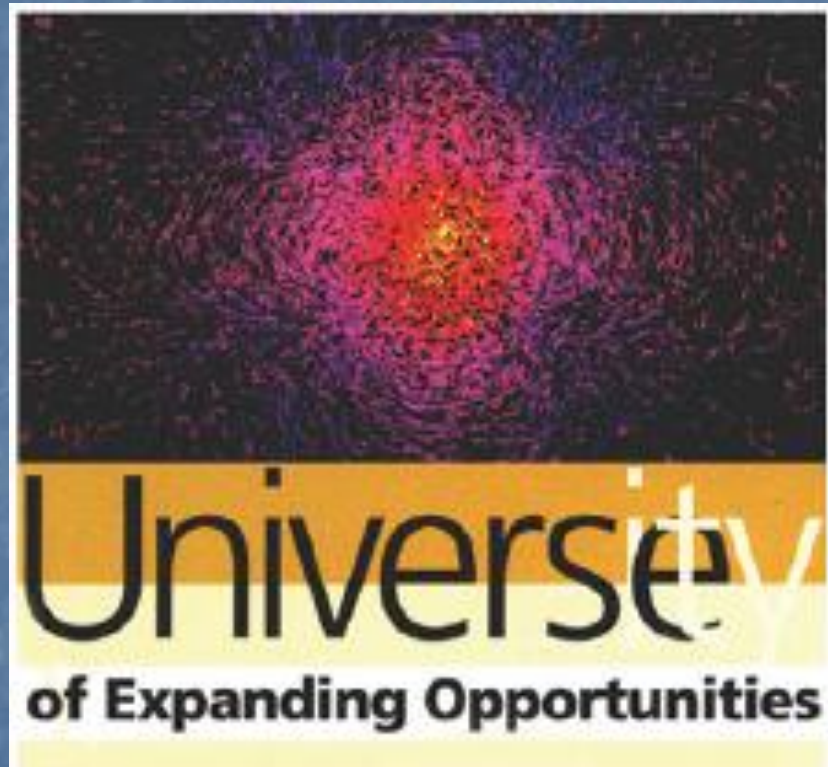




Chemical Engineering **PURDUE UNIVERSITY**



2007

...about 50 years ago



PATH THROUGH HISTORY



The first chemical engineering course, "Industrial Organic Chemistry Lectures," is offered by Professor Percy H. Owens.



April 16, 1907
President Bishop C. Stone's recommendation to the Board of Trustees is approved, and a "chemical engineering curriculum" is formed within the Department of Chemistry.




May 1909
Purdue's first bachelor's degree in chemical engineering is awarded to Benjamin M. Ferguson, a quarterback on the 1909 championship team.




Purdue's School of Chemical Engineering is founded. The school's first faculty member and head, Dr. Harry C. Puffer, is hired and stays on until 1954.

1902 1907 1909 1911



Chemical Engineering's graduate program is established and the first advanced degree, a professional degree in chemical engineering, is awarded to Marie H. Muehlan.



The first master's degree in chemical engineering is awarded to Ernest H. Hartwig. In 1919, he becomes the 120th person to receive a bachelor's degree from the school. His full-time tuition is \$30 per year.

The Catalyst Club is "organized in fun." The first meeting (convention) was held on campus in the Washburn Room. Robert Beckner was one of the organizers, and H.C. Puffer was the first faculty advisor.

The Chemical Engineering Society originally formed in 1924, becomes the fifth AIChE student chapter in the country. H.C. Puffer serves as advisor.

1916 1921 1923 1929



The first chemical engineering doctorate is awarded to William H. Pritchard, Jr. Elizabeth Rupp becomes the first woman to graduate from Purdue with a bachelor's in chemical engineering.

Sponsored by the Catalyst Club, the first Rees Banquet is held: "a fest get-together and gradson banquet at which the quips of the professors were unreservedly bodied." In 1935, the faculty began taking appropriate "revenge" with a bit of their own about the senior students. Professor Aiden Emery ably added his playwriting talents to the effort for years.



March 31, 1938
The cornerstone on the new Chemical and Metallurgical Engineering (CMEET) Building is laid. The building is completed in August 1940, at a total cost of \$580,000.

The Omega Chi Epsilon chapter is established, with the goal to "recognize excellence in chemical engineering, to promote original investigation in all branches of chemical engineering, and to provide service to the school."

1935 1935 1938 1943



Robert and Marilyn Forney graduate, each with a bachelor's in chemical engineering. Robert Forney retired in 1989 as executive vice president of DuPont, and Marilyn Forney spent over 20 years offering expertise in the construction of low-income housing units for the elderly and disabled in Delaware and Pennsylvania.



S. Margaret Willoughby becomes the first woman to receive a doctorate degree in chemical engineering from Purdue.

Purdue-Tehran Project, directed by Dr. R.H. Shreve, was an extensive scientific exchange in the development of the Tehran Engineering College into the National Cheng Kung University.



May 12, 1953
Professor Shreve retires. Shreve joined as Chemical Engineering head here from 1949 through 1951. Upon retirement, he donated his chemical abstracts, his books, gems, and gold collection to the school. The Shreve Trust and the Shreve Prize have been established in his name.

1947 1950 1952-61 1955

The Kelly Lecture is established with Warren L. McCabe as the inaugural speaker.



Dr. G.V. Reklaitis serves as the ninth head of Chemical Engineering. Dr. Reklaitis announces the expansion of the CMEET Building that will eventually become the Champions of Excellence campaign.

The New Directions Industrial Advisory Council was created through the leadership support of senior executives from Albion Laboratories, AF Products, Amoco, Dow Chemical, and Quantum Chemical.



June 2000
Purdue trustees approve the construction of the building addition. The architectural firm Schmidt Associates is hired to design and oversee the \$19.5 million project.



September 28, 2002
Ground is broken for the new addition. It is the largest expansion project in school history.

1965 1987-2003 1988 2000 2002



January 1, 2004
Dr. Arnold Varma becomes the 10th head of Chemical Engineering.



October 22, the CMEET building and new addition is renamed and dedicated as Forney Hall of Chemical Engineering to honor Robert and Marilyn Forney's longtime support of Purdue.



The renovation of the older part of Forney Hall—the CMEET Building built in 1940—begins.

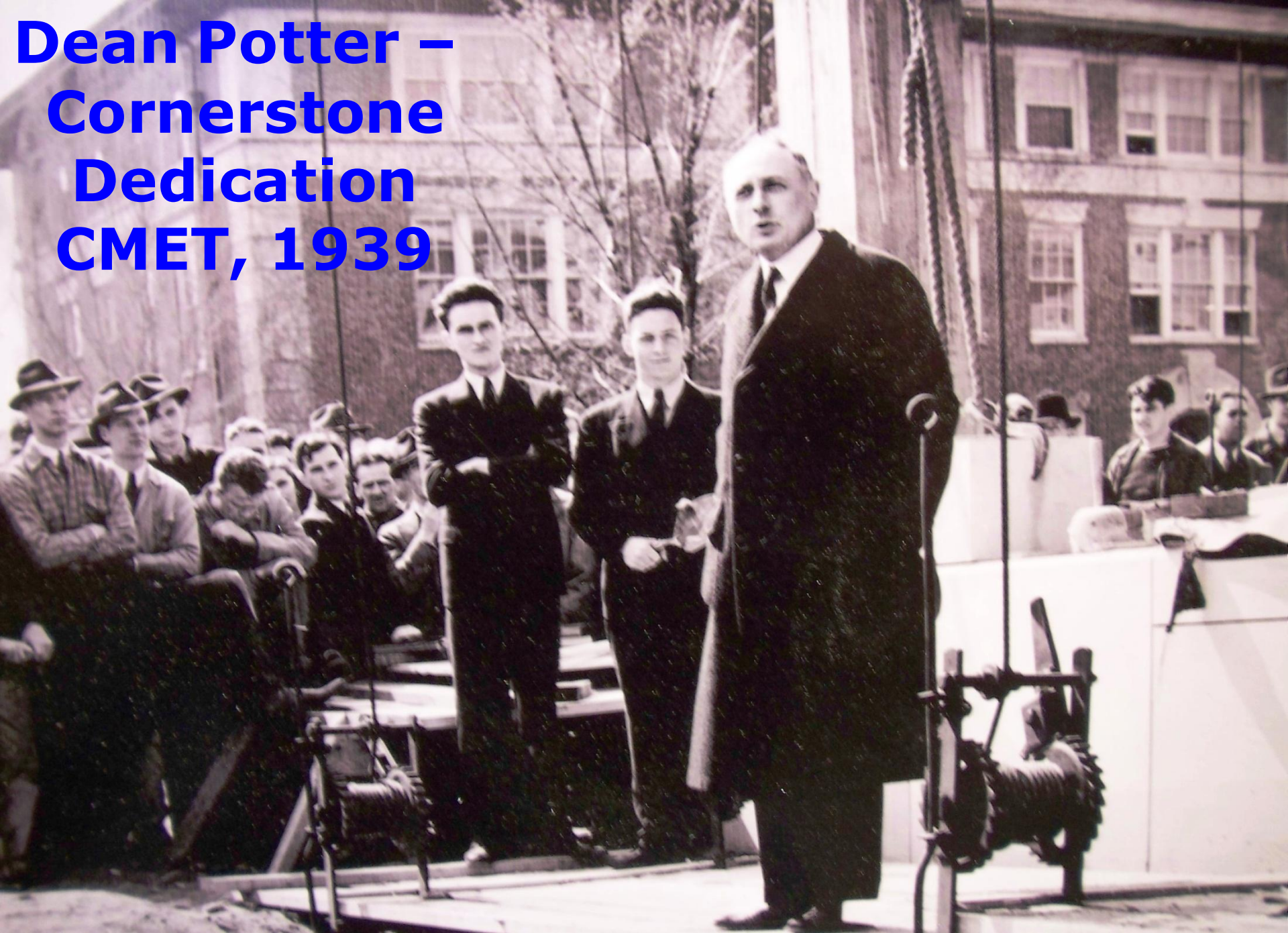
CHE Department Heads	
H. C. Puffer	1911-1924
J. L. Gray	1924-1947
E. N. Chevre	1947-1951
E. W. Cornage	1951-1959
B. Golding	1959-1966
E. Greenbaum	1967-1972
L. Koppell	1972-1993
S. Andrus	1993-1997
G. V. Reklaitis	1997-2004
A. Varma	2004-present

