

Chair's Message

CHAL Wants You. A simple thought borrowed from a different time that embodies my greatest desires and hopes for the division in 2004.

The primary goal that I have set for the coming year is to increase involvement across the spectrum of interests in our division. For that to happen, we want you, no, we need you to be involved. But before I can hope that you will get involved with the division, I should address a couple of basic questions: What exactly is

CHAL and why should you want to become involved?

In trying to "define" the purpose of our division, I can think of no description better than our mission statement:

The mission of the Division of Chemistry and The Law is to provide a forum within ACS for members who work in careers involving the interaction of chemistry and the law. Some typical examples would include chemists and chemical engineers working in the fields of patents,

copyright, trademarks, intellectual property, occupational health and safety, regulatory compliance, forensic science, product liability, toxic tort and environmental law.

What I find most striking about our mission statement is its breadth. As you can see, CHAL is for chemists and chemical engineers; CHAL is not just for lawyers. While it is true that we



Ms. Allene Johnson, a high school chemistry teacher and counselor for the North Jersey Section and ACS associate on the Minority Affairs Committee, is the proud winner of the regular CHAL ten pound chocolate bar raffle at the ACS national meeting in New York in September. Also Pictured is the raffle coordinator Howard Peters, former CHAL chair and long time member.

CHAL EVENTS AT ANAHEIM

Executive Board Meeting

All welcome.

6:00 p.m. - 8:00 p.m.

Sunday, March 28, 2004

Anaheim Convention Center
Room 213C

Joint Reception with BMGT and SCHB

5:00 p.m. - 7:00 p.m.

Monday, March 29, 2004

Paradise Pier Hotel
Pacific Ballroom A

Presentation of Papers

Sunday to Thursday

March 28 - April 1, 2004

Anaheim Convention Center

Notice of Open Meeting

Monday, March 29, 2004

(after the morning session)

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have lawyers in our division, we are, by no means, all lawyers.

CHAL looks to all interactions of law and chemistry, so CHAL is not only about patents. While many of us work in the field of intellectual property,

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Primary version is as print on paper, mailed twice-yearly from Palo Alto, California, prior to ACS national meetings, and distributed at those meetings; also to be on <http://membership.acs.org/C/CHAL/>. Opinions expressed are those of the authors and not necessarily of CHAL or ACS. While great effort is made for accuracy, factual errors are possible; CHAL and ACS bear no liability for such errors, and CHAL invites correction for future publication. References, including Internet sites, cited as bibliography or for general interest, are intended for readers' convenience only, and are not endorsed as to opinions or for detailed accuracy or timeliness, which are the responsibilities of the authors and publishers of those references. Internet site citations were thought to be timely within a few weeks before this newsletter went to press; however, some may have become stale. Mention of publications, products, or services is intended for readers' convenience only and not as commercial endorsement. Discussion of legal issues is for information and educational purposes and is not legal advice; legal advice should be sought from licensed lawyers formally consulted for that purpose. Readers' comments are welcome and future articles from them are invited — especially to broaden the range of topics and viewpoints — address to: M. Grossman, editor. Design, layout and printing by MontiGraphics, Palo Alto, California. 94043. Phil Monti, montigrp@atdial.net, 650-691-0900, fax 650-691-0902.

The Division of Chemistry and the Law gratefully acknowledges the generous support of **Snell & Wilmer LLP** of One Arizona Center, 400 East Van Buren, Phoenix Arizona, for funding the periodic Board teleconferences.

continued from front page

we also work in fields of health and safety, product liability, forensics, toxic torts, and the environment, just to name a few.

Ah, you ask, how can we achieve this ambitious mission? To this end, the division has set forth a series of goals, which I believe are equally challenging.

The CHAL Division goals are:

- (1) To provide Division members and the ACS membership at large with high quality, inter-disciplinary programs, symposia, and publications in the above areas;
- (2) To promote the public understanding of chemistry and its interactions with the law; and;
- (3) To expose ACS members (chemists, chemical engineers, and students) to alternative career opportunities which provide an interdisciplinary challenge, between chemistry and its application to areas of law, and between law and its applications to chemistry.

