

Setting Up the Internet WWW Server "Anodizers' Plaza"

By Dr. Toshihiko Sato & Kyoko Kaminaga

The number of people accessing the Internet is increasing rapidly. The authors have set up a World Wide Web (WWW) server so that scientists and engineers in the anodizing field from all over the world can exchange information and discuss topics relevant to this field. The authors will be more than satisfied if this Plaza develops into an international meeting place where anodizers exchange miscellaneous information.

The "Anodizers' Plaza" Home Page
Figure 1 shows the "Anodizers' Plaza" home page. The home page of a WWW server may be looked upon as the cover sheet or table of contents of a book or a magazine. The table of contents of the Anodizers' Plaza includes the following items:

1. News about anodized aluminum in Japan
2. Papers on anodized aluminum by Prof. Sato's group
3. On-line lecture "Theories of Anodized Aluminum -100 Q&A"
4. On-line discussion on surface treatment of aluminum
5. Other WWW servers for anodizers

If you click any of the five items above using a mouse, detailed information about the item will appear on the monitor of your personal computer.

The information in the home page of the WWW server is in *hypertext* format. If you click the highlighted characters, sentences or words on the monitor, the display specified by the text will appear on the screen. The information is also in the form of a hierarchical structure. The name "Prof. Sato," for example, is listed in Anodizers' Plaza, but if more information is desired, it is necessary to click on the following sequentially: News about Anodized Aluminum in Japan → List of Japanese professors, scientists and consultants in the field of Aluminum Surface Finishing → Dr. Sato.

An important statement in the home page is "This page was last modified on ..." The information in the WWW server covers various topics, such as lexicographic information, professional information, weekly publication information, and so on; therefore, this information is likely to be updated, supplemented or deleted in part with the passage of time. Persons who have accessed this home page some time ago need to know if it has been updated, so the "last modified" statement is necessary.

"News About Anodized Aluminum in Japan"

If you click the above item on the opening screen (Fig. 1), the page of above title appears on the display of your personal computer. This page introduces the following items:

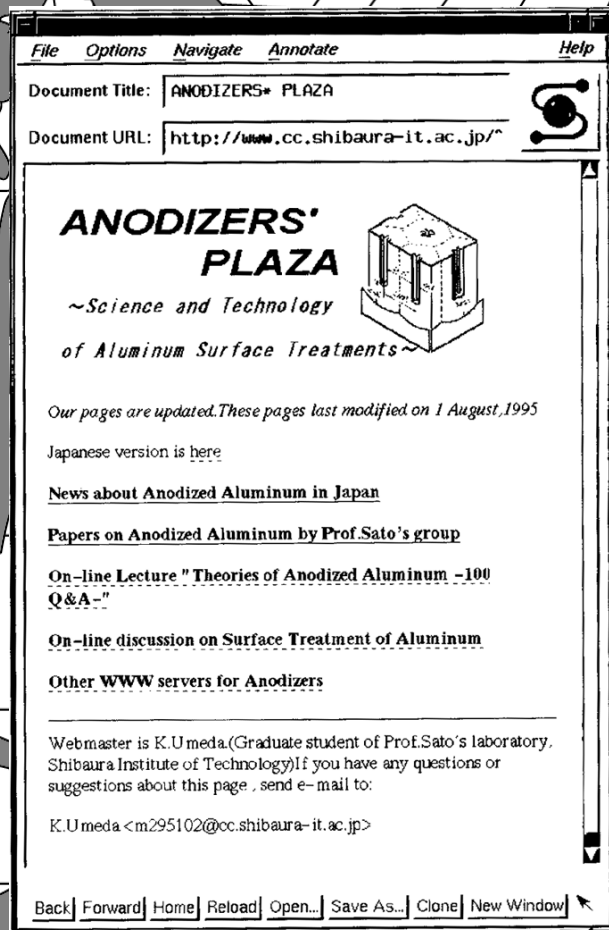


Fig. 1—Home page of Anodizers' Plaza.