2004 2004 2005



**R. N. Shreve (1885-1975)
(Head, 1947-51)**

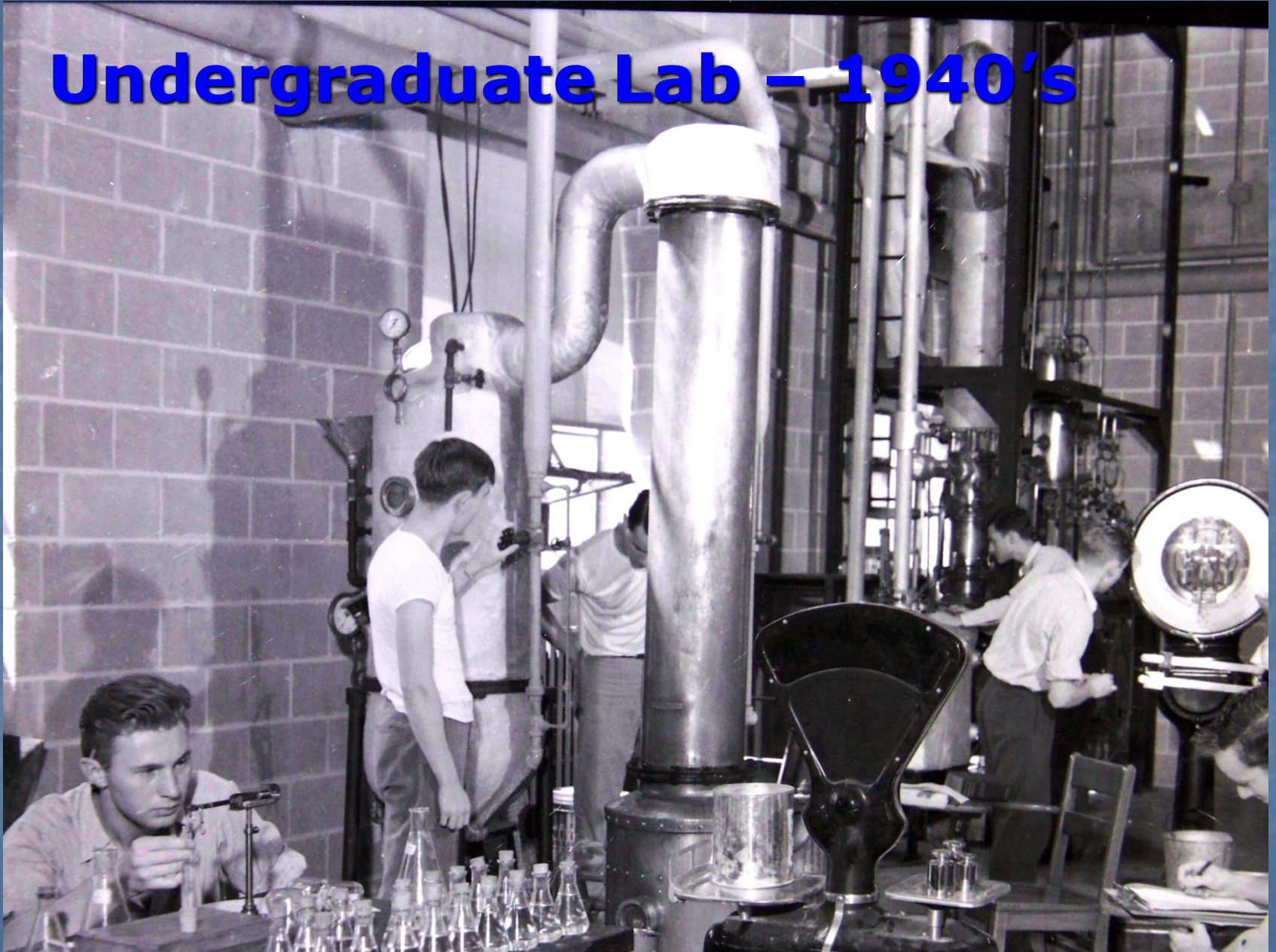
**Dean Potter –
Cornerstone
Dedication
CMET, 1939**



CMET Building ~ 30 years ago



Undergraduate Lab – 1940's



**Metallurgy
Option -
1940**





**Mixing Study –
C.L. Lovell, 1941**



BSCChE

Curriculum Centennial Celebration

April 13
2007

The School of Chemical Engineering is proud to celebrate a century of progress and achievement in chemical engineering education.



“Evolving Trends in ChE Undergraduate Education: Opportunities and Challenges”

Speakers



W.N. Delgass

**Professor of Chemical Engineering, Purdue
“Historical Remarks about the Evolution of Purdue ChE”**



S.P. Beaudoin

**Professor of Chemical Engineering, Purdue
“Recruitment and Retention: New Approaches”**



L.H. Jamieson

**John A. Edwardson Dean of Engineering, Purdue
“Innovative Trends in Undergraduate Engineering Education”**

Panel Discussion

Evolving Trends in ChE Undergraduate Education: Opportunities and Challenges

Tim Anderson

Professor & Associate Dean, Chemical Engineering U of Florida

Jim Hill

University Professor & Chair, Chemical Engineering, Iowa State U

Rick Roberts

Senior Vice President, Manufacturing Chevron Phillips Chemical Company

Ronna Robertson

Engineering Manager DuPont Corporation

Phil Wankat

Clifton L. Lovell Distinguished Professor, Chemical Engineering, Purdue

Rex Reklaitis (Moderator)

Edward W. Comings Professor of Chemical Engineering, Purdue

Forney Hall 2007





Chemical Engineering Faculty



Rakesh Agrawal
Sc.D., MIT, 1980



Osman Basaran
Ph.D., Minnesota, 1984



Chelsey D. Baertsch
Ph.D., UC - Berkeley, 2001



Stephen P. Beaudoin,
Ph.D., NCState, 1995



James M. Caruthers
Sc.D., MIT, 1977



David S. Corti
Ph.D., Princeton, 1997



W. Nicholas Delgass
Ph.D., Stanford, 1969



Elias I. Franses
Ph.D., Minnesota, 1979



Robert E. Hannemann
M.D., Indiana, 1959



Michael T. Harris
Ph.D., Tenn.-
Knoxville, 1992



Hugh W. Hillhouse
Ph.D., Massachusetts,
2000



Nancy W. Y. Ho
Ph.D., Purdue



R. Neal Houze
Ph.D., Houston,
1968

Chemical Engineering Faculty



Sangtae Kim
Ph.D., Princeton, 1983



Gil Lee
Ph.D., Minnesota, 1992



Julie Liu
Ph.D., CalTech, 2006



James D. Litster
Ph.D., University of
Queensland, 1985



John A. Morgan
Ph.D., Rice, 1999



Joseph F. Pekny
Ph.D., Carnegie Mellon,
1989



R. Byron Pipes,
Ph.D., Texas-Arlington,
1972



Doraiswami Ramkrishna
Ph.D., Minnesota, 1965



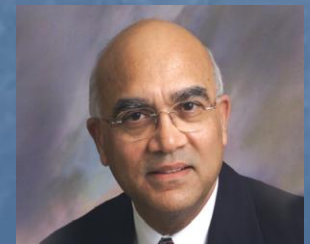
Gintaras V. Reklaitis,
Ph.D., Stanford, 1969



Fabio H. Ribeiro
Ph.D., Stanford, 1989



Kendall T. Thomson
Ph.D., Minnesota, 1999



Arvind Varma
Ph.D., Minnesota, 1972



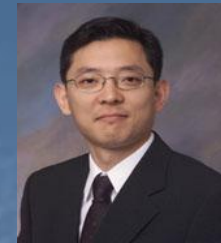
**Venkat
Venkatasubramanian**
Ph.D., Cornell, 1984



Nien-Hwa Linda Wang
Ph.D., Minnesota, 1978



Phillip C. Wankat
Ph.D., Princeton, 1970



You-Yeon Won
Ph.D., Minnesota, 2000

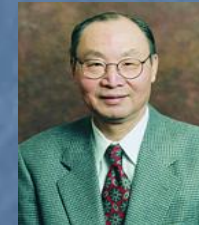
Emeritus Faculty



Lyle F. Albright
Ph.D., Michigan, 1950



Ronald P. Andres
Ph.D., Princeton, 1962



Kwang-Chu Chao
Ph.D., Wisconsin, 1956



Robert A. Greenkorn
Ph.D., Wisconsin, 1957



Robert G. Squires
Ph.D., Michigan, 1963



George T. Tsao
Ph.D., Michigan, 1960

RESEARCH FRONTIERS

MATERIALS CHEMISTRY

**NANOSCIENCES &
ENGINEERING**
**POLYMERS &
MATERIALS**

SYSTEMS

**PRODUCT & PROCESS
SYSTEMS ENGINEERING**
**PHARMACEUTICAL
ENGINEERING**

CORE AREAS

**MOLECULAR &
NANOSCALE MODELING**
**FLUID MECHANICS &
INTERFACIAL
PHENOMENA**
**SURFACE SCIENCE &
REACTION ENGINEERING**
**MASS TRANSFER &
SEPARATIONS**

