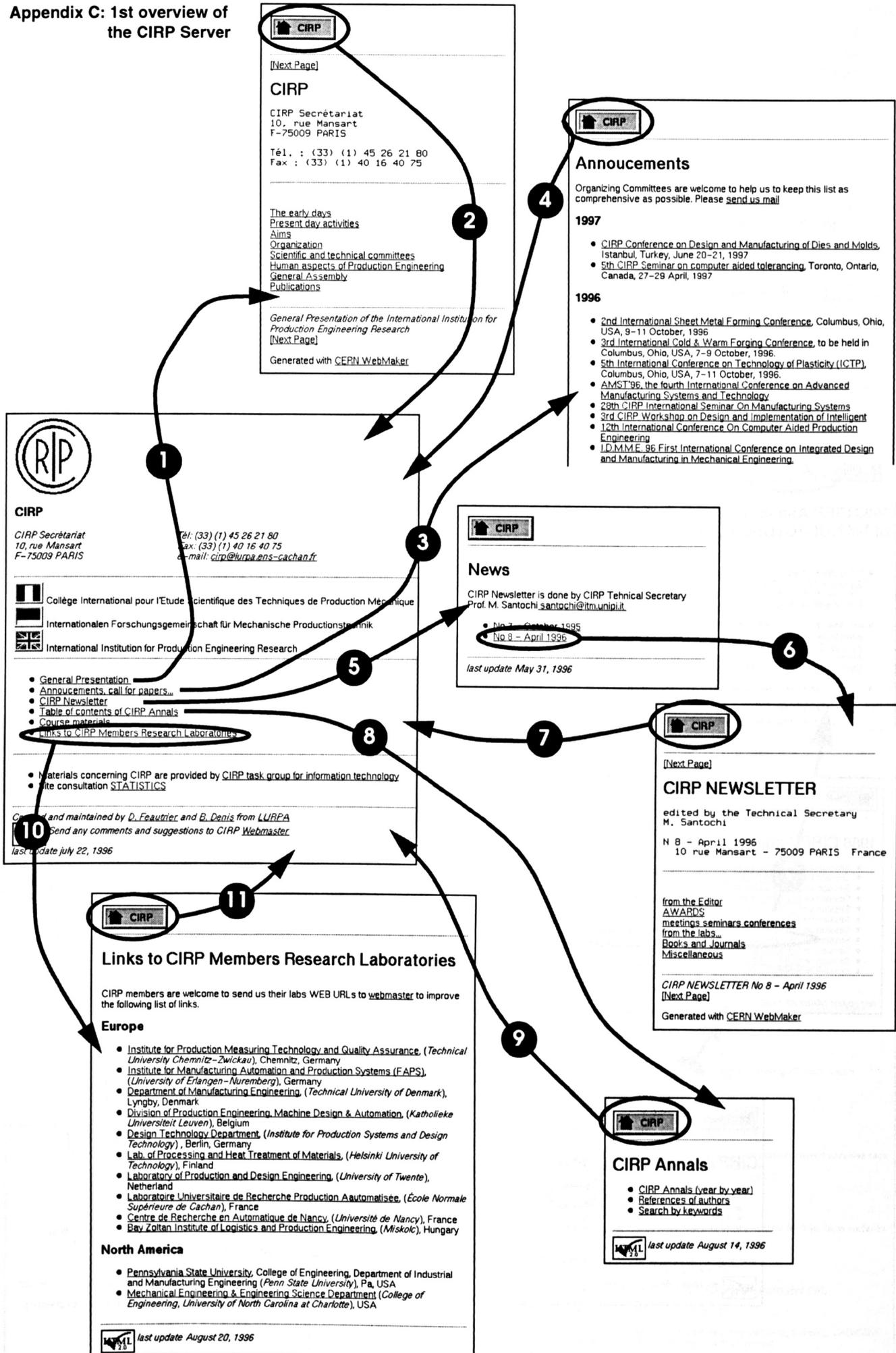


leads users to the *references of authors* page

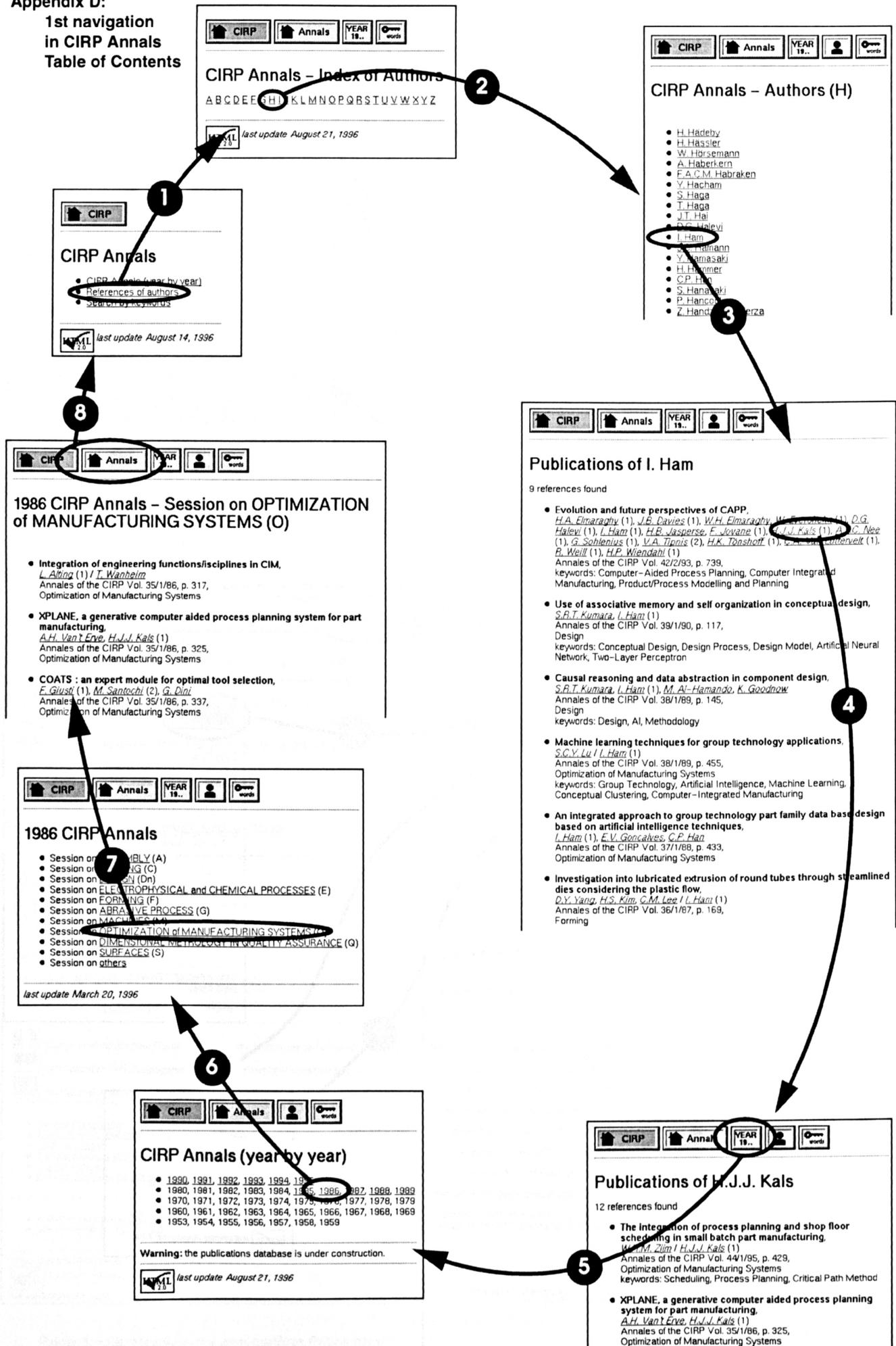


leads users to the *search by keywords* page

Appendix C: 1st overview of the CIRP Server



Appendix D:
1st navigation
in CIRP Annals
Table of Contents



Appendix E:
Using advanced features of the CIRP Server

CIRP Annals

- CIRP Annals (year by year)
- Search by keywords

last update August 14, 1996

CIRP Annals - Keywords

A query may consist of several words with spaces in between. The default behavior of the search engine is to get references which contain all words of the query (i.e. AND boolean operator between words). With the OR boolean operator, you can drive the search engine to return all references which contain any of the query words. Furthermore, the search engine is not case sensitive and consider query words as substrings.

