



Training Increases Product Value

Hundreds of our customers in nearly every region of the world have taken advantage of an often overlooked HTRI membership benefit: training. From software workshops and advanced short courses to customized training designed specifically for your company's needs, our educational courses provide an unparalleled value which can result in increased productivity.

Members who attend HTRI meetings are familiar with our software workshops. Over the past five years, meeting participants have attended courses covering ACE, CST, FH, IST, RKH, RTE, ST and VIB. Our newest course, the popular IST workshop, has already been attended by more than 100 people at meetings and on-site sessions. This course will be offered three separate times at the upcoming HTRI 1997 Winter Meeting in Houston, Texas. Attending workshops in conjunction

HTRI's specialized educational courses provide an unparalleled value...

with HTRI meetings is a great way to save on business travel. If you are interested in attending this workshop, we urge you to reserve space now.

In addition to software, we also provide a seminar on Advanced Thermal Design of Condensers and Vaporizers. Our training courses are offered around the globe periodically, allowing engineers to quickly learn advanced topics from the world's leading source of heat transfer research.

If your company has distinct training requirements, such as using several HTRI programs together, specialized areas of interest, or proprietary work, we can design a training curriculum specifically for those needs. Any of HTRI's standard courses, as well as specialized training, can be ordered by members. Sessions can be conducted at the location of your choosing, including your company's site or at the HTRI offices in College Station, Texas.

For more information on HTRI training, contact Fernando J. Aguirre at 1-409-260-6200 (telephone), 1-409-260-6249 (fax) or Training@HTRI-Net.com (e-mail).

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HTRI Recycles

Corporate News

1996 European Meetings

This year's European meetings were held in Montreux, Switzerland, and London, United Kingdom. In Montreux, fifteen member companies were represented by 33 participants from England, France, Germany, Italy, Korea, and The Netherlands. C. D. Beyer, President and Chief Executive Officer, informed the attendees of the latest corporate developments and actions taken at the 1996 Annual Meeting of Stockholders; she also answered questions regarding the recently revised fee structure.

Reports on research achievements, software updates and enhancements, and future projects were presented by F. J. Aguirre, then Director of Research, R. S. Kistler, Director of Software Development, J. W. Palen, Principal Research Engineer, and S. G. Starks, Software Applications Engineer.

J. R. Thome gave an overview of his Enhanced Heat Transfer (EHT) software, and worked with C. P. Meyer to arrange a tour of the Laboratory for Industrial Energy Systems at the Swiss Federal Institute of Technology in Lausanne.

A capacity crowd of 32 persons attended the workshop introducing our newest software, IST; this was presented by R. S. Kistler and S. G. Starks. Instructors for the Vibration Analysis workshop were F. J. Aguirre and J. W. Palen.

Eleven member companies were represented by 15 participants from France, Italy, Spain and the U.K. at the meeting in London. A half-day meeting included presentations by C. D. Beyer, F. J. Aguirre and R. S. Kistler, followed by the IST workshop.

FY1997 Operating Program Available

Copies of the approved HTRI Operating Program for Fiscal Year 1997 are available to members at no charge. To order a copy, contact Product Sales and Distribution. To receive a copy via e-mail, visit the *Subscriptions and Publications* area on HTRI-Net (www.HTRI-Net.com).

Task Force Helps Improve FH

The Fired Heater Task Force met recently to continue planning improvements to HTRI's fired heater simulation program, FH. The most recent meeting took place at M. W. Kellogg in Houston, Texas, and expanded on recommendations from the September 1996 meeting in Montreux, Switzerland.

These meetings allow HTRI to gather feedback from members on desired features for FH, which will result in an improved interface and inclusion of HTRI's methods for tubeside pressure drop and heat transfer. These enhancements will be released in a future version of FH.

For more information on the Fired Heater Task Force, please contact S. G. Starks:

1-409-260-6224 (telephone)
1-409-260-6249 (fax)
SGS@HTRI-Net.com (e-mail)

HTRI-Net: Your Online Information Source

Have you visited the HTRI web site yet? If not, you're missing a great resource for HTRI-related information. From the web site, you can request membership information, subscribe to newsletters, check out HTRI Member web sites, and even read past issues of *The Exchanger*.