BIOLOGY

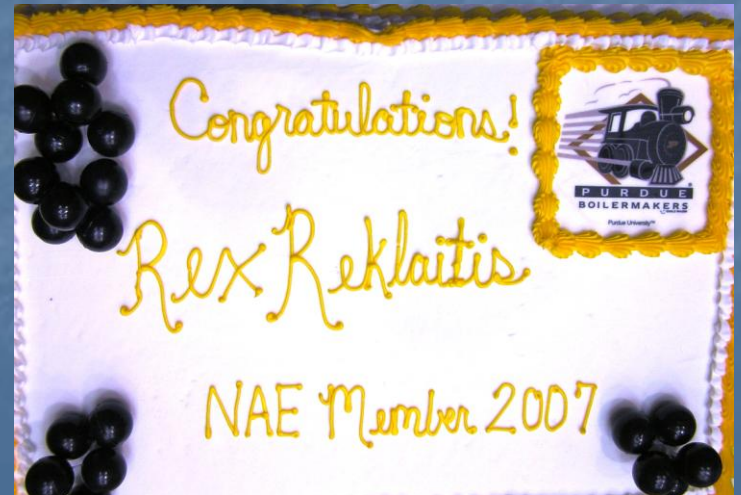
**BIOCHEMICAL &
BIOMOLECULAR
ENGINEERING**

ENERGY

**SOLAR
BIOFUELS
HYDROGEN
FUEL CELLS**

**Congratulations to
Rex Reklaitis
for Nomination to the
National Academy of
Engineering**





2007 Team Excellence Award
College of Engineering
Purdue University
Discovery Informatics Team

ChE Faculty Honored:

- **Chelsey D. Baertsch**
- **James M. Caruthers**
- **W. Nicholas Delgass**
- **Hugh W. Hillhouse**
- **Fabio H. Ribeiro**
- **Kendall T. Thomson**
- **Venkat Venkatasubramanian**

Congratulations!

Congratulations to ChE Faculty



Rakesh Agrawal

IRI Achievement Award



Chelsey D. Baertsch

NSF Career Award

Congratulations to ChE Faculty



Stephen P. Beaudoin

**Omega Chi Epsilon Outstanding
Mentor Award**

Purdue University Scholar



W. Nicholas Delgass

Maxine Spencer Nichols Professor

**Shreve Award for Outstanding
Teaching, Purdue**

Congratulations to ChE Faculty



Hugh W. Hillhouse

**NAE Frontiers of Engineering
Symposium**



Nancy W. T. Ho

**President's State of the Union
Address Honoree**

Congratulations to ChE Faculty



Joseph F. Pekny

**“One Brick Higher” Award,
Purdue**



Phillip C. Wankat

**Distinguished Education Alumni
Award of Distinction, Purdue**



Alumni Honors

- **Honorary Doctorate**
- **Distinguished Engineering Alumni**
- **Outstanding Chemical Engineers**
- **AIChE Awards**
- **Other Awards**

Honorary Doctorate in Engineering

Vern W. Weekman Jr. (B.S. '53, Ph. D. '63)

**Lecturer in Chemical Engineering
Princeton University**

**Director of Corporate Central Research (Ret.)
Mobil Oil Corporation**

National Academy of Engineering





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2007 Distinguished Engineering Alumni Chemical Engineering



Michael H. Ott

(B.S. '74)

**President
Polysciences**



Rick Roberts

(B.S. '76)

**Senior Vice President
of Manufacturing
Chevron Phillips
Chemical Company**

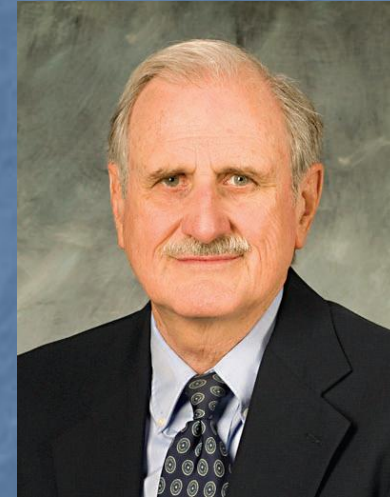


2007 Outstanding Chemical Engineers



Pierre R. Latour
(M.S. '64, Ph. D. '66)

President
CLIFFTENT, Inc.



Duncan A. Mellichamp
(Ph. D. '64)

Emeritus Professor of
Chemical Engineering
University of California,
Santa Barbara



CHE011.JPG



CHE044.JPG



CHE052.JPG



CHE024.JPG

**First
“Outstanding Chemical
Engineer”
Convocation**

1993



AIChE Awards



Alpha Chi Sigma Award for Chemical Engineering Research

Antonios G. Mikos (Ph.D. '88)



Particle Forum Lectureship Award

Jennifer Sinclair Curtis (B.S. '83)

Other Awards



**ASEE Sharon A. Keillor Award for
Women in Engineering Education**

Julia M. Ross (B.S. '90)



2007 Kelly Lecture

Manfred Morari

Head, Automatic Control Laboratory
Swiss Federal Institute of Technology, Zurich

“Control of Hybrid Systems: Theory, Computation and Applications”

Tuesday, March 27, 2007 at 3:30 PM in FRNY G140

“Beyond Process Control”

Wednesday, March 28, 2007 at 11:30 AM in FRNY G140

PURDUE
UNIVERSITY

School of Chemical Engineering



ChE Academic Advisory Board

Alexis Bell

**Warren and Katharine Schlinger Distinguished Professor
UC Berkeley**

Ignacio Grossman

**Rudolph R. and Florence Dean University Professor of
Chemical Engineering, Carnegie-Mellon**

Michael Ramage

Executive Vice President, ExxonMobil, Retired

Gregory Stephanopoulos

Bayer Professor of Chemical Engineering, MIT

Matthew Tirrell

**Richard A. Ahl Professor and Dean of Engineering,
UC Santa Barbara**

Academic Advisory Board







NEW DIRECTIONS

Industrial Advisory Council

School of Chemical Engineering

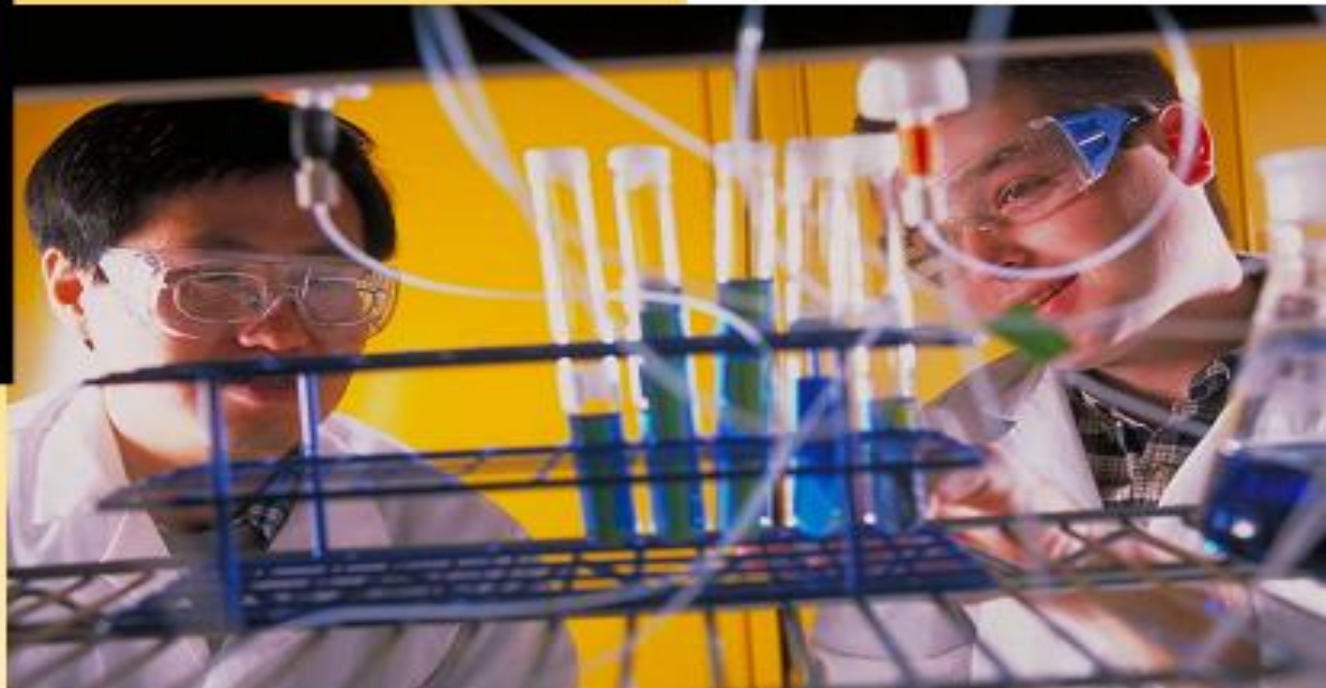
INFLUENCE

ACHIEVE

INNOVATE

*Working together to create
an educational environment
to prepares today's
chemical engineering
students for the 21st century*

PURDUE
UNIVERSITY




New Directions Industrial Partners

 3M Corporation

 Air Products and Chemicals Inc.

 Anheuser-Busch, Inc.

 BP Plc.

 Chevron Phillips Chemical Company

 Dow Chemical Company

 Eli Lilly and Company

 Exxon Mobil Corporation

 Kimberly-Clark Corporation

 Lubrizol Corporation

 Lyondell Chemical Company

 National Starch & Chemical Corp.