Enter your keywords:

functional design OR

Submit Query Reset

last update August 21, 1996

Results for "functional" OR "design"

186 references found

- **Polynomial predictive functional control (PPFC) for motor drives.**
P. Boucher (2), D. Dumuc (2), H.P. Kurzweil
Annales of the CIRP Vol. 42/1/93, p. 453,
Machines
keywords: Machine Tools, CNC, Control System
- **Conceptual design of a relational data base for manufacturing processes.**
S. Kastelic, J. Kopic, J. Peklenik (1)
Annales of the CIRP Vol. 42/1/93, p. 493,
Optimization of Manufacturing Systems
keywords: Relational Data Base, Machinability Data, Optimization
- **RALB - A heuristic algorithm for design and balancing of robotic assembly lines.**
J. Rubinovitz, J. Bukchin / E. Lenz (1)
Annales of the CIRP Vol. 42/1/93, p. 517,
Optimization of Manufacturing Systems
keywords: Robotic Assembly, Line Balancing, Frontier Search
- **IPPM - A prototype to integrate process planning and job shop scheduling functions.**
H.C. Zhang / E. Merchant (1)
Annales of the CIRP Vol. 42/1/93, p. 513,
Optimization of Manufacturing Systems
keywords: CAPP, Production Scheduling, Functional Integration
- **The application of Features in airframe component design and manufacturing.**
J.H. Kappert, F.J.A.M. Van Houten (2), H.J.J. Kals (1)
Annales of the CIRP Vol. 42/1/93, p. 523,
Optimization of Manufacturing Systems

CIRP Annals - Keywords

A query may consist of several words with spaces in between. The default behavior of the search engine is to get references which contain all words of the query (i.e. AND boolean operator between words). With the OR boolean operator, you can drive the search engine to return all references which contain any of the query words. Furthermore, the search engine is not case sensitive and consider query words as substrings.

Enter your keywords:

functional design AND

Submit Query Reset

last update August 21, 1996

Results for "functional" AND "design"

4 references found

- **A CAD for functional design.**
T. Toniyama, Y. Umeda, H. Yoshikawa (1)
Annales of the CIRP Vol. 43/1/94, p. 121,
Design
keywords: Design, Conceptual Model, Function
- **Functional models and design solutions.**
H. Schmehl / G. Sobierius (1)
Annales of the CIRP Vol. 38/1/89, p. 129,
Design
keywords: Intelligent CAD, Artificial Intelligence, Functional Models, Design Solutions
- **A computer aided conceptual design system of machine.**
K. Iwata (1), M. Onosato
Annales of the CIRP Vol. 38/1/89, p. 137,
Design
keywords: Conceptual Design, CAD System, Conceptual Dependency, State Modeling, Functional Structure, Design Process Model
- **Manufacturing oriented and functional design.**
J. Peters (1), D. Van Campenhout
Annales of the CIRP Vol. 37/1/88, p. 153,
Design
keywords: Design, CAD-CAM

