Got Hoods?

UCR Chemical Sciences Grand Opening, 12/3/2005*

M. Rettig, 12/3/05
*Note: original name of building was Physical Sciences 1
Chemistry Department, 1970-present

• Look back at Pierce Hall, surroundings, events

• Faculty Accomplishments/Foibles

• New Buildings

• Chemical Sciences
• Laboratory Sciences
• Physical Sciences 1 (renamed Chemical Sciences)

• Growth

• Glimpse of the Future

• Three Lab Accidents, starting with..
THF Still Explodes, Blows Windows Out – Pierce 1326

George Helmkamp toasting his explosion, fall 1977
This is definitely French Champagne, in anticipation of the reassignment of this lab to Guy Bertrand 25 years later.
Pierce Hall in November, 2005

Add-ons: front brick conference room, roof utilities ca. $2M
Vacated Summer, 2005
Pierce Hall Organic Research Lab

Room 3326 vacated Spring, 2005
Hood Detail: Pierce Hall
Organic Chemistry Teaching Lab

Pierce Hall Third Floor, this lab vacated 2003
From “The Man in the White Suit”, 1951

Compare this lab to Pierce Lab in 2003 next slide!
Organic Chemistry Teaching Lab

Pierce Hall Third Floor. This lab vacated 2003
Major driving force for new Chemical Sciences
Building: desperate need of more and modern hoods
Scot’s Week – UCR Spring Revelry

Physics 2000 mid 70’s (a completely lost tradition of student/faculty/staff revelry/general misbehavior all around)
Scot’s Week Host: Professor Gary Scott

GW SCOTT’S WEEK EVENT

FREE!
ALL THE BEER
YOU CAN DRINK
... Just evaluate
(in 2 minutes)

\[
\begin{align*}
4_{n,m}(\phi, \theta) &= \left[ \frac{\sin(m \phi)}{\sin(m \phi)} \right]^{\frac{1}{2}} e^{-i \phi n m} \\
&\times \left[ \frac{(2 \pi r)^2}{n a^2} \right]^\frac{1}{2} P_{\text{term}}(\cos \theta) e^{im \phi} \\
&\times \left[ \frac{2 \theta + 1}{2 \theta + 1} \right]^{\frac{1}{2}} P_{\text{term}}(\cos \theta) e^{im \phi}
\end{align*}
\]

where
\[
L_\alpha = \frac{d}{dx} \left[ e^x e^{-x} \right]
\]

\[
P_{\text{term}}(\cos \theta) = (1 - \phi)^\frac{2}{3} \frac{d}{dx} P_{\text{term}}(x)
\]

..Beyond the B.S. ‘77
Professor George Helmkamp defends “Pierce Bombers” Team Title in Scot’s Week tricycle race.

Commons Area

c. early ’70s
Chemistry graduate students compete in Scot’s Week Drag Queen contest.

Commons Area

c. early 70’s
Maybe NIH would go for something in the bird flu area..

We have some really serious grad students right now.

Hey, I could get another Grant!
Retrospective: Professor Richard Wing

And.. At about the same time:

Would there be any interesting extension of the carborane cage idea to all-carbon cages?...how big would they be?.. what would the symmetry be?... how could you make them?... could you put anything inside them? Would it go anywhere? Would anyone care?

..Beyond the B.S. 1977
First Chemistry 1 Lab with Computers!, Summer 2001

Pierce Hall General Chemistry Laboratory;
Apple computer use pioneered by Dr. Kevin Simpson
Curriculum Developments ~1970 -

1. Chemistry 4ABC (accelerated general) is no longer taught
2. Chemistry 8ABC (lower division organic) is no longer taught
3. Start Winter sequences of both Chemistry 1 (general) and Chemistry 112ABC (organic).
4. Start a full sequence of organic chemistry in the summer
5. Start Chemistry 1ABC in the summer
6. Start/end Chemistry 5 (quantitative analysis) in the summer
7. Add an upper division Environmental Chemistry lab course
8. Reduce Physical Chemistry lab to one quarter from two
9. Introduce Chemistry 1W to 300+ students per year who are not “ready” to start Chemistry 1A.
10. Pilot “Discussion Sections” in Chemistry 1 (general) and in Chemistry 112 (organic).
11. Introduce computer aided experiments in Chemistry 1
Distinguished Teaching Awards - Chemistry