 Procter & Gamble Company

 Shell Oil Company

Graduate Student Organization

President

Bri-Mathias Hodge

Vice President

Chris Polster

Voting Representative

Dana Gary

First Year Representative

Intan Hamdan

Social Committee Chair

Michelle Chaffee

PGSG Senator

Predeep Suresh



16th Annual Chemical Engineering Graduate Research Symposium

August 15 – 16, 2007

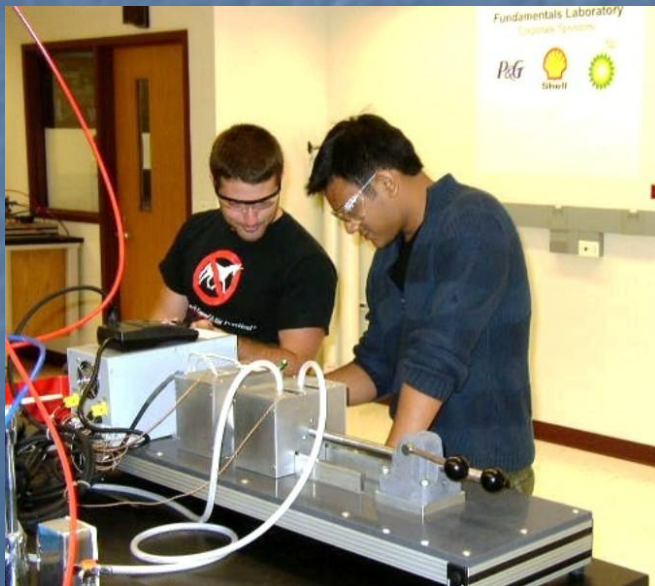
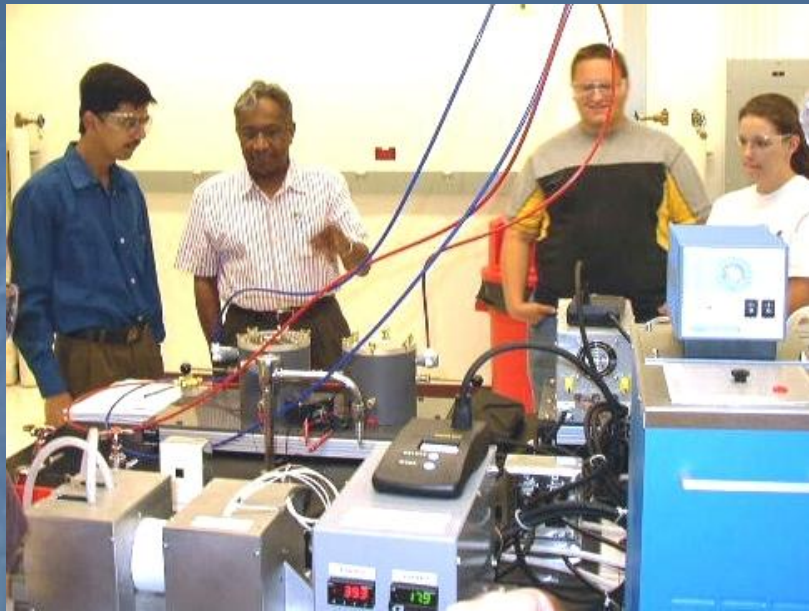






Fundamentals Lab

Our second year ...



Fundamentals Laboratory
Corporate Sponsors



Purdue University Chapter of AIChE

President

Rochelle Chism

Vice President – Internal Affairs

John Douglas

Vice President – External Affairs

David Hanna

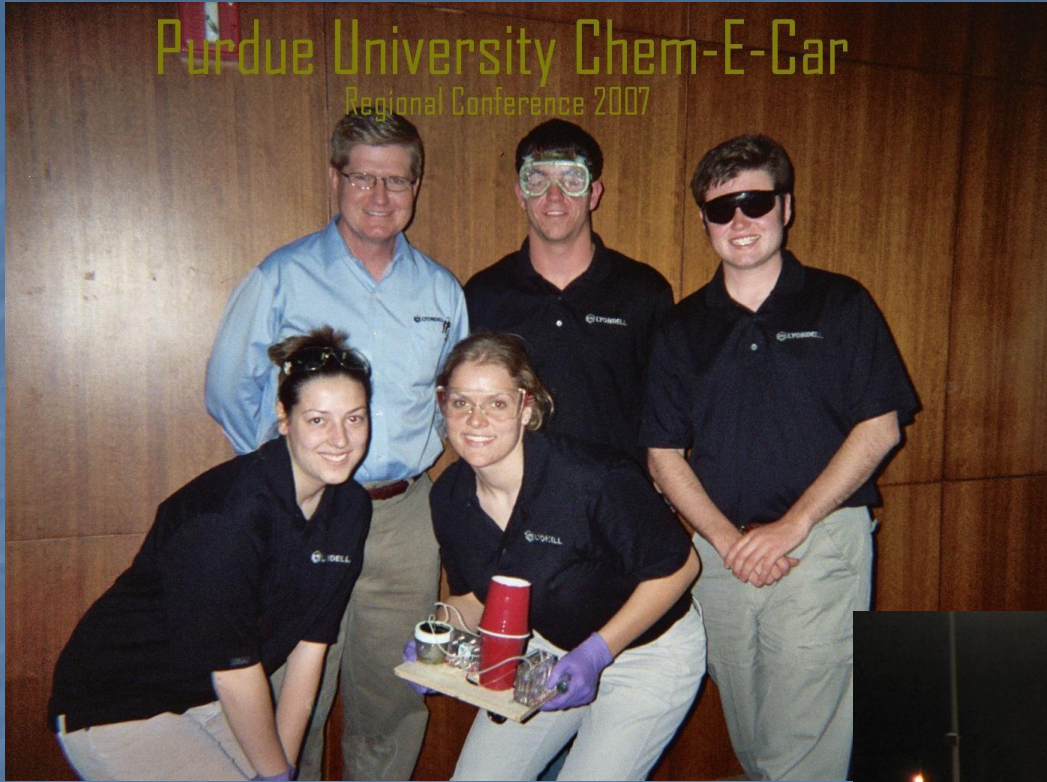
Secretary

Jeff Livarchik

Treasurer

Dan Logsdon

Purdue University Chem-E-Car Regional Conference 2007





THE REBOILER

Brought to you by the
Purdue Chapter of the
American Institute of
Chemical Engineers

February 2007

Christopher J. Carr—Editor

AIChE All the Time

By: Jessica Moore, AIChE President

Hello everyone! Hope the beginning of your Spring Semester is going great. And whether your answer was yes or no, AIChE is here to help. Every semester AIChE tries to hold numerous events for the students, to keep everyone active and meeting new chemical engineers, faculty, and professionals. Just a over a month into the semester, AIChE has had many events including salsa dance lessons, co-ed intramural basketball, a Relay for Life fundraiser, and student/faculty luncheon - and there's more to come.

Needless to say, there is plenty going on and we want everyone to get involved so that Purdue continues to be an Outstanding Student Chapter (which we were awarded at this year's National Conference held in San Francisco). There will be many opportunities to participate and be an active member. One of the big events will be our trip to the Regional Conference, to be held at University of Illinois-Champaign/Urbana on March 30-April 1. We will be looking for a rather large group to go to the conference and represent Purdue; it will definitely be a fun weekend and be a memorable time for anyone who goes. Be on the lookout for petitions in upcoming weeks! And if you cannot attend the conference, make sure to come to the general meetings and other events posted around FRNY.

Make sure to become a member if you haven't done so already, and keep updated with the weekly events by checking out the AIChE Condenser. See you soon :)

Announcements From AIChE

Social Athletic:

Keep an eye out for upcoming events including Ice Skating, Intramural Wallyball, Intramural Basketball Playoffs, Bowling Night, Indoor Soccer, Movie + Pizza Night, and a Poker Tournament.

Industrial Relations:

The Industrial Relations Committee is currently seeking company information for a comprehensive binder. We would like to compile an informative source for those looking for information on companies, including what the interview was like. If you had an interview with a particular company, please send us information about the style of the interview (i.e. technical or behave oral), as well as any information you find useful concerning that company. This can be sent to either nbrandon@purdue.edu or jnader@purdue.edu. Your help is greatly appreciated, thanks!

Also, Keep an eye out for more info sessions this semester with Celanese, ADM, Solae Company, and Dow Corning. Also, we will be holding general member meetings including one with the Indy Chapter of AIChE.

Philanthropy:

Philanthropy is gearing up to recruit members for multiple "Relay for Life" teams! More fundraisers and announcements on that soon.

Inside This Issue:

Who's Who in AIChE: The Executive	Who's Who in AIChE: The Committees	Games and Horoscopes	Answers to Games
Pages 2-3	Page 4-9	Page 10-11	Page 12