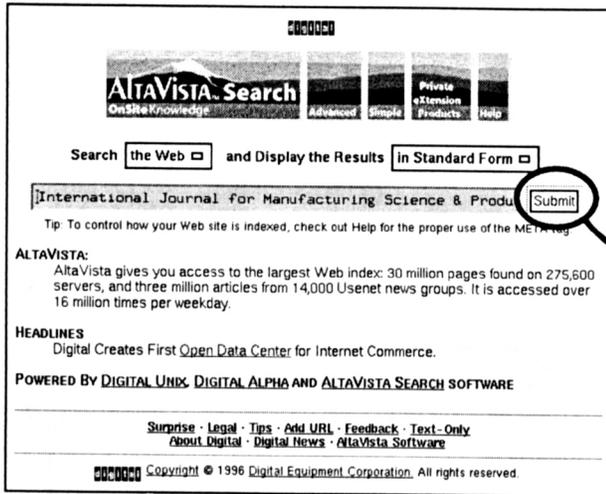
generated on Aug 23, 96

Publications of H. Yoshikawa

10 references found

- **An integrated modeling environment using the metamodel.**
H. Yoshikawa (1), T. Toniyama, T. Kinoshita, Y. Umeda
Annales of the CIRP Vol. 43/1/94, p. 121,
Design
keywords: Computer Aided Design, Modelling, Knowledge Based System
- **Systematization of design knowledge.**
H. Yoshikawa (1)
Annales of the CIRP Vol. 42/1/93, p. 131,
Design
keywords: Design, Computer Aided Design, Knowledge Based System
- **A CAD for functional design.**
T. Toniyama, Y. Umeda / H. Yoshikawa (1)
Annales of the CIRP Vol. 42/1/93, p. 143,
Design
keywords: Design, Conceptual Model, Function
- **Surface topography assessment of high-precision coated abrasive tape and estimation of its machining performance.**
K. Yanagi, Y. Tsukada, B. Yamada / H. Yoshikawa (1)
Annales of the CIRP Vol. 41/1/92, p. 377,
Abrasive Process
keywords: Abrasives, Roughness, Texture
- **Non-contact 3D digitizing and machining system for free-form surfaces.**
K. Saito, T. Miyoshi / H. Yoshikawa (1)
Annales of the CIRP Vol. 40/1/91, p. 483,
Optimization of Manufacturing Systems
- **Generation of manufacturing information in intelligent CAD.**
K. Arudo, H. Yoshikawa (1)
Annales of the CIRP Vol. 38/1/89, p. 133,
Design
keywords: Intelligent CAD, Intermediate Manufacturing Planning, CAD/CAM Integration, Designer's Intention, Process Planning

Appendix F: Reaching CIRPNET from a search engine



AltaVista Search
OnSite Knowledge | Advanced | Simple | Private eXtension Products | Help

Search and Display the Results

Tip: To control how your Web site is indexed, check out Help for the proper use of the META tags

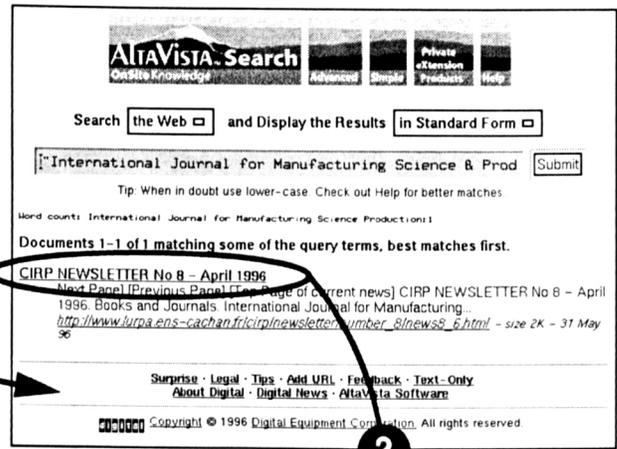
ALTAVISTA:
AltaVista gives you access to the largest Web index: 30 million pages found on 275,600 servers, and three million articles from 14,000 Usenet news groups. It is accessed over 16 million times per weekday.

HEADLINES
Digital Creates First Open Data Center for Internet Commerce.

POWERED BY DIGITAL UNIK, DIGITAL ALPHA AND ALTAVISTA SEARCH SOFTWARE

[Surprise](#) · [Legal](#) · [Tips](#) · [Add URL](#) · [Feedback](#) · [Text-Only](#)
[About Digital](#) · [Digital News](#) · [AltaVista Software](#)

Copyright © 1996 Digital Equipment Corporation. All rights reserved.



AltaVista Search
OnSite Knowledge | Advanced | Simple | Private eXtension Products | Help

Search and Display the Results

Tip: When in doubt use lower-case. Check out Help for better matches.