1. Calendar of Events on Anodizing in Japan
2. List of Japanese professors, scientists and consultants in the field of aluminum finishing
3. Current papers in Japan
4. New open patents in Japan
5. Japanese "Product Liability Law" entered into effect on 1 July, 1995

For further information on the Calendar of Events on Anodizing in Japan, a FAX number is given for inquiry assistance. From the above items, the statements in item (2) and item (5) are highlighted. These are hypertext links, and if you click on any of these statements, you will obtain detailed information on the relevant topic by the appearance of another page on the screen. For instance, if you click item (5), the complete text of the Product Liability Law entered into effect on July 1, 1995 in Japan will appear on the screen.

Papers on Anodized Aluminum by Prof. Sato's Group
If you click on the above item in the opening screen of the home page, the page of the above title appears on the screen of your computer. From the list of papers, if you click on the title of any paper, the complete text of the paper will appear on the screen.

"Anodizers' Plaza"
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Getting Connected: Accessing Health & Safety on the Internet

By Jane Lemke

An entire world of health and safety information is available, literally at your fingertips, through the Internet. With a computer and a modem you can now discuss personal protective equipment with a safety specialist in South Africa, read the latest OSHA guidelines from the U.S., and access health and safety information on computers in Canada, the U.S., England, Europe and Australia—in fact, all over the world.

What is the Internet?

The Internet is simply a network of computers. Your computer becomes part of that network when you connect to the Internet. The actual number of computers “connected” is difficult to determine. According to *The Internet Navigator*, there are at least 15 million people using the Internet in the U.S. and 25–30 million worldwide.¹

The Internet began in 1969 when the Advanced Research Projects Agency, a branch of the U.S. Department of Defense, set out to establish a method of communication that could function during wartime when normal methods of communication might be disrupted. What began as a network of military computers soon added government computer networks and then educational and commercial commuter networks. By 1981 there were 213 individual computers connected through the early Internet. Ten years later there were more than 350,000 individual computers. Only one year later this had increased to more than 700,000 computers!²

What Can You Do on the Internet?

The Internet allows you to do one of two things: Either send information to, or obtain information from someone or someone's computer, in a variety of methods.

E-Mail

If you work for an employer who has established a computer network, you may already be familiar with e-mail—a method of sending a message (mail) from your computer to someone else's computer or a group of computers. An e-mail address is usually a combination of the person's name and computer “location.” My e-mail address is klemke@hookup.net—i.e., it is in my husband's name (Ken Lemke) and we can be reached through *Hookup*, a commercial Internet connection. As with regular postal delivery, the address must be correct for the mail to be delivered.

Mailing Lists

A mailing list consists of a group of people with a common interest who exchange information. Some mailing lists are moderated; i.e., an individual assumes the responsibility of monitoring the messages before being sent to subscribers. This ensures that the content is suitable and keeps to the focus of interest. Other mailing lists are unmoderated; still

others are closed and may be used by only a specific population. A software program, such as Pegasus Mail or Eudora Mail, is necessary to use e-mail and to subscribe to mailing lists.

Joining a mailing list can be a challenge. Often the most difficult task is finding the exact message to use. A word of caution: Subscribing to a mailing list means you get *lots* of mail! I subscribe to three mailing lists and it is not unusual for me to receive 100 messages a day. Most mailing lists will let you receive the mail in an index form that lists the topics, but not content, of all the messages. Although some mailing lists charge a fee to subscribe, most are free.

A few health and safety mailing lists are:

SAFETY—As of April 1995, SAFETY had more than 1800 subscribers, increasing by about 50 new members per month. Subscribers represent academia, industry, the military and government from the U.S., Canada, Australia and Europe. SAFETY is moderated by Ralph Stuart, Chemical Safety Coordinator, University of Vermont. To subscribe to SAFETY, send an e-mail message to:

listserv@uvmvm.uvm.edu

In the body of the message type: SUB SAFETY
Firstname Lastname

OCC-ENV-MED—This mailing list is a moderated forum about diseases and health effects related to exposures at work and from other environments. Subscribers include occupational physicians and nurses, industrial hygienists, government, public health officials and university-based members. To subscribe to OCC-ENV-MED, send an e-mail message to:

majordomo@list.mc.duke.edu

In the body of the message type: Sub OCC-ENV-MED-L

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH & SAFETY

—The CCOHS has two new mailing lists. To subscribe, send an e-mail message to: majordomo@CCOHS.ca

To receive information only from the CCOHS, send the message: Subscribe CCOHS-news. To join a discussion group, send the message: Subscribe CCOHS-users.