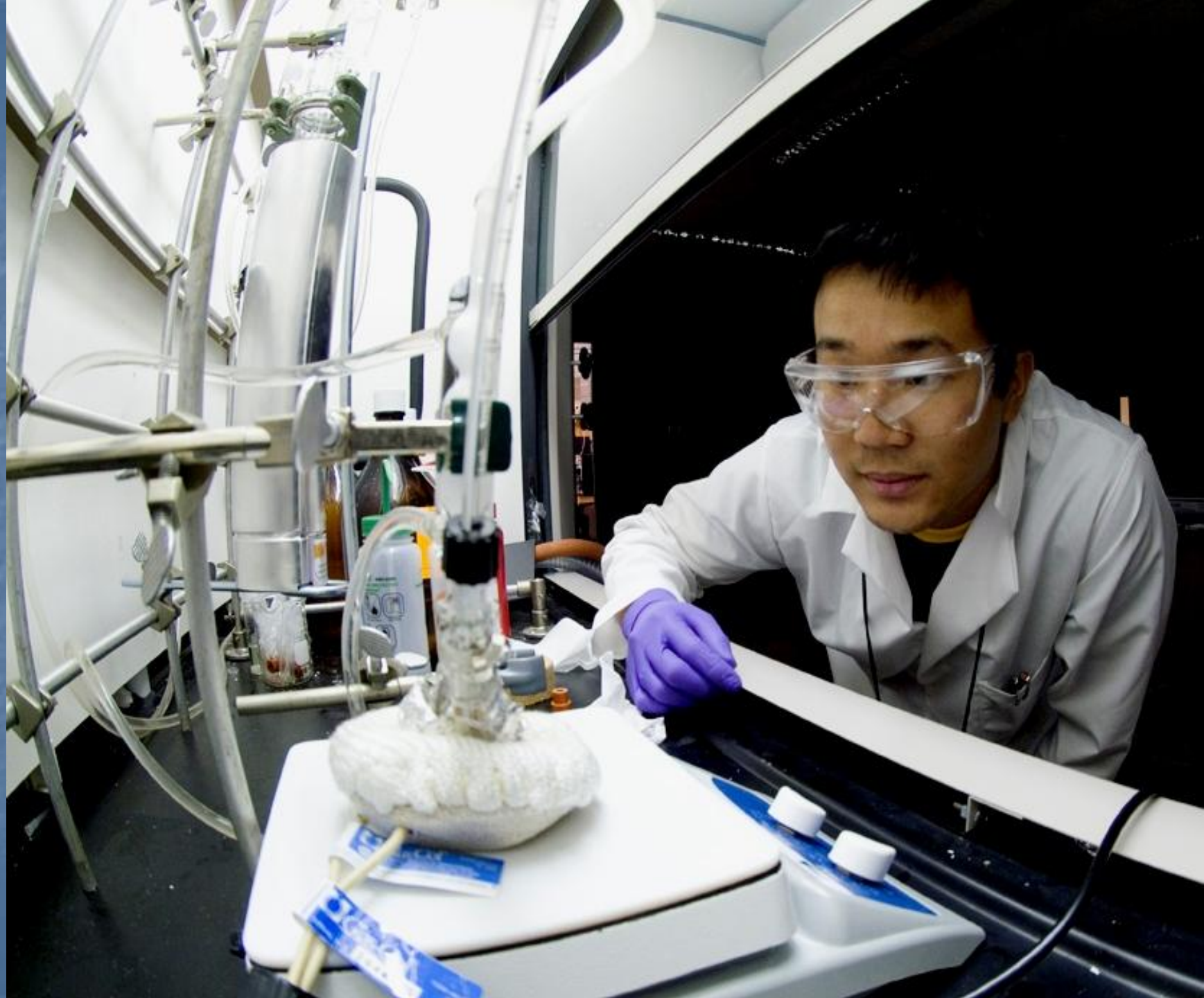
Around the School...