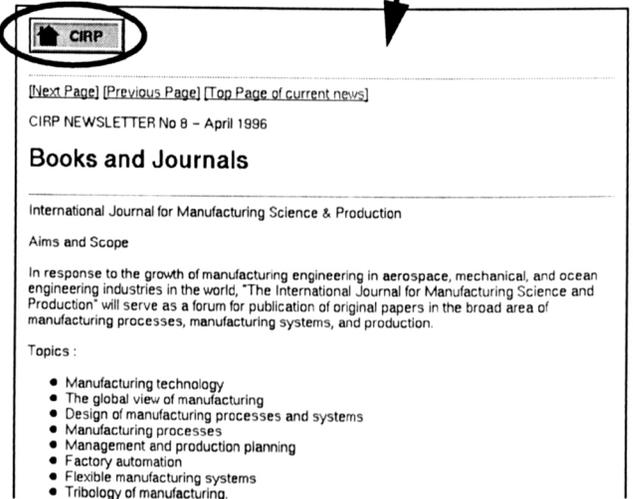
Word counts: International Journal for Manufacturing Science Production:1

Documents 1-1 of 1 matching some of the query terms, best matches first.

CIRP NEWSLETTER No 8 - April 1996
Next Page | Previous Page | Top Page of current news | CIRP NEWSLETTER No 8 - April 1996 Books and Journals International Journal for Manufacturing...
http://www.lurpa.ens-cachan.fr/cirp/newsletter_number_8/news8_6.html - size 2K - 31 May 96

[Surprise](#) · [Legal](#) · [Tips](#) · [Add URL](#) · [Feedback](#) · [Text-Only](#)
[About Digital](#) · [Digital News](#) · [AltaVista Software](#)

Copyright © 1996 Digital Equipment Corporation. All rights reserved.



[Next Page](#) | [Previous Page](#) | [Top Page of current news](#)

CIRP NEWSLETTER No 8 - April 1996

Books and Journals

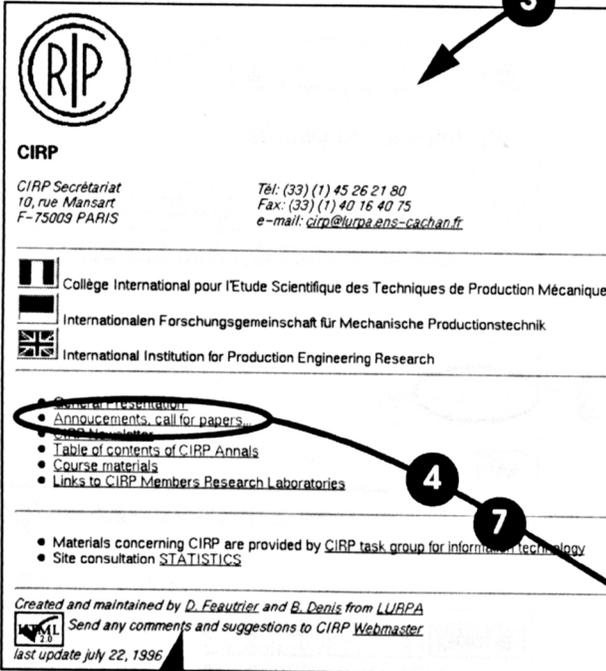
International Journal for Manufacturing Science & Production

Aims and Scope

In response to the growth of manufacturing engineering in aerospace, mechanical, and ocean engineering industries in the world, "The International Journal for Manufacturing Science and Production" will serve as a forum for publication of original papers in the broad area of manufacturing processes, manufacturing systems, and production.

Topics:

- Manufacturing technology
- The global view of manufacturing
- Design of manufacturing processes and systems
- Manufacturing processes
- Management and production planning
- Factory automation
- Flexible manufacturing systems
- Tribology of manufacturing.