Once again, I would point out that our goals are broad. Moreover, our goals seek to be inclusive, not exclusive. That is, our goals are not limited to any particular profession, much less any particular field of law.

Our mission is daunting and our goals are ambitious, but with your help, we can continue to fulfill our mission and meet our goals. My time with the division has shown me that we have a great group of people, who care deeply about the division. But we need help. We need you. We need your ideas, we need your energy, and we need your time. Hopefully, if you are still reading this message, you are considering getting involved.

Please, as a first step, read this newsletter, explore the ACS website (www.acs.org) and our own division site, <http://membership.acs.org/c/chal/>. The Anaheim program will also be available on the CHAL Division

Internet page. I am very proud of the program that our program chair, Brian Meadows, has put together. The program, which includes ten sessions over five days, has both the breadth and depth that we are constantly striving to obtain.

If you are thinking about getting involved in CHAL (or especially if you are not), and if you have any questions about the division or its programming, pick up the phone and call me, Bill Johnson, 32-2-763-1702 or drop me an email (wjohnson2001@comcast.net). If the time difference makes it too difficult as I am currently living in Belgium, please do not hesitate to contact any of the other Executive Board members.

Next, I would ask that you come meet us in 2004. Visit any of our programming in Anaheim or in Philly. (In addition to the daytime programs, do not forget the wonderful SciMix presentation by Dr. Peters on Monday evening). Better yet, come to our Executive Board meeting on Sunday evening. I think that you will see that our programs, and CHAL itself, have something to offer every chemist and chemical engineer.

If I cannot convince you to come to the program or the Board Meeting, please at the very least, consider stopping by our reception on Monday evening. In Anaheim, we are co-sponsoring a reception with the Division of Business Development and Management and the Division of Small Chemical Businesses. There, you can come, have a drink, and meet an unprecedented cross-section of people within the Society.

No matter where you choose to come meet us, please say "Hello." Ask questions to any of the CHAL members that you find there. (If you are feeling particularly brave, follow that up with a lawyer joke. CHAL has a number of lawyers,

but do not let that scare you.) Next, tell us what you think about CHAL. I hope that this will include your thoughts on what you liked (or did not like) in our Anaheim program, or in our New York program or any of our past programs. We are always interested in your feedback.

Finally, let us know what we need to do to get you involved – to make it attractive for you to get involved with CHAL: present a paper, set up a session, or just attend future meetings.

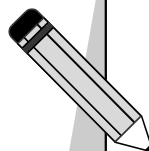
If you have managed to make it all the way through this message, then you have what we need in the Division. And, if you are anything like me, by the time you read this, most of your New Years resolutions for 2004 will be distant memories. So, I would ask that you add one belated resolution to the list for 2004, get involved in CHAL. The future of our division is in your hands. I sincerely hope I get to meet you in Anaheim.

Bill Johnson

Chair, CHAL 2004

Membership

Application blanks are part of this Newsletter. Ask a colleague to join you in the Best Division in the ACS. Personal invitations support our growth.



ChemLuminary Award

The previous issue of this newsletter reported that the Chemistry and The Law Division had been selected by the ChemLuminary Planning Committee as a finalist for



From left to right: Dr. Jack Riley, and Drs. Michael E. Strem and William F. Carroll (candidates for ACS President), and Ken Colton, CHAL Chair 2003.



Ken Colton with 2002 ACS President Dr. Eli M. Pearce and ACS staff Ruth Hattaway

a ChemLuminary Award: Committee on Divisional Activities – Division Recognition. Recipients of these ACS awards were announced, and the awards presented at the previous National Meeting, New York City. The presentations included awards

given by 14 committees and divisions of ACS. Prior to the ceremony there was a poster session. CHAL did receive an award – here is the report of Ken Colton:*

CHAL received the award from the Committee on Divisional Activities to recognize innovation and outstanding service to members. The Committee cited CHAL's efforts with the Committee on Minority Affairs, the Carver Science Fair and the Kidvention generating positive chemical science experiences for children. CHAL also organized a fall national meeting program with the Boston Patent Law Association.

