The Lab-Field Gap between IH Chemists and IH Non-Chemists - A Chemist's View

C.R. (Gus) Manning
Industrial Hygiene
(AIHA)

the science and art devoted to
anticipation, recognition, evaluation,
prevention, and control

of those environmental factors or stresses
arising in or from the workplace which may cause
sickness, impaired health and well-being, or
significant discomfort

among workers or among citizens of the community.
Industrial Hygiene
(AIHA) (edited)

the science and art devoted to
anticipation, recognition, evaluation,
prevention, and control
of environmental factors or stresses
from the workplace which cause
sickness or discomfort
among workers or citizens
Occupational Hygiene
(International)

the discipline of anticipating, recognising, evaluating and controlling

health hazards in the working environment

with the objective of protecting worker health and well-being and safeguarding the community at large
Industrial Hygiene
(boil down)

has to do with recognizing, evaluating, and controlling factors, stresses, etc. that may create health hazards.
Factors & Stresses

- Chemicals
  - Vapors
  - Aerosols
- Radiation
- Biologicals
- Heat & Noise
- Ergonomic Factors
Things IH Chemists Do

- Material Safety Data Sheets
- Exposure Assessment
- PELs, STELs, and WEELs
- Air and Wipe Sampling
  - Laboratory Analysis
- Lab Evaluation of Personal Protective Equipment
Comment

• On the face of it, chemical science is a core discipline of industrial hygiene

• Chemists have always been integral contributors to AIHA

• So, what’s the issue?
Comment

Over the past decade or so

IH Chemists seem to be more compartmentalized more separate from less integral with less a part of

Industrial Hygiene
Questions

• What is actually going on?
• Is it significant?
• Is there something somebody should be doing?
“Back in the Day”
(events)

- Drastically Lowered PELs
  - Vinyl Chloride, Benzene, EtO, Formaldehyde, Butadiene, Methylene Chloride
- Revision of Entire PEL Table (1989)
- Many New Sampling Methods
- Controversies
  - “Are PELs too Low or too High?”
  - “Does this Analytical Method work for new PEL?”
  - “Do Personal Monitoring Badges Work”
“Back in the Day”
(situations)

• **Many more small IH Labs**
  – Usually nearer to the site of sampling

• **Field IH Practitioners**
  – Often delivered samples to nearby Lab
  – Often Talked to Lab Chemists
  – Sometimes became Lab Chemists

• **IH Lab Chemists**
  – Often talked to Field IH
  – Sometimes took jobs in the Field
“Now, In Modern Times”
(events)

• Hardly any new PELs

• Decreasing Controversy in Chemical topics
  – PELs and STELs stabilized
  – Air Sampling Methodology stabilized

• Increased emphasis on
  – Ergonomics
  – Training & Procedures
  – Methods & Business Practices
  – Environmental Issues
“Now in Modern Times”
(situations)

• **Samples analyzed by a few Large Labs**
  – Rarely near to the site of sampling

• **Field IH Practitioners**
  – Rarely deliver samples to the Lab
  – Rarely Talk to Lab Chemists
  – Rarely become Lab Chemists

• **IH Lab Chemists**
  – Rarely talk to Field IH
  – Rarely take jobs in the Field
Evolution

- Industrial Hygiene has evolved.
- Lots of new issues have come up.
- IH Chemistry often on the back page.
- What have you done for us lately?
What IH Non-Chemist Thinks

• Chemistry is just 1 of 14 topic areas in my practice.

• When I need to deal with chemical issues, I can utilize a lab.

• I don’t need to think about it on a daily basis.