George Helmkamp 1973-1974

Steve Angle 1990-1991

Robert Neuman 1997-1998

Awarded annually by the Academic Senate, UCR
Faculty Research Lecturer Awardees-Chemistry

Conway Pierce 1959
James Pitts 1966
David Kearns 1975
Donald Sawyer 1979
William Okamura 1990
Charles Wilkins 1994
Dallas Rabenstein 2001

Awarded annually by the UCR Academic Senate
Tolman Award Winners,
UCR Chemistry Faculty

Conway Pierce 1963
Donald Sawyer 1982
Jim Pitts 1983
Fred Hawthorne* 1986
Charlie Wilkins 1993
Chris Reed 2004

Awarded annually by the Southern California Section of the ACS to recognize outstanding contributions to chemistry. Nominees must be Southern California residents when most of the contributions are made.
Chemistry Faculty Recipients:

Mark Midland 1994
Eric Chronister 1997
Bill Okamura 1998
Michael Marsella 2004

Awarded annually by the UCR Academic Senate
Pierce Hall Annex* (attached to Pierce Hall on left)

*Occupied in 2000

Lab Sciences 1 (Organic Chemistry teaching labs) to the right; (where Geology 1100 used to be!)
Lots of hood space in the synthetic labs, students in separated area
Geology 1100 wing was Demolished for this. Rest of Geology Building still there to the left, and completely remodeled.

First Floor: 5 organic chemistry teaching labs, two conference rooms, stockroom

Upper two floors are Dept. of Environmental Sciences research laboratories.
Organic Chemistry Teaching Laboratory (five of these)
Organic Chemistry Teaching Laboratory
Laboratory Sciences 1
Explosion Aftermath:

Lab Sciences 1 organic stockroom, May 11, 2005.

Suspected AgN$_3$ formation in Tollen’s reagent waste.

“Spontaneous” violent explosion during class hours.

(no serious injuries!)
Three Buildings Looking East

Pierce Hall  Chemical Sciences  Laboratory Sciences
Chemical Sciences (CS) Building

View is toward north. Occupied 2005
Mass Spectrometry Laboratory

Dr. Richard Kondrat “at the helm”
Nuclear Magnetic Resonance Laboratory
Nuclear Magnetic Resonance Laboratory
Nuclear Magnetic Resonance Laboratory

And, speaking Of Supercons....

Virtual Machine Under Development  CS
Accident: Marriage of Gas Cylinder and Supercon

Physical Plant employee delivers compressed gas, loses control.

Not shown: prior to photo, a hand was “rolled out from under” the tip of tank to free the employee.

Not shown: a few days after this, the magnet self-quenched and was not recovered.

Pierce Hall Wilkins Lab

Approx. 1996
Second View: tank suspended above floor
Quantitative Analysis Lab: Chemical Sciences

Shows a tiny fraction of the new hoods that were sorely needed!
Chemical Sciences: Research Laboratory
Chemical Sciences: Research Laboratory

Student carrel by window
Dr. Joanna Grundy – Mathey Laboratory

November, 2005
“Founding” Chemistry faculty Chair Conway Pierce in Lab, (Physical Sciences Unit 1, now known as Geology Building)
<table>
<thead>
<tr>
<th>Year</th>
<th># UGrads campus</th>
<th># Grads campus</th>
<th># Chem Grads</th>
<th># Chem Faculty</th>
<th># Chem Service*</th>
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<tr>
<td>2005</td>
<td>16000</td>
<td>2000</td>
<td>106</td>
<td>24</td>
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*sum of enrollment all pre-chem 1 (1W), 1ABC, organic 8/112 ABC, for entire calendar year.