If you've already visited the site, be sure to check in regularly for updates and the most current information available.

Kistler Named AIChE Fellow

R. Stanley Kistler, Ph.D., P.E., HTRI Director of Software Development, was recently named a Fellow of the American Institute of Chemical Engineers (AIChE). This title recognizes significant accomplishments in chemical engineering and highlights service towards advancing the chemical engineering profession and AIChE.



Election as a Fellow means that Stan has been a practicing engineer for a minimum of twenty-five years and has served AIChE in leadership roles. These roles include Session Chair and Vice Chair at National Heat Transfer Conferences, Chair of the Heat Transfer and Energy Conversion Division, and Chair of the Equipment and Practices Committee.

Stan joined HTRI after receiving his Ph.D. from the University of Missouri at Rolla in 1973. We are proud of the outstanding contributions he has made to the profession during his twenty-three year tenure at HTRI.

Stan becomes the second HTRI staff member to be named AIChE Fellow; Joseph W. Palen was honored in 1989 for his service and contributions.



Enhancing Plots in IST

An exciting new feature in IST is the ability to visually examine nearly all results in the form of a plot.

To use the plotting feature, select either the tubeside or shellside incremental monitor on the Reports data panel. After you have run your case, select Incremental Graph from the View menu in the Output window. This command will load your calculated results and display a list of exchanger profiles in graphical form. The dialog box allows you to select which variables you wish to display on the Y-axis along with the variable (length from inlet is the default) against which the variables will be plotted. Using the New command in the Window menu allows you to display multiple plots simultaneously.

The default plot format is perfect for an in-depth look at your exchanger performance. Sometimes, however, you may want to incorporate your plot in a document or presentation. HTRI Graph contains a comprehensive set of tools to enhance your plot. These tools are available by pressing the right mouse button.

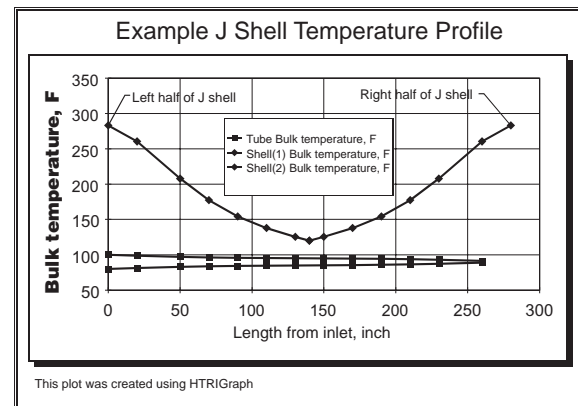
The items above the **Copy** command, in the menu shown at right, display dialog boxes that allow you to customize the appearance of your plot.

In addition to this menu, many attributes of your plot may be modified directly. The plot size, and element (labels, legends, etc.) location may be directly adjusted by selecting the desired element with the left mouse button and dragging the element to the desired location. You may also



bypass some menu items by double-clicking on the desired element. For example, double-clicking on an axis title allows you to set the font and content of the selected label.

The plot below shows some of the types of annotation that may be added to your plot.



Most plots will not use all these elements, but they are available as needed.

Menu Item	Major Features
General	Set window background color/bitmap and frame style
Plot	Set plot background color/bitmap and frame style
Series	Set color, style, markers for plotted curves
Axis	Set range, type, fonts, and numerical formats for axes
Legend	Set visibility, size, and location of legend
Title	Set visibility, font, content, and location of title
Footnote	Set visibility, font, content, and location of footnote