CIRP

CIRP Secrétariat
10, rue Mansart
F-75009 PARIS

Tél: (33) (1) 45 26 21 80
Fax: (33) (1) 40 16 40 75
e-mail: cirp@lurpa.ens-cachan.fr

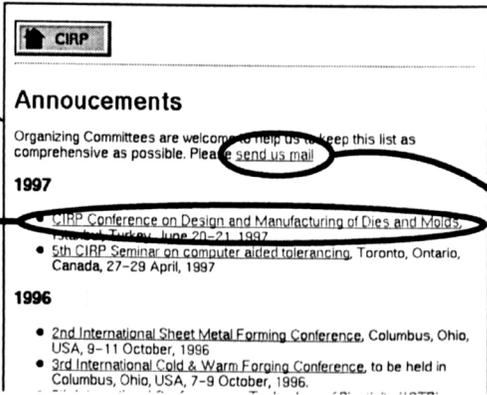
- Collège International pour l'Etude Scientifique des Techniques de Production Mécanique
- Internationalen Forschungsgemeinschaft für Mechanische Produktionstechnik
- International Institution for Production Engineering Research

General Information

- [Announcements, call for papers...](#)
- [CIRP Annals](#)
- [Course materials](#)
- [Links to CIRP Members Research Laboratories](#)

Materials concerning CIRP are provided by CIRP task group for information technology
Site consultation **STATISTICS**

Created and maintained by D. Feautrier and B. Denis from LURPA
 Send any comments and suggestions to CIRP Webmaster
last update July 22, 1996



Announcements

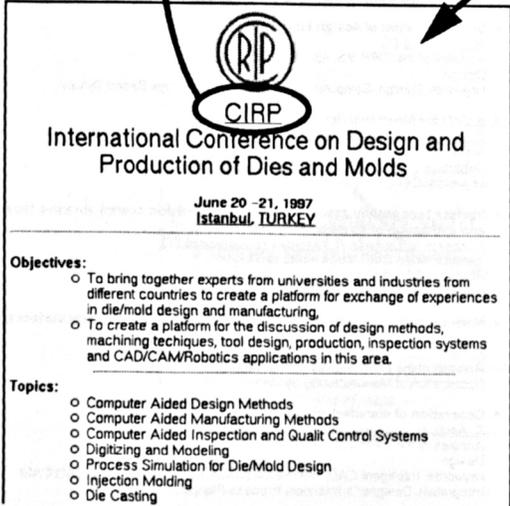
Organizing Committees are welcome to help us to keep this list as comprehensive as possible. Please [send us mail](#)

1997

- [CIRP Conference on Design and Manufacturing of Dies and Molds, Istanbul, Turkey, June 20-21, 1997](#)
- [5th CIRP Seminar on computer aided tolerancing, Toronto, Ontario, Canada, 27-29 April, 1997](#)

1996

- [2nd International Sheet Metal Forming Conference, Columbus, Ohio, USA, 9-11 October, 1996](#)
- [3rd International Cold & Warm Forging Conference, to be held in Columbus, Ohio, USA, 7-9 October, 1996](#)





International Conference on Design and Production of Dies and Molds

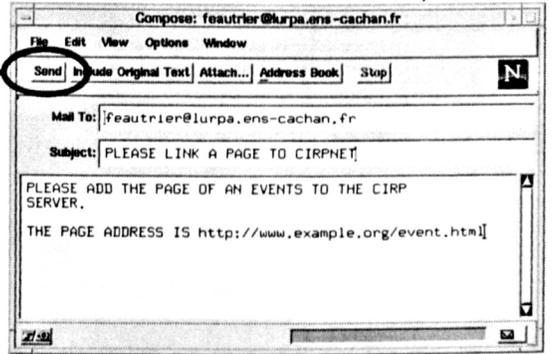
June 20 -21, 1997
Istanbul, TURKEY

Objectives:

- To bring together experts from universities and industries from different countries to create a platform for exchange of experiences in die/mold design and manufacturing.
- To create a platform for the discussion of design methods, machining techniques, tool design, production, inspection systems and CAD/CAM/Robotics applications in this area.

Topics:

- Computer Aided Design Methods
- Computer Aided Manufacturing Methods
- Computer Aided Inspection and Quality Control Systems
- Digitizing and Modeling
- Process Simulation for Die/Mold Design
- Injection Molding
- Die Casting



Compose: feautrier@lurpa.ens-cachan.fr

File Edit View Options Window

Mail To: feautrier@lurpa.ens-cachan.fr

Subject: PLEASE LINK A PAGE TO CIRPNET

PLEASE ADD THE PAGE OF AN EVENTS TO THE CIRP SERVER.
THE PAGE ADDRESS IS <http://www.example.org/event.html>