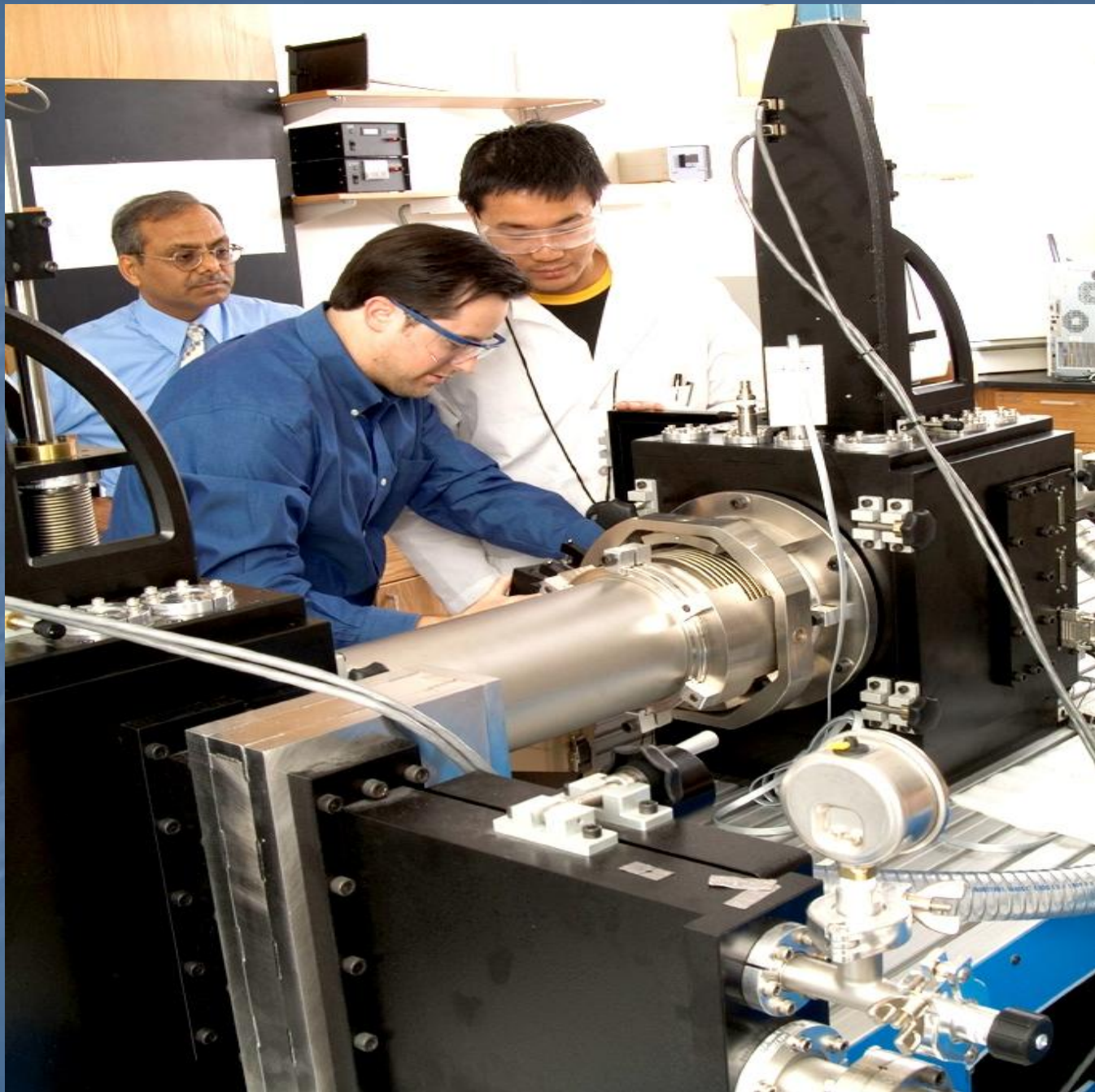




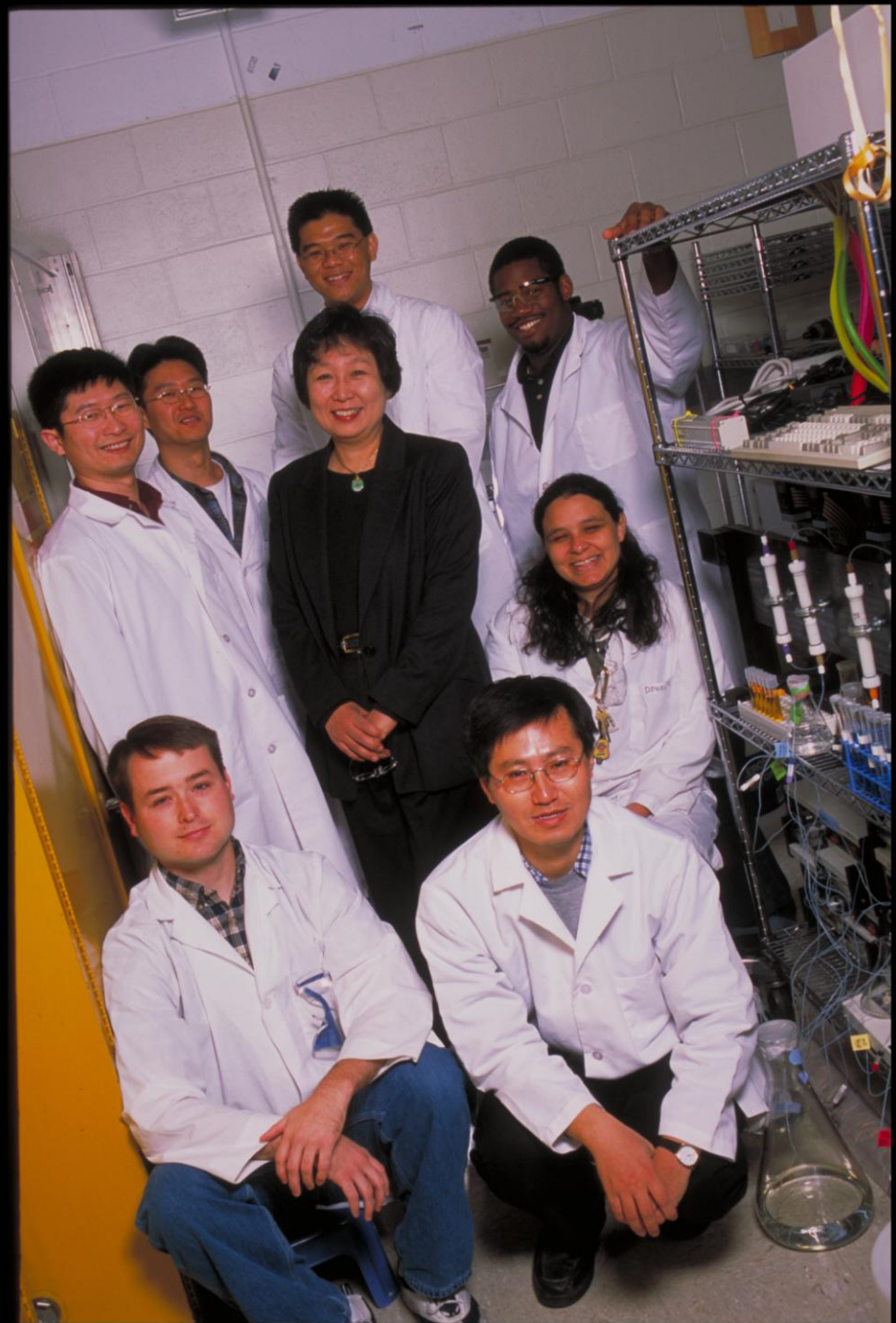














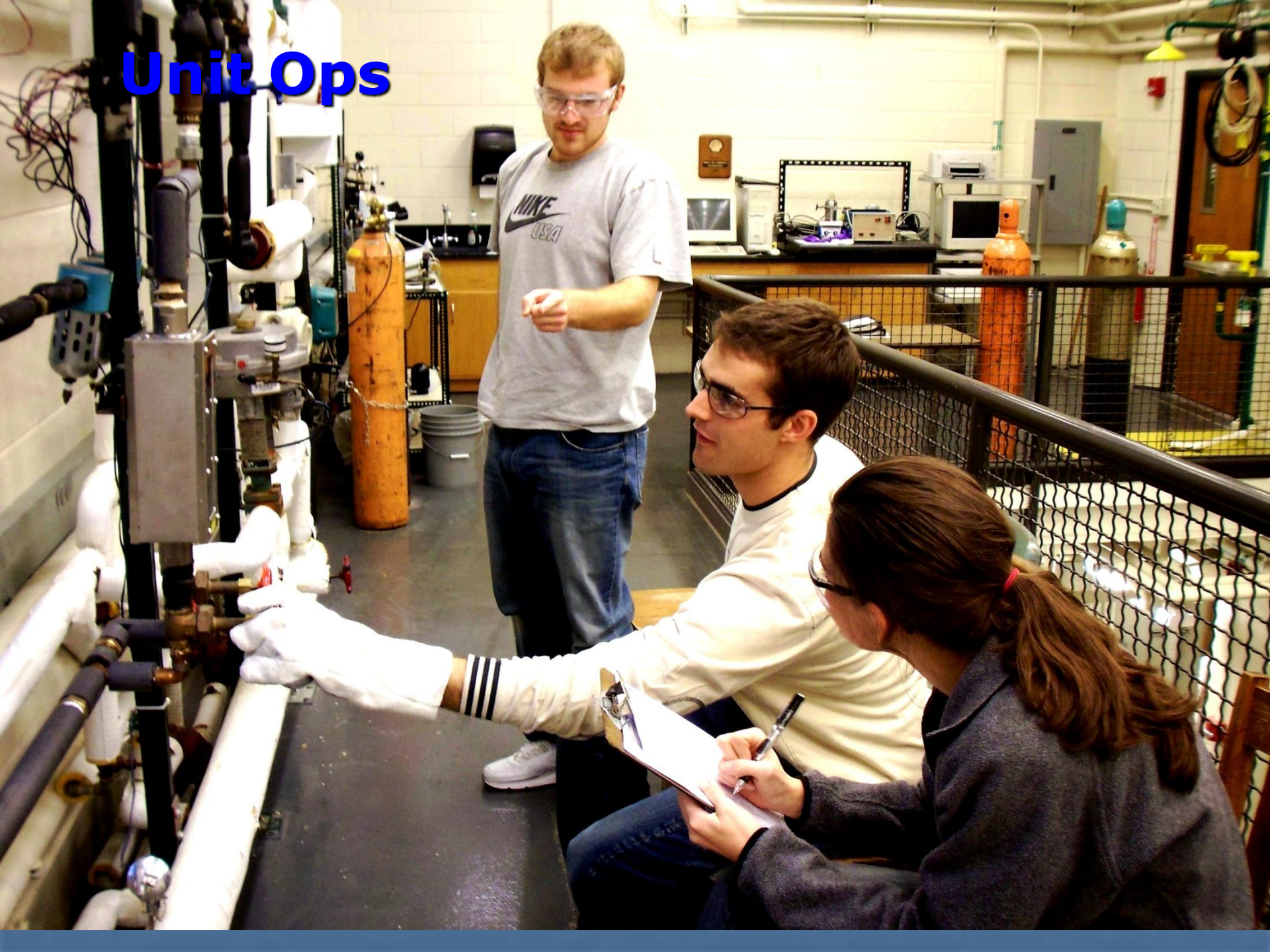
Unit Ops



Unit Ops



Unit Ops



Unit Ops

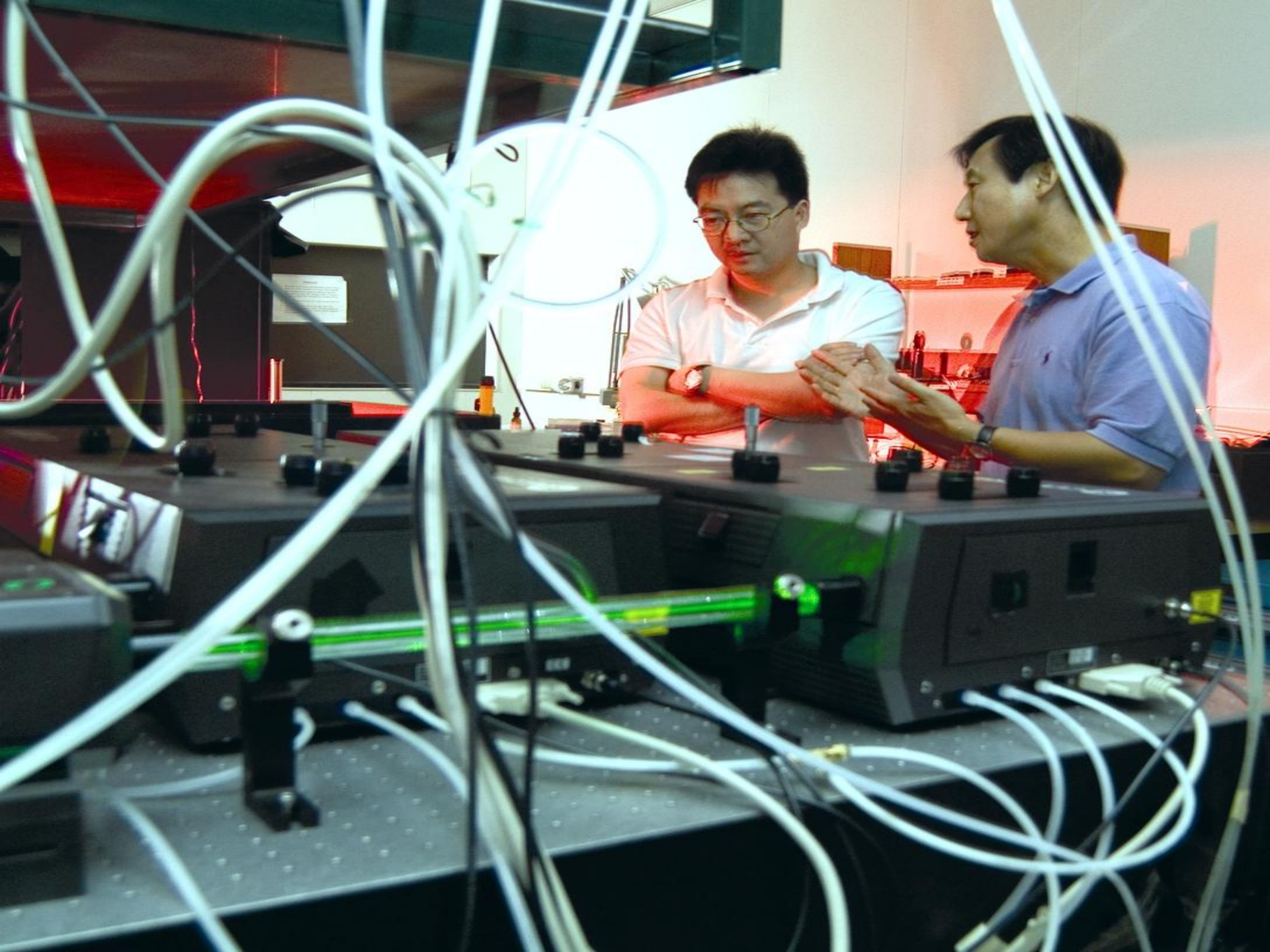




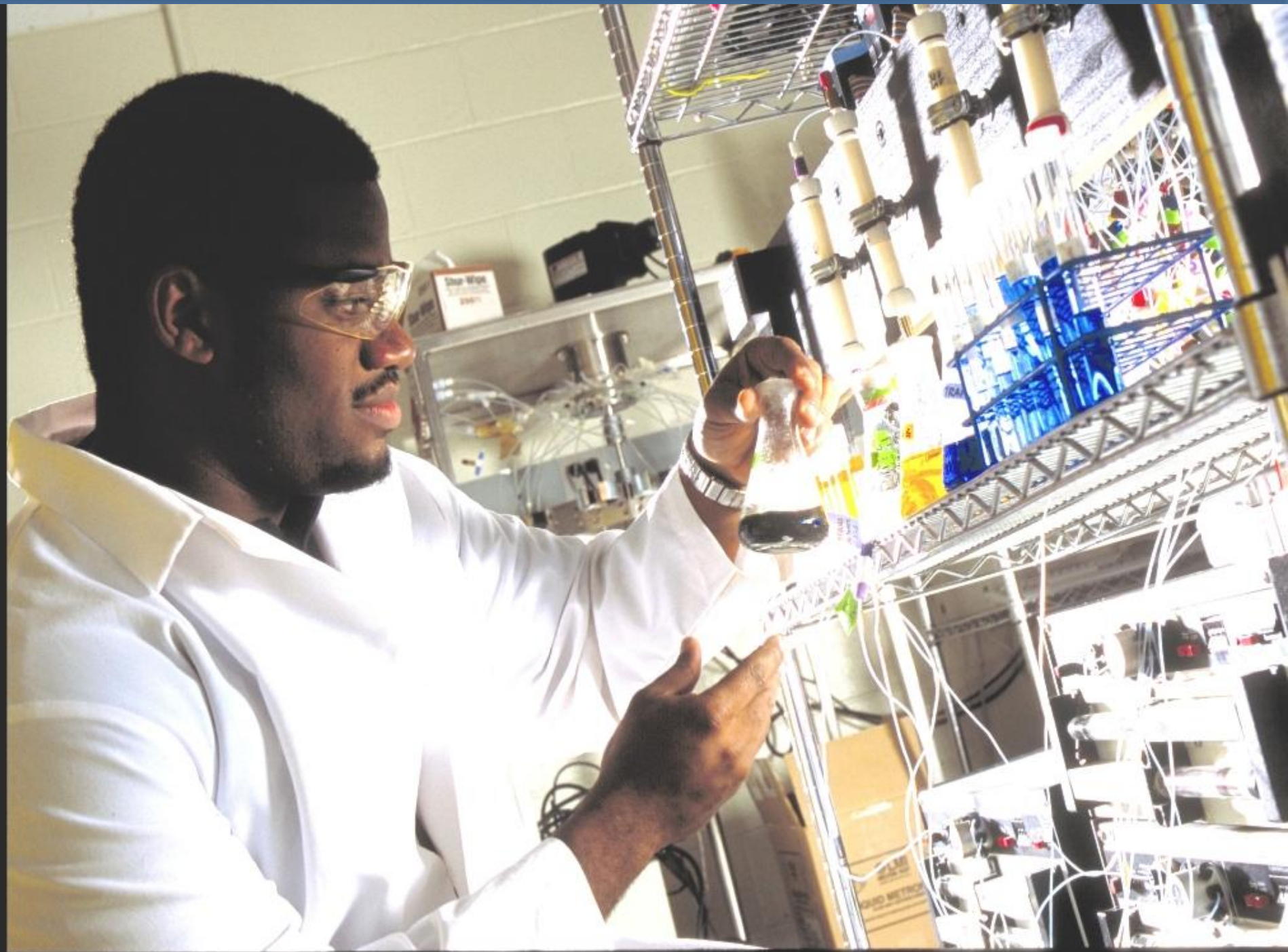




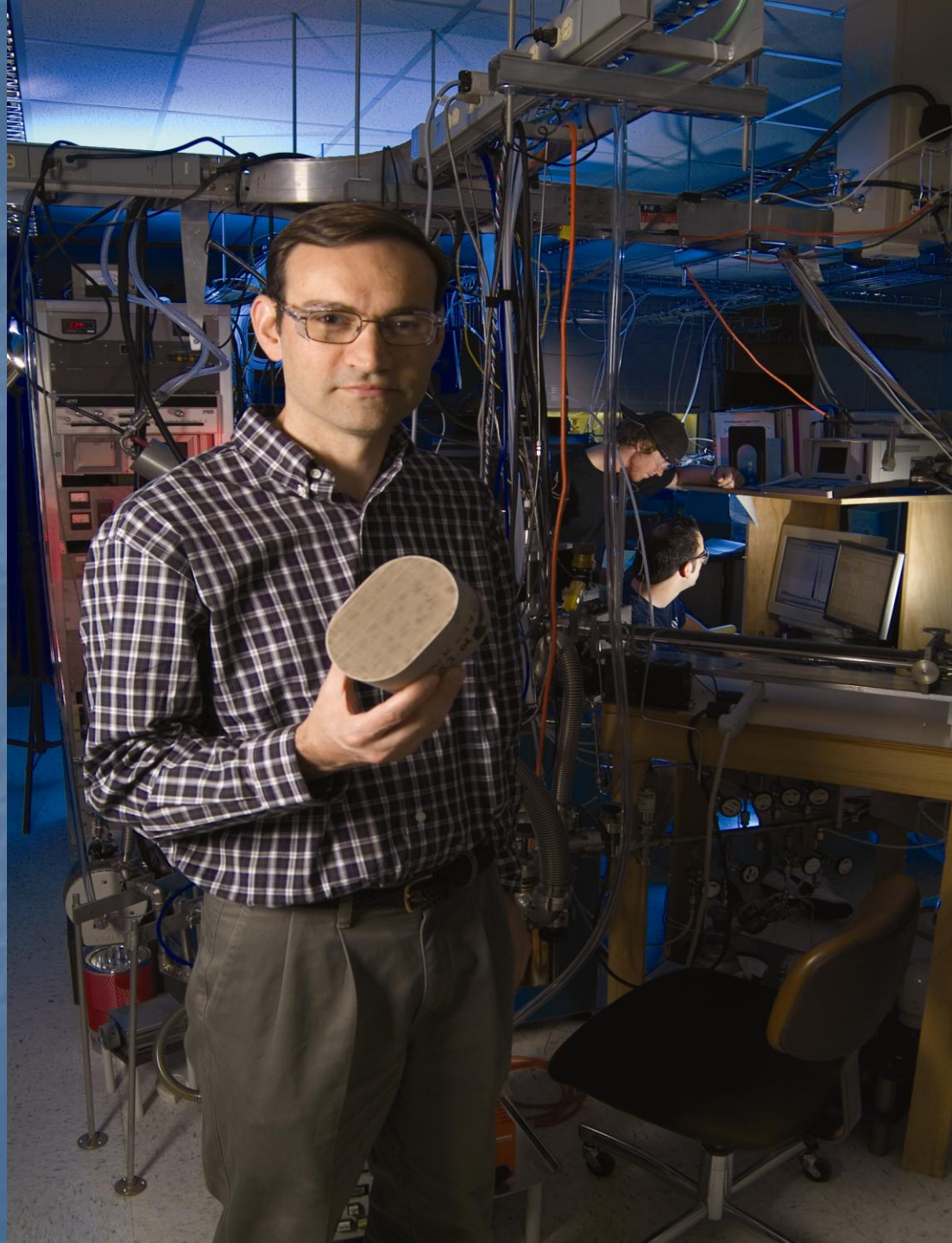












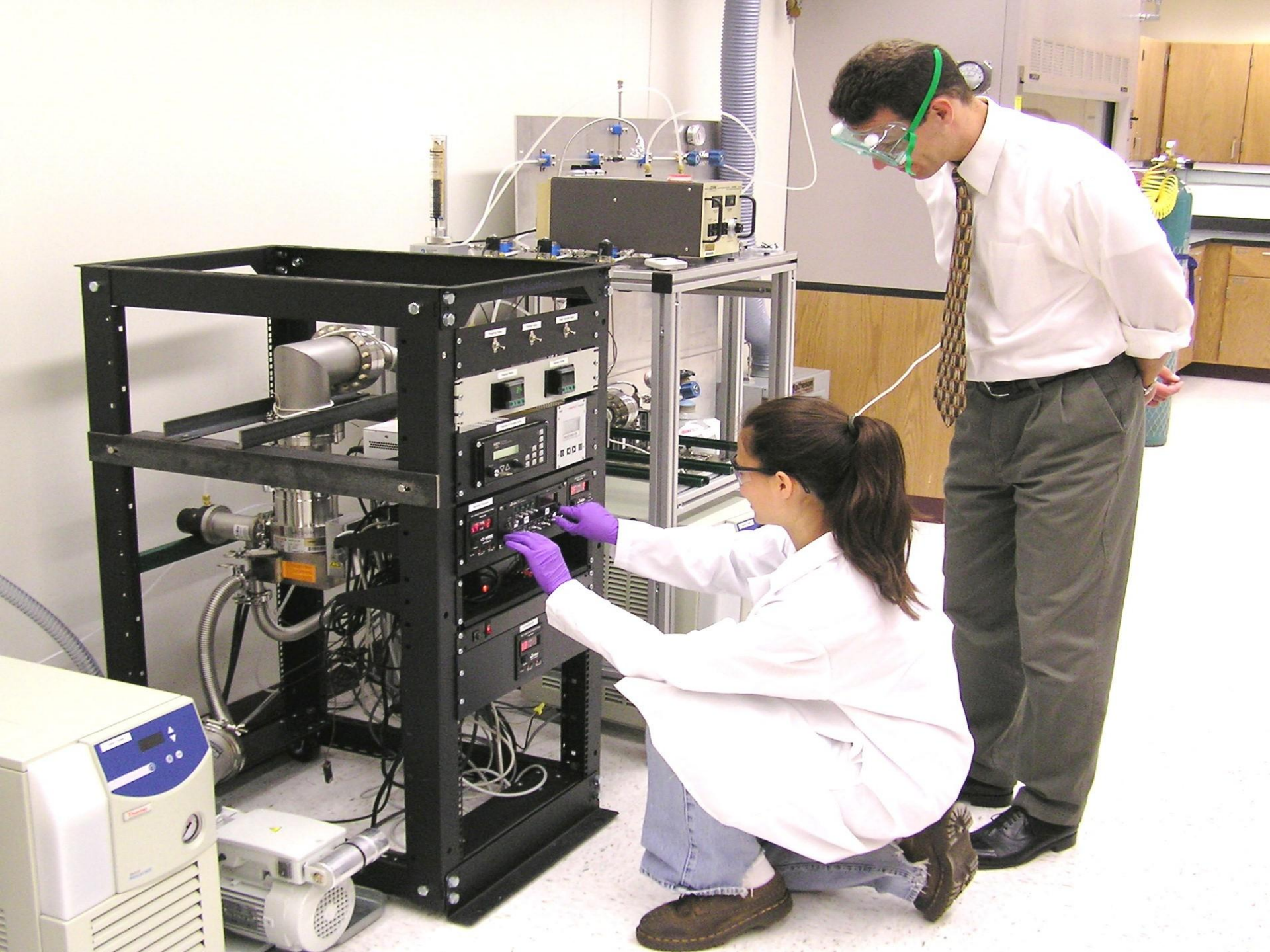


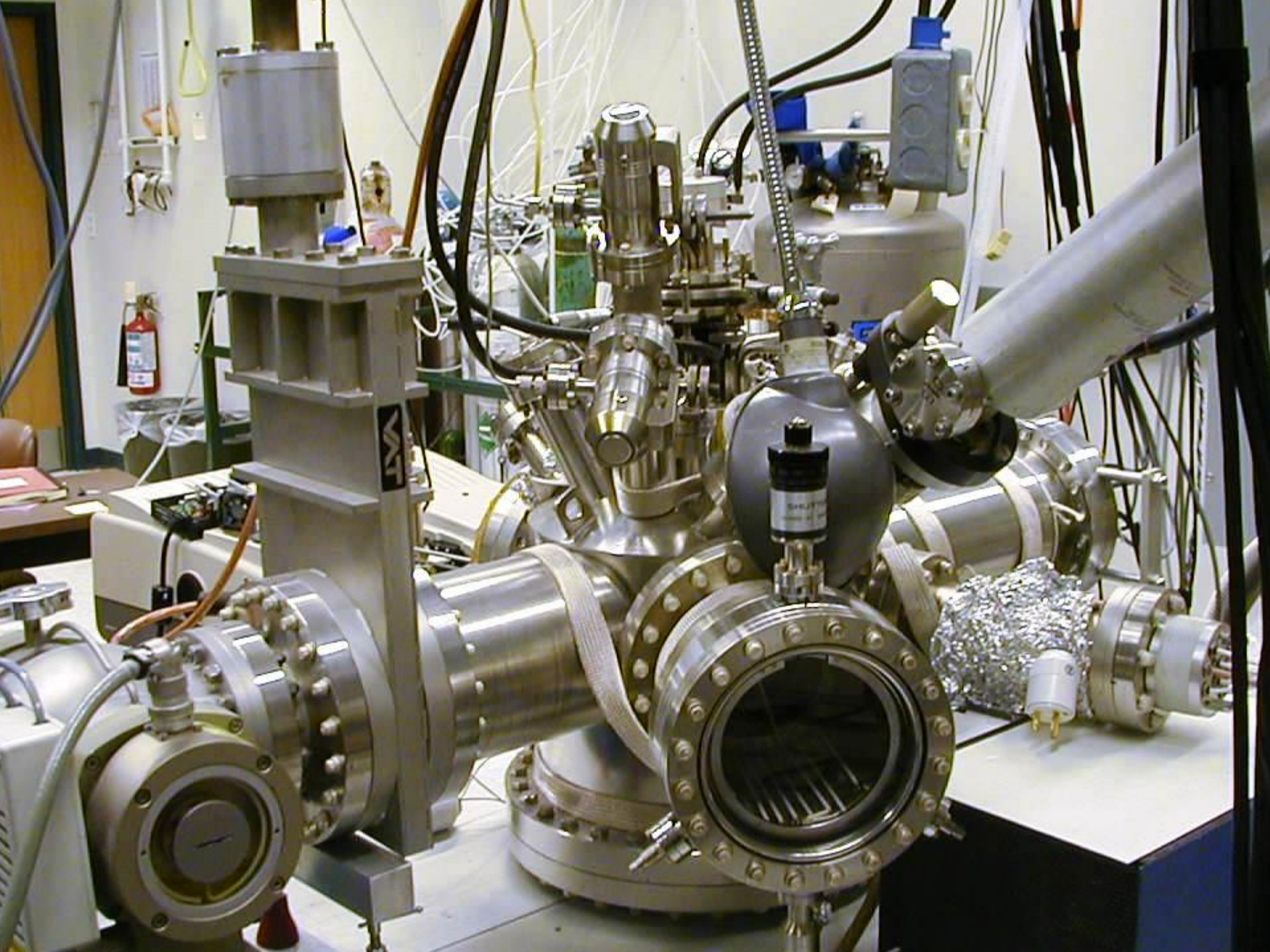
THIS ROOM RESERVED FOR CHEMICAL ENGINEERING STUDENTS

Only use Dry Erase Markers on the Board

Piz
All CHE'S