• What do those people do in the lab, anyway?
What IH Chemist Thinks

• Nobody is talking about Chemical topics anymore.
• AIHA doesn’t appreciate what we do.
• They don’t love us anymore.
• What do those people do in the field anyway?
Nevertheless…

- Being out of sight…
- Being out of mind…
- Doesn’t mean that IH Chemistry doesn’t exit any more.
AIHA Financial Report

AIHA Lab Programs (mostly Chemistry)…
largest contributor to AIHA financial position

- **2004**
  - 37% of AIHA Revenues and 42% of Net Income

- **2005**
  - 38% of AIHA Revenues and 43% of Net Income
### IH Chemists

#### Financial Impact

#### 2005 ($ 000’s)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Revenue</th>
<th>% Revenue</th>
<th>% Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIHA Lab Programs</td>
<td>$5,817</td>
<td>38%</td>
<td>43%</td>
</tr>
<tr>
<td>Conferences &amp; Educ</td>
<td>$5,016</td>
<td>33%</td>
<td>26%</td>
</tr>
<tr>
<td>Member Fees</td>
<td>$1,808</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>$2,631</td>
<td>17%</td>
<td>19%</td>
</tr>
</tbody>
</table>

#### 2004 ($ 000’s)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Revenue</th>
<th>% Revenue</th>
<th>% Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIHA Lab Programs</td>
<td>$5,285</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>Conferences &amp; Educ</td>
<td>$4,842</td>
<td>34%</td>
<td>30%</td>
</tr>
<tr>
<td>Member Fees</td>
<td>$1,713</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>$2,371</td>
<td>17%</td>
<td>15%</td>
</tr>
</tbody>
</table>
How to Characterize …
The Lab Field “Gap”

- Decreased Communication between Field & Lab

- Today’s Field IH
  - knows less about Lab Analysis
  - may make more sampling errors

- Today’s IH Chemist
  - knows less about the practice of IH
  - may make more IH errors
Lab-Field Gap

- Chemistry Science and Know-How
  - less integrated across the IH profession
  - compartmentalized within 5-10% of profession
- Chemists’ Relationship with IH profession
  - Feeling “out of the mainstream”
IH Chemist Survey

- Performed by Sampling & Lab Analysis Committee

- 493 AIHA Members call themselves “Chemists”
  - Approx. 5% of AIHA Membership

- 410 provided e-mail addresses

- 76 Chemists (19%) responded to Survey
IH Chemists Surveyed

- 100% AIHA Members
- 53% are CIH
- 37% belong to American Chemical Society
- 46% Regularly Attend AIHce
- 63% work in a Laboratory
Satisfaction w/ AIHce

- **46% Attend AIHce Regularly** (less than in previous years)

- **Satisfaction with AIHce Content**
  - 38% Dissatisfied
  - 13% Satisfied
  - Balance ... sort of dissatisfied

- **Why?** Too Few Chemical Topics
What Chemists Would Like

- More Chemical Topics in AIHA offerings
  - AIHce Presentation & PDCs
  - Distance Learning Courses
- Re-Institution of Chemical Practice specialty in IH certification
Summary

• IH Chemists
  • work in Labs, not talking so much with Field IH
  • not getting CIH, attending AIHce so much

• Field IH
  • not talking so much to IH Chemists
  • not attending chemical classes, visiting Labs

• IH Profession
  • needs to prevent chemical-related errors
  • different approaches are possible
Lab-Field Gap

• A Bad Thing?

• Or just Evolution?

• Should we do anything?
Making Things Better

Approach #1

Re-Integrate Chemistry back into IH

- induce chemists to learn more general IH
- induce IH non-chemists to learn more chemistry
- induce chemists and non-chemists to talk to each other

May Be Difficult to Actually DO
Making Things Better
Approach # 2

Re-Integrate IH Chemistry as Specialty Discipline within Industrial Hygiene

- Special Interest Group (SIG)
- Recognize Chemists are different “in a good way”
- Develop 2 Levels of Communication about Chemistry
  - specialist meetings & publications (chemist target)
  - generalist meetings & publications (non-chemist target)

Could Be DO-Able
Conclusion

• Lab-Field Gap not a simple situation
• Difficult to Grasp
• Many Approaches are Possible
• Next Step … More Discussion