Dr. Peters and others were very instrumental in CHAL's involvement with the Committee on Minority Affairs and our history of out-reach. Our past program chair, current Chair, as well as Drs. Meyer and Erlich deserve mention too for their successful efforts in promoting CHAL's co-operation with the Boston Patent Law Association.

* Kendrew Colton, *Fitch Even Tabin & Flannery*; CHAL Chair 2003; now immediate Past Chair.

CHAL Honors Three of Its Own

Ken Colton also reports that, at the New York City Meeting, CHAL recognized three of its own members for their contributions to the Division over the years. At the CHAL reception, ACS nylon brief cases were awarded to Lauralee Duncan, Chuck Hauff and Jack Riley. Chuck and Jack were present to receive theirs in person; Lauralee was unable to attend due to scheduling conflicts.

Lauralee was instrumental in building CHAL's web site and is working with Jack to transfer responsibility to him, Hugh Dubb and Howard Peters for maintaining and revising it. Chuck has graciously hosted telecons for CHAL board in-between ACS national meetings. Jack has done yeoman-like service for the Division over many years, and most recently has made terrific efforts in the recruitment arena.

ACS President-Elect candidates William F. Carroll, Jr. and Michael E. Strem were present and addressed the reception – not campaign speeches – but each graciously expressed appreciation to our Division, and for being invited to attend the reception. Both Dr. Strem and Dr. Carroll personally congratulated Dr. Jack Riley for his 50 years membership with the ACS.



Chuck Hauff and Jack Riley receiving their awards



Howard Peters and Ken Colton in front of CHAL poster board for ChemLuminary Award



Program for Anaheim Meeting

Division of Chemistry and The Law

March 28-April 1, 2004

B. C. Meadows, Program Chair W. R. Johnson, Chair

SUNDAY MORNING

Session A

Convention Center -- 213A

Many Faces of CHAL, Day 1

Intellectual Property and Much More

B. C. Meadows, Organizer

S. Thompson, Presiding

- 9:30 Recent updates to chemical patent practice: United States. *S. Thompson*
- 10:00 Joint inventorship vs. joint authorship: An important distinction. *K. A. Delaney*
- 10:30 The aftermath of *Madey vs. Duke University*: Is university research "experimental" or is it patent infringement? *J. J. Hasford*
- 11:00 Working with your patent attorney: Preparing a thorough invention disclosure. *K. A. Delaney*

SUNDAY AFTERNOON

Session B

Convention Center -- 213A

Many Faces of CHAL, Day 2

Where Chemistry Touches the Law

B. C. Meadows, Organizer, Presiding

- 1:30 Changes in U.S. export license requirements for chemical and biological materials, equipment, and technologies since September 11th, 2001. *S. Hubinger*
- 2:00 The complete biosequence patent search: Mission impossible? *R. Austin*
- 2:30 Identifying regulated chemical substances for government and industry. *D. A. Kersman*
- 3:00 Ethics and the practice of IP law. *S. Thompson*
- 3:30 Legal aspects of applications of chemical poison to plants of Central Asia. *B. A. Turaev*

CINF Serves SCHB: Patent Information for Small Chemical Businesses Cosponsored with CINF

MONDAY MORNING

Session A

Convention Center -- 213A

Enforcement of Patents in the Pacific Rim Part of Our Ongoing International Intellectual Property Series

D. G. Lewis, Organizer, Presiding

- 9:30 Overview of patent enforcement around the Pacific Rim. *D. G. Lewis*
- 9:40 Enforcement of patents in China. *H. Lee*
- 10:10 Enforcement of patents in Australia. *S. Sharp*
- 10:40 Patent infringement litigation in Japan: Japan as an option for global forum shopping. *S. Okuyama*
- 11:10 Patent infringement litigation in the Pacific Rim: Views and contrasts from the U.S. *B. J. Duft*

MONDAY AFTERNOON

Session B

Convention Center -- 213A

The Changing Landscape of Chemical Patents and Related Intellectual Property Together with The Attorney Is In