There are numerous other mailing lists with a nursing, medical, health and/or safety focus. One of the challenges of using the Internet is knowing what is out there, and how to receive it.

Newsgroups

Newsgroups are very similar to mailing lists, but are available through a “news server” rather than through e-mail/subscription. A special type of software program called a *news reader* is necessary to retrieve the news. A common news reader is “Trumpet News.” Newsgroups are essentially discussion groups (similar to mailing lists), but

available to the general public. They are divided by topic, indicated by prefixes such as:

alt - almost anything!	soc - social topics
sci - scientific topics	comp - computer related
biz - business	talk - general discussions
rec - recreational topics	

Subscribing to a newsgroup is far less complicated. Using the software program, just list the newsgroups you wish to read—then it's as simple as "point & click" to read the individual messages.

Telnet, File Transfer Protocol (FTP), Gopher These allow you to actually "log on" to remote computers to obtain information. They can be more challenging to use, because you are actually working *in* another computer; therefore, you may need to know specific computer commands. If a password is required as you log on, type in *anonymous*—this will often let you access the computer.

Once you are into the other computer, you may find a directory of files. Most files that start with "pub" are for public access and can be copied to your computer. I learned, the hard way, that it is best to copy files to a floppy disk rather than your hard drive, because some are **very** long and take up a lot of space.

Examples of two industry-related gopher sites are:

- gopher://atlas.chem.utah.edu:70/11/MSDS (for full-text MSDSs)
- gopher://biochemistry.bioc.cwru.edu/7wc/%a/database/msds.mnu.index (for chemical fact sheets)

Gopher sites can be accessed using a Web browser, even though they are not Web sites, by typing the above address where you enter the URL address.

There is a vast amount of information available through Telnet, FTP and Gopher; however, I find that these are not "user friendly." There is as much, or more, information available through a much easier method.

World Wide Web (WWW)

The World Wide Web has only been functioning since late 1992, but by 1994 there were more than 10,000 servers (or sites) available. It is estimated that a new WWW server is connected to the Internet every two hours.³ Specific software is necessary to access WWW sites—the most common are Mosaic and Netscape Navigator. The WWW sites have eliminated the need for more sophisticated computer skills—the only skill required is "point & click."

A WWW site is accessed by its URL or Uniform Resource Locator (or address). Once you have accessed a WWW site, you can jump from one site to another using hypertext—text that appears on the computer screen in a highlighted colour. If you point and click on a hypertext, you will go to another portion of the site or to a completely different site.

For example: Call up the CCOHS Web site, find the hyperlink to the OSHA site, point & click, and then automatically arrive at the OSHA Web site. On the screen, a new URL is listed for the OSHA Web site. Most software programs also help you to move back and forth between WWW sites. *Back* will move you to where you were one step before; *home* will take you back to where you started, and *history* lists everywhere you have been. All of these

are a great help when you get lost!

Most software programs will allow you to pre-select certain favorite Web sites. In this manner, you can enter the URL once and then call it up later with only a point & click. Several Web sites maintain a list of other related Web sites, so it is easy to explore other sites.

Web Search Tools

Web search tools can be used to locate information or a Web site. These allow you to enter a search word or group of words. The Web searcher then locates and lists all recent Web references to your search request. The response is arranged in order of the frequency in which the word appears in the material. You then hyperlink from the list to the source of the reference.

Web searches can be done through:

- Lycos at <http://www.lycos.cs.cmu.edu>
- Web Crawler at <http://www.webcrawler.cs.washington.edu/WebCrawler/WebQuery.html>

A good starting point is a Web site that provides a list of other safety-related sites. Try, for example, Christie Communications, compiled by Carolla Christie. This is an excellent list of safety-related addresses from e-mail to the WWW. The URL is: <http://www.sas.ab.ca/biz/christie/>

The CCOHS has a similar list, as well as other very useful information. That URL is: <http://www.ccohs.ca>

A sampling of other Web health and safety sites are:

- OSHA (U.S. Occupational Safety & Health Association) at <http://www.osha.gov>
- EPA (U.S. Environmental Protection Agency) at <http://www.epa.gov>
- U.S. Dept. of Energy, Office of Environment, Safety & Health, at <http://www.er.doe.gov/production/esh/er8home.html>
- National Safety Council at <http://www.nsc.org/nsc>
- Ergoweb (a good ergonomics site) at <http://ergoweb.mech.utah.edu/Pub/ewhome.html>
- NIOSH (National Institute for Occupational Safety & Health) at <http://www.cdc.gov/niosh/homepage.html>
- CTS (carpal tunnel syndrome) Home page at <http://www.netaxs.com/>
- Safety Line at <http://www.yarrow.wt.com.au:80/~dohswa/>
- Travel Health Info, Medical College of Wisconsin at <http://www.intmed.mcw.edu/travel.html>

This is just a very short sampling of what is available. You can even take university courses through the Internet.

Accessing the Internet

All that is needed to access the Internet is a computer, modem and a link to the Internet. A fairly basic computer is sufficient; the ability to operate Windows®-based software is helpful, however. Currently, a 14,400 modem is recommended for connecting your computer to the Internet (transmits information at the speed of 14,400 bytes/sec).

Common methods of connecting to the Internet include:

- Through a college or university
- Through commercial Internet providers
- Through an online service (such as Compuserve)
- Through "freenets" (this may provide limited access)

The *Canadian Internet Handbook* lists Internet service providers; other information can be obtained through libraries, bookstores and computer stores.

Most commercial Internet providers also supply the necessary software to run the various components. These are downloaded from the Internet provider to your computer, making the start-up process fairly easy. There is also shareware software readily available. Be sure to ask what is available through the provider and how much time your purchase includes. Our package included all the software and 50 hr/month on the Internet. This may sound like a lot of time, but you will soon discover that "time flies" when there is so much available!

Feel free to contact me for copies of Internet addresses. If there is sufficient interest, perhaps a group can be formed to exchange Internet information. Happy Surfing!

Acknowledgments

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On-line Lecture

"Theories of Anodized Aluminum—100 Q&A"

If you click on the above item in the opening screen of the home page, the page shown in Fig. 2 appears on the screen of your computer. You can read the complete on-line lecture sequentially, or you can click on any topic of the lecture you wish to read. You can also output the on-line lecture to a printer and read it later.

"On-line Discussion"

If you click on the above item in the opening screen of the home page, the page shown in Fig. 3 appears on the screen of your computer. The first half of this page is a message that says:

"Opinions on Aluminum Surface Treatment are Welcome!

E-mail to m295102@cc.shibaura-it.ac.jp

If you send us e-mail, we'll read it and maybe even publish it here. Please note in your e-mail whether or not we have permission to publish your letter. If you like to respond to the letters printed here, why not?"

This is a message calling out for discussions on anodized aluminum and related topics. The second half of this page shows the headers of several e-mail messages

received at the "Anodizers' Plaza" ("*****" in Fig. 3). If you click on any one of these headers, the contents of the complete e-mail message will appear on your screen. Any person reading the e-mail messages can respond to any message by sending e-mail to the Anodizers' Plaza. This free exchange of information is the "On-line Discussion." On-line discussions on a WWW home page are more convenient using the "forms" system, but we have restricted the on-line discussion at this time to e-mail only.

"Other WWW Servers for Anodizers"

If you click on the above item in the opening screen of the home page, the page shown in Fig. 4 appears on the screen of your computer. The assessment of the Anodizers' Plaza home page is largely dependent on the contents of this page. A certain technical paper, for example, might not be satisfactory from the viewpoint of content value, but the list of references at the end of the paper might be excellent. Or a patent might have a discovery that is not of much value, but the explanations in that patent on a related discovery might be invaluable.

Similarly, on WWW servers on the Internet, the information content in a home page might not be of value, but the links on the home page to other WWW servers might be excellent. Webmasters must browse the home pages of more than 100 WWW servers in order to create useful links to "Other WWW Servers." This is similar to searching a large number of bookstores, and reading a large number of publications to build up a good library.