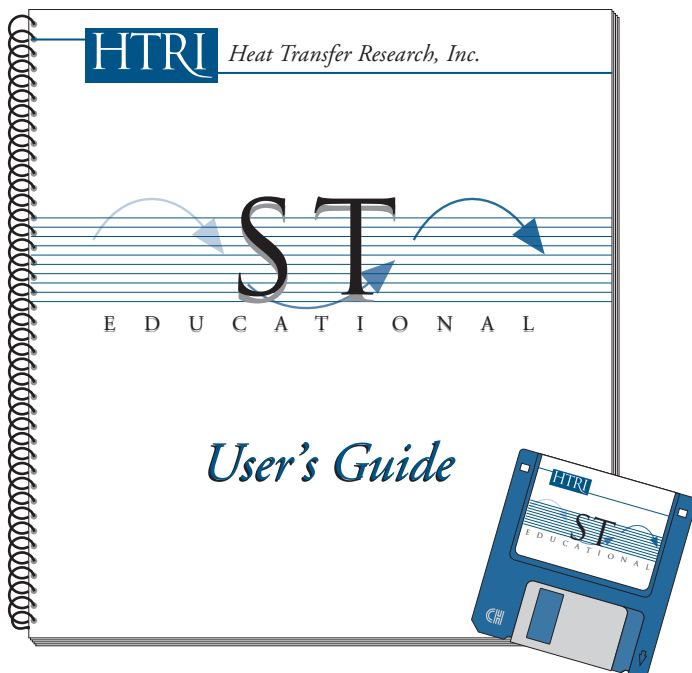
Members Assist in Software Release

HTRI has released upgrades to three software products: CST 3.1, RKH 3.1, and ST 5.1. Due to its importance to HTRI members, CST was chosen for beta testing prior to release. We thank those member volunteers who participated in the test; their help was invaluable in ensuring that all three upgrades met the high standards for which HTRI is known.

Pass it on!

If you've finished reading this copy of *The Exchanger*, please pass it on to a friend or a co-worker. If you would like to be added to *The Exchanger* mailing list, contact Jo Anne Smith at 1-409-260-6206 (telephone), 1-409-260-6249 (fax), or Newsletter@HTRI-Net.com (e-mail).

Software for tomorrow's engineers...



...ST Educational!

This instructional package makes use of the full computational power of HTRI's professional ST software. It has an easy-to-use graphical interface, extensive online help, and many other features including:

- full support for the most common shell, TEMA E class R
- several possible types and configurations for baffles and tubes
- control of leakage streams
- real-world construction element input selection
- quick and easy conversion between unit sets

ST Educational requires a 386 or better Intel standard processor and runs under DOS or in a Windows DOS Shell.

This software is available only to educational institutions and HTRI members. For more information and a demonstration diskette, contact HTRI Marketing at 1-409-260-6200 (telephone) or 1-409-260-6249 (fax). Those with Internet access also may send e-mail to STEducational@HTRI-Net.com

HTRI Participates in Colombia Exhibit

HTRI participated in Colombia's First International Oil and Gas Exhibition - Expo Petróleo Colombia 96, held October 30 through November 1, 1996 at the Corferías Exhibition Center in Bogotá, Colombia.

The exhibit was supported by ECOPETROL (Empresa Colombiana de Petróleos), ACP (Petroleum Association of Colombia - Asociación Colombiana del Petróleo), the Ministry of Mines and Energy, and ACOGAS (Colombian Gas Association).

HTRI took advantage of this opportunity to demonstrate its software and technological capabilities in this relatively new and growing market. The exhibit was well attended by both users and producers of oil and gas.

IST Training

Fernando J. Aguirre, Director of Marketing and Technical Training, and Joe W. Holmes, Software Development Engineer, conducted two IST training sessions at the Hoechst Celanese Technical Center in Corpus Christi, Texas. Thirty-nine Hoechst Celanese employees from several Texas operations, North Carolina, and Mexico attended the workshops, which were held December 2-5, 1996.

Training is a cost-effective way to improve your productivity when using HTRI technology. If your company is interested in training on site or at HTRI, contact F. J. Aguirre (see *To Reach Us...*, on the back cover).

The University of Tulsa

*Division of Continuing Education * College of Engineering & Applied Sciences*

Announces the **36th** offering of

PROCESS HEAT TRANSFER

Selection, Design, Rating and Troubleshooting of Heat Exchangers

Instructed by: Dr. Kenneth J. Bell

February 24-28, 1997 * Houston, Texas, USA * Renaissance Hotel

Today's energy and thermal process industries require both efficient energy utilization and flexible, reliable operation of heat transfer equipment. Insight into the thermal-hydraulic processes in the equipment and better selection and design methods are the keys to meeting these objectives...and what this five-day intensive yet practical short course provides...solutions to real world problems!