S. Thompson, Organizer, Presiding

- 1:30 Changes in patent cooperation treaty practice. *A. Konski, S. Thompson*
- 2:00 Changes in foreign patent practice - Europe. *S. Thompson, A. Konski*
- 2:30 Changes in foreign patent practice - Asia/Pacific Rim. *S. Thompson*
- 3:00 Emerging technologies and inventorship issues. *B. Rose*
- 3:30 The lawyer is in. *S. Thompson*

MONDAY EVENING

Session C

Convention Center -- Hall A

Sci-Mix

H. M. Peters, Organizer, Presiding

8:00 - 10:00

- 9-13. See Vol. 18, No. 1
- 100 Years of Flight - PART A. *H. M. Peters, S. Peters*
- 100 Years of Flight - PART B. *H. M. Peters, S. Peters*
- 100 Years of Flight - PART C. *H. M. Peters, S. Peters*
- 100 Years of Flight - PART D. *H. M. Peters, S. Peters*

TUESDAY MORNING

Session A

Convention Center -- 213A

The Many Faces of CHAL, Day 3

Use of Expert Witnesses in Modern Complex Litigation

E. H. Barash, Organizer, Presiding

- 9:30 Introductory Remarks.
- 9:40 Introduction to expert witnessing: The legal requirements. *E. H. Barash*
- 10:10 The mechanics of expert witnessing: The expert report and testimony. *J. S. Swan*
- 10:40 Expert witnessing from a European perspective. *P. Inman*
- 11:10 The expert's point of view. *G. P. Stably*
- 11:40 Mock cross examination of an expert.

TUESDAY AFTERNOON

Session B

Convention Center -- 213A

Mock Trial

A Look at a Personal Injury Case in the Chemical Arena

N. Langerman, Presiding

- 1:30 Introduction to mock trial relating to chemical related personal injury of an employee. *N. Langerman*
- 1:40 The Mock Trial.

The Trial will include the following participants:
Judge Alan Ebrlich
 For the Plaintiff: *Barbara Foster*
 Plaintiff Lead Attorney: TBA
 Plaintiff Expert Witness:
Harry Elston
 For the Defense Lead Attorney:
Andy Kaplan
 Defense Assistant:
Neal Langerman
 Defense Expert Witness:
John Palmer

WEDNESDAY MORNING

Session A
 Convention Center -- 213A
**The Many Faces of CHAL, Day 4
 Venture Capital, Angel Investors, IPO's
 and Everything Corporate**
S. Thompson, Organizer, Presiding
 29. 9:30 Venture capital in a changing economic climate.
J. W. Loss
 30. 10:00 Angel investors and venture activity in today's scientific and technology markets.
T. Rupp
 10:30 Round Table Discussion:

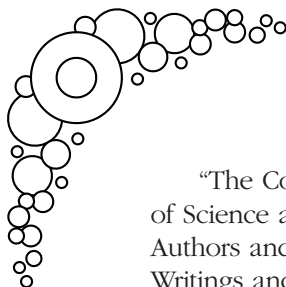
The Corporate Attorney Is In
James W. Loss, Timothy Rupp
 (Bingham McCutchen LLP) and
Tom Brockington, Greg Amber
 (Rutan & Tucker, LLP)

WEDNESDAY AFTERNOON

Session B
 Convention Center -- 213A
The Doctrine of Equivalents: What You Need to Know
D. S. Kerven, Organizer, Presiding
 31. 1:30 The origin and purpose of the doctrine of equivalents.
K. G. McBride
 32. 2:00 Recent treatment of the doctrine of equivalents.
M. A. Tomasulo
 33. 2:30 Impact of doctrine of equivalents on chemical patent practice. *C. A. Kertell*
 34. 3:00 Round Table Discussion and Question and Answer.
K. G. McBride,
M. A. Tomasulo
C. A. Kertell

THURSDAY MORNING

Session A
 Convention Center -- 213A
Twists and Turns in the Life of a Pharmaceutical IP Thursday
P. Munson, Organizer, Presiding
 35. 9:00 How to avoid the Patent Office/FDA squeeze.
J. Wolff
 36. 9:30 Major changes affecting technology licensing in the European Union.
C. Cobler
 37. 10:00 Defending charges of willful infringement: "Is the existence of a substantial defense enough?" and other lessons from the Knorr case.
P. Munson
 38. 10:30 Patent drafting with an eye toward Europe and Japan.
D. Gardner
 39. 11:00 Battling the Written Description Requirement of Patents in Prosecution and Litigation.
K. M. Kjelland