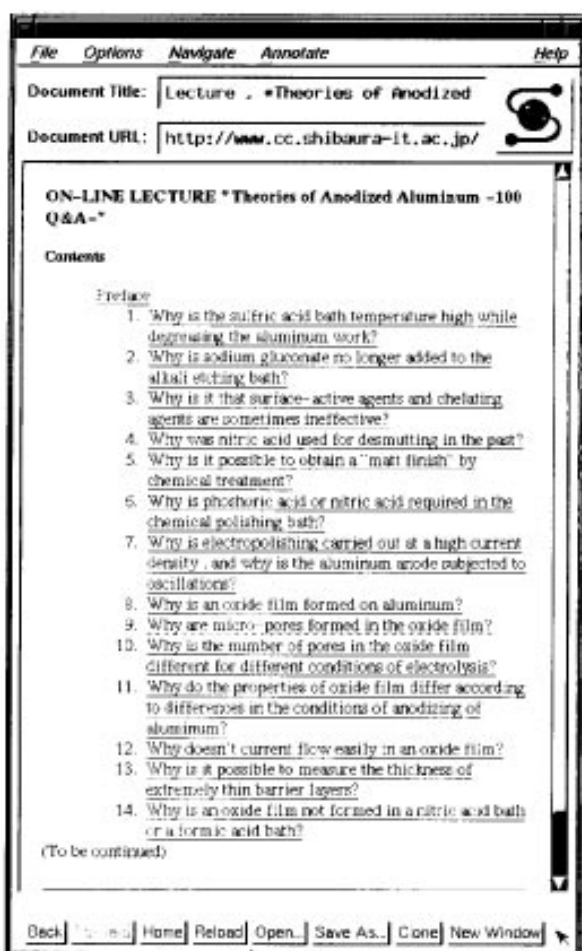


Fig. 2—Page of "On-line Lecture."

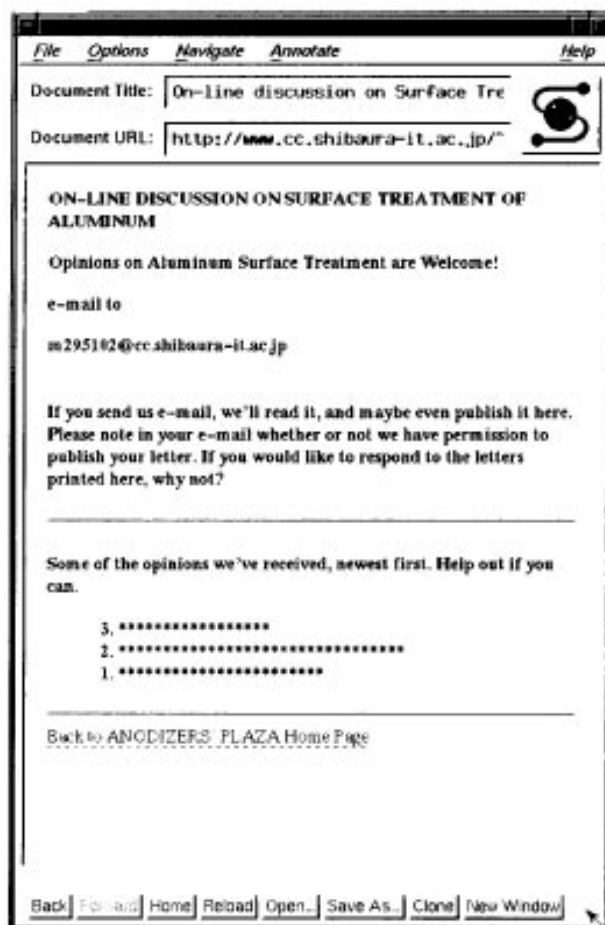


Fig. 3—Page of "On-line Discussion."