To receive further information, contact:

The University of Tulsa, Division of Continuing Education

600 South College Avenue

Tulsa, OK 74104-3189

(918) 631-3088 (Phone)

conted_cee@utulsa.edu (E-mail)

(918) 631-2154 (Fax)

Membership Update

New Members

GEA Energy System (India) Ltd.
Madras, India

Industrial Design Consultants s.n.c.
Florence, Italy

L&T Chiyoda Limited
Gujarat, India

Projects & Development India
Noida, Ghaziabad (U.P.), India

New Participating Affiliates

Beaird Industries, Shreveport, Louisiana, USA
(Member: Trinity Industries)

GEA Batignolles Technologies Thermiques, Paris, France
(Member: GEA -Luftkühler GmbH)

Vicarb S.A., Fontanil Cornillon, France
(Member: Vicarb Inc.)

Membership Renewals

Bharat Heavy Electricals Limited
Hyderabad, India

Hyundai Engineering Co., Ltd.
Seoul, Korea

Sanko Engineering
Yokohama, Japan

Shinwha Engineering & Construction Co. Ltd.
Seoul, Korea

Siirtec Nigi S.p.A.
Milan, Italy

SNIA Engineering S.p.A.
Milan, Italy

1997 Winter Meeting

Facts-at-a-Glance

Dates

February 17-21, 1997

Location

Houston, Texas

Hotel

The Ritz-Carlton Houston
1919 Briar Oaks Lane
Houston, Texas 77027
1-713-840-7600 (telephone)
1-713-840-8036 (fax)
Special conference rate: \$118 per night

Hotel Reservation Deadline

January 14, 1997

Workshops

IST (Incremental Shell and Tube)
Session 1: February 17, 1997
Session 2: February 20, 1997
Session 3: February 21, 1997

Meeting Registration Deadline

February 3, 1997

Fees if paid by Feb. 3, 1997 (in US\$)

Meeting Registration	\$300
IST Workshop	\$350

Questions? Need More Info?

Susan M. Edwards
1500 Research Parkway, Suite 100
College Station, Texas 77845 USA
1-409-260-6203 (telephone)
1-409-260-6249 (fax)
Meetings@HTRI-Net.com (e-mail)
www.HTRI-Net.com (web)

Upcoming Events

1997 Winter Meeting
The Ritz-Carlton Houston
Houston, Texas, USA
February 17-21, 1997

**1997 Annual Meeting of Stockholders
35th Anniversary Celebration**
The Ritz-Carlton Huntington Hotel
Pasadena, California, USA
July 28-August 1, 1997



1997 Pacific-Asian Meeting
Osaka, Japan
September 29-October 2, 1997

1998 Annual Meeting of Stockholders
The Ritz-Carlton Amelia Island
Amelia Island, Florida, USA
July 26-31, 1998

For information on meetings, contact Susan Edwards.

Meeting information can also be obtained by faxing 1-409-260-6249 or sending e-mail to Meetings@HTRI-Net.com.

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ACCOUNTS PAYABLE/RECEIVABLE

Jo Ann Cole, 1-409-260-6205

CONTRACTS AND MEETINGS

Susan M. Edwards, 1-409-260-6203

MEMBERSHIP

Jo Anne Smith, 1-409-260-6206, Membership@HTRI-Net.com

PRODUCT SALES AND DISTRIBUTION

Elaine Jimerson, 1-409-260-6213

TECHNICAL SUPPORT

1-409-260-HTRI (1-409-260-4874), Support@HTRI-Net.com

TRAINING

Fernando J. Aguirre, 1-409-260-6200, Training@HTRI-Net.com

Current Software

ACE-2	1.30-1.30
CST	3.1
FH-0	0.00-0.00
IST	1.02
PHE-1	0.21-1.30
RKH	3.1
RTF-2	7.21-1.30
ST	5.1
TWALL	0.12
VIB-0	0.00-0.00

To order an update for any HTRI computer program, contact Product Sales and Distribution