$H \rightarrow$ Change P \rightarrow ΔT
low cost
 $\Delta H = 0 \rightarrow \Delta T$
cost $\Delta T = 0$

$\Delta H = 0 + \Delta T$
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 $\Delta H = 0 \rightarrow \Delta T$

with ΔT
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$\frac{dH}{dT} = C(T) = \text{specific}$
 $\Delta H = \int C(T) dT$
with ΔT







Exam #2
Thursday, 7:00pm
CIVL 1252

REVIEW:

1. Balance Eqns.
Mass & Thermal Energy
(micro & macro)
2. Rate Eqns.
(Conduction & Convection)
3. S-S & Transient Conduction

- a. Thermal Resistances
- b. Bi, Fo
- c. Finned Surfaces
4. Convective H.T.
 - a. Nu, Re, Pr, St
 - b. Analogies, Reynolds Colburn
 - c. Correlations

5. System Design
 $\dot{Q} = UA(F\Delta T_{lm})$
 $Fo = \frac{\alpha t}{L^2}$







*ChE Faculty / Staff / Grad Student
Recognition Reception*

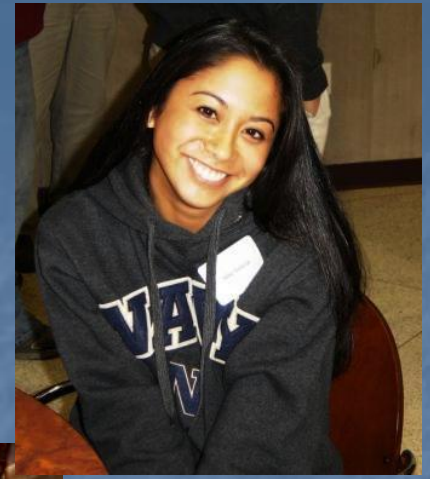
December 13, 2006

3:30-4:30PM

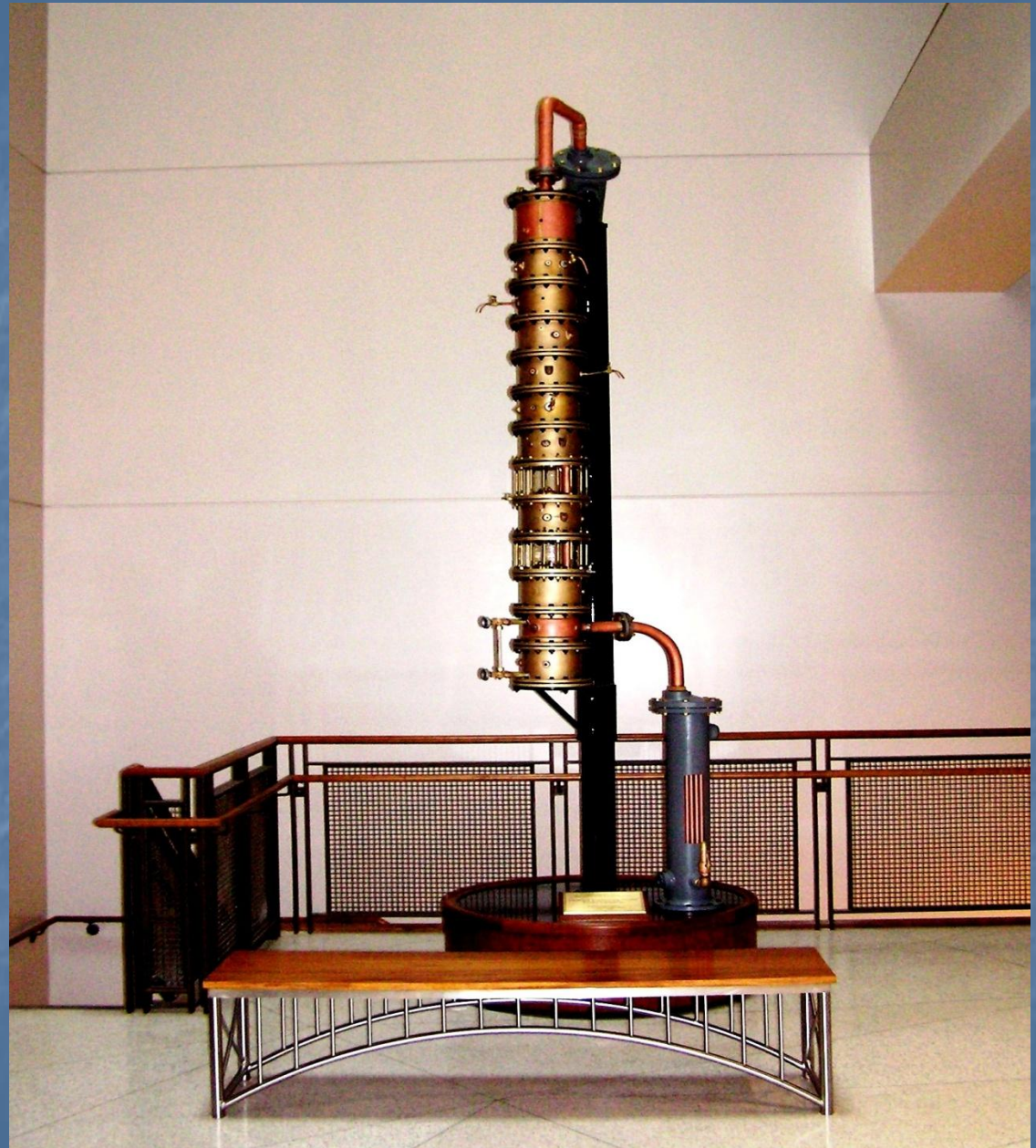





*ONE Faculty Staff Grad Student
Recognition Reception*
December 13, 2006
2:30-4:30 PM

“Old Faithful”



Champions of Excellence

The next step...

*Renovation
Phase 2*