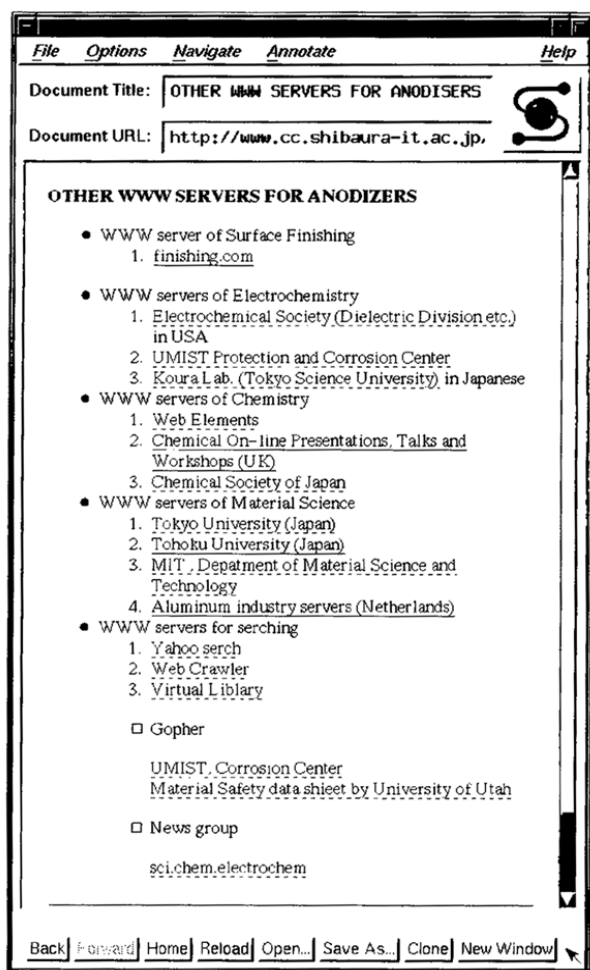


Fig. 4—Page of “Other WWW Servers.”

Surfing the Internet

A brief outline of the list of servers mentioned in “Other WWW Servers for Anodizers,” shown in Fig. 4, is given here. If you click on any item on this list, you will be linked to that server, and can jump from one server to another to retrieve information. This process is called “surfing,” “navigating” or “browsing” the Internet.

The first item on the list shown in Fig. 4 is the server “finishing.com,” U.S.A. This is the only WWW server in the world set up exclusively for metal surface finishing scientists and engineers. This server opened up to the Internet in April 1995, and was demonstrated last June during SUR/FIN® '95—Baltimore. It offers a calendar of events for metal surface finishing and a page for on-line discussions. From the list of “Other WWW Servers” in finishing.com, you can access the home page of some surface finishing associations.

The WWW server of the Corrosion Center of Manchester University, UK, has substantial contents with very useful information. The Center also has a gopher server offering information, and includes a list of research papers on anodized aluminum published by Prof. Wood.

Koura Lab (Japan) is the Koura Lab’s WWW server, and is the only server in Japan introducing research topics on surface finishing. Although Prof. Koura does not specialize in anodizing, he is involved in various interesting research topics on surface finishing.

“Web Elements” is a WWW server in the field of chemistry, and is well known worldwide. If you click on any element in the Periodic Table of Elements of the home page, the chemical and physical properties of that element are displayed on the screen. Web Elements may be called an “on-line database.” The University of Utah’s “Material Safety Data Sheet” (gopher) is also a useful on-line database for anodizers.

The WWW server of the “Chemical Society of Japan” offers the complete text of European or English papers. It is an electronic journal for research papers in chemistry.

The WWW servers of Tokyo University and Tohoku University offer information on the Materials Engineering Departments of the respective universities.

The WWW server of the Department of Materials Science and Engineering at MIT offers detailed information on research conducted by the department, and include about 10 topics on research related to aluminum.

“Yahoo” and “Web Crawler” are WWW servers with search engines, and are extremely useful. If the keywords “aluminum, anodizing, finishing,” etc., are input to the search engine, it outputs a list of WWW servers that has text containing these keywords. A search on the Web Crawler with the keyword “aluminum” resulted in 250 hits, “anodizing” resulted in 4 hits, and “finishing” gave 300 hits.

During these searches, hits do not always point to servers offering information on anodizing of aluminum or surface finishing. Results of the search, therefore, should be carefully screened and selected. Boolean searches using logic operators are also possible on some search engines (e.g., aluminum* finishing or aluminum*anodizing).

“Virtual Library” does not have a search engine, but has a list of topics classified by subject. The list includes chemistry servers, materials engineering servers, chemical engineering servers, etc.

Aside from WWW servers and gophers, the Internet has many “newsgroups” for disseminating information. They are similar to “bulletin boards” on an international scale. The newsgroup “sci.chem.electrochem” often handles questions pertaining to anodizing of aluminum and surface finishing.



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