In this period, Chemistry Majors increased from 55 to 150
# Chemistry Faculty Research Areas

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Analytical</td>
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<td>Environmental</td>
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<td>Materials</td>
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</tbody>
</table>

*Multiple Listing Service: 18 faculty in 1970, 24 faculty in 2005
Chemistry Department Distinguished Professors

Guy Bertrand
David Bocian
Robert Haddon (joint appointment Engineering)
Francois Mathey
Dallas Rabenstein
Chris Reed

University of California Presidential Chair

Michael Pirrung
<table>
<thead>
<tr>
<th>Department Chairs - Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conway Pierce</td>
</tr>
<tr>
<td>Jim Pitts</td>
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<tr>
<td>Harry Johnson</td>
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<td>Don Sawyer</td>
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<tr>
<td>George Helmkamp</td>
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<td>Hart Schmidt</td>
</tr>
<tr>
<td>Bob Neuman</td>
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<tr>
<td>Mike Rettig</td>
</tr>
</tbody>
</table>
Campus Administrative Service by Chemistry Faculty

Executive Vice Chancellor: Everly Fleischer

College Dean: Don Sawyer, Physical Sciences  
Steve Angle, Natural and Agricultural Sciences

Associate Dean: George Helmkamp, Physical Sciences  
(College)  Charlie Wilkins, Physical Sciences

Associate Dean, Student Affairs: Gary Scott  
(College)

Graduate Dean: Harry Johnson  
Dallas Rabenstein
THE FUTURE?*: November 11, 2005

UCR to pursue med school

DOCTORS: The project faces such hurdles as funding, UC rivals and cooperating hospitals.

BY MARISA AGHA
AND DOUGLAS E. BEEMAN
THE PRESS-ENTERPRISE

UC Riverside Chancellor France Cordova asked Inland-area civic and business leaders for their help Thursday as she formally unveiled the university’s bid for a medical school—a proposal that she said could boost both the region’s health care and economy.

“UCR’s thinly veiled secret is no longer secret,” Cordova told about 200 people at the Mission Inn in Riverside.

“We are actively seeking a new medical school that would serve the Inland Empire’s health needs while, at the same time, taking the campus to a new level.”

UCR’s medical school plans still face hurdles. Among them is obtaining the hundreds of millions of dollars needed to build and run the school, finding a hospital to train the new doctors and competition from other UC campuses, particularly UC Merced.

Despite the potential roadblocks, some Inland physicians welcomed the news, saying it would make the region more attractive for newer physicians, provide existing physicians more opportunities for expert consultations and continuing medical education, and help supply the fast-growing Inland region with doctors.

“It won’t solve the problem of doctor shortages but it will make it easier to recruit physicians,” said Dr. Steven Larson, chairman of the Riverside Medical Clinic.

Larson, who teaches first- and second-year medical students at UCR’s biomedical program, said building a medical school almost from scratch will allow UC Riverside to design its training to conform to how medicine is practiced now.

More primary-care physicians are needed and more of

*The future is here: the UCR Medical School is accredited and will enroll its first class in August 2013.
Campus eager for big-time leap
October, 2005: Neighborhood Meeting Notice – Expansion Worries

This is the Watkins/Mount Vernon/Big Springs area east of campus
Acknowledgements from the Department to:

**Pioneer Chemistry Faculty:** Pierce, Helmkamp, Johnson, Schmidt, Pitts, and Sawyer

**Chancellors:** Watkins, Spieth, Hinderaker, Rivera, Aldrich, Hullar, Schraer, Orbach and Córdova

**College Deans:** Dugger, Sherman, VanGundy, Rabenstein, Clegg and Angle

**Graduate Deans:** Shannon, Johnson, Mileur, and Rabenstein

**Agencies:** NSF, NIH, DOE, PRF, DARPA, ARB, Research Corp., State of California, Bond Issues, and many others

**Staff:** every one of our superb staff members since 1954

**Students:** all of our undergraduate and graduate students

**Academic Coordinators:** Simpson, Borchardt, Kondrat and Jenks

**Postdoctorals:** probably more than a thousand of you!

When all of these elements work together, really great things happen!
This is UC Merced (2005). Remember that UCR is only an hour away from the mountains and the beach?
This and previous slide are UC Merced “beginnings” – like UCR. Anne Myers Kelley and spouse David Kelley (right) are “founding” Chemistry faculty members at UC Merced. Professor Anne Myers Kelley was a chemistry major at UCR, Class of 1980!

C&E News Sept. 5, 2005
Retrospective: Professor Rettig

What is this thing Trying to tell me?

I should get into outreach?