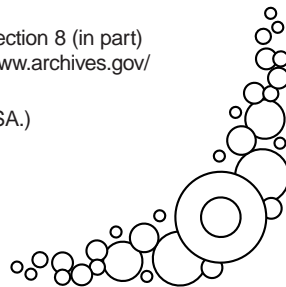


Quotable

"The Congress shall have Power...To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

(from The Constitution of the United States of America, Article I, section 8 (in part) —<http://www.gpoaccess.gov/constitution/html/art1.html> —http://www.archives.gov/national_archives_experience/constitution.html)

(This is the constitutional basis for patents and copyright in the USA.)



Minutes of CHAL Executive Committee Meeting

September 7, 2003 New York

The Executive Committee meeting began at 5:55 p.m. with the following persons in attendance: Howard Peters, John Riley, David Ladner, Cassandra Buhckhaus, Neal Langerman, Poongs Muthukumaran, David Jaffer, Chuck Hauff, Brian Meadows, Bill Johnson, Barbara Lences, Alan Ehrlich, Ken Colton, Elizabeth Berns, and Kevin Hansen.

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Chair's Report: The meeting began with Ken reporting on the DAC Meeting, specifically the details of eligibility for funding, and National looking for increased connections with local divisions.

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Chair Elect and Program Chair Report: Bill reported on his connection with IP and business, local bar sections. Patent and copyright subjects for later symposium were discussed. The importance of non-IP programming was also raised, and the interest was expressed to support a forensics symposium and toxic tort litigation session in Anaheim, 2004. Neal Langerman offered comments regarding the President's matching funds for technical interaction between divisions. The funding is to be applied to regional meetings. Howard spoke about local and regional meeting coordination, specifically referencing patent talks.

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Secretary's Report: Elizabeth expressed gratitude for David Jaffer's excellent work on the 2003 Annual Report and shared the positive feedback from ACS. The minutes of the March meeting in New Orleans were approved.

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Treasurer's Report: Barbara shared her report with the Committee and noted that present numbers do not

take into account the NY expenses or fall newsletter. Barbara discussed the issue of receiving dues money from ACS, and the delays that CHAL has experienced. ACS has assured CHAL that they are not intentionally causing any delays in forwarding these funds to CHAL.

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Councilor's Report: Howard announced that he will run again as our representative. Dr. Carver will be the alternate. He spoke about the RM Award. CHAL is receiving the ChemLuminary Award for a number of activities, including the ethics posters in Boston.

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Newsletter Report: Note that the deadline for the spring newsletter is January 1, 2004.

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Motions: A Motion was made and a second offered to authorize the

Committee to incur \$500 in expenses for receptions without further vote, in reference to the National Meeting in Anaheim 2004. Bill noted that he would still seek sponsorship to defray costs to CHAL.

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New Business: The Committee was updated on elections, and the need for nominations for Board positions. An election committee consisting of the Past Chair, Present Chair and Chair Elect was formed and will make specific recommendations about nominations. Chuck will handle the ballots at the end of September with a mailing by October 15, 2003. Lauralee Duncan is resigning as Webmaster due to job constraints, and Jack Riley has offered to assist in this position.

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Adjournment: The meeting was adjourned at 7:15 p.m.

Elizabeth J. Berns

From the Editor

In addition to the CHAL Program and Abstracts for the Anaheim Meeting, this newsletter contains some of its usual features, including the column PATENT TRUTHS by Howard Peters, and I look forward to seeing his column in many future issues. Also in this issue is a report of CHAL's recognition at the New York City Meeting, and recognition of several of CHAL's members.

As editor, I try to include as much as possible of the diversity of topics that can be found at the science/law interface. I was therefore especially pleased to receive an interesting article from Dr. Rod O'Connor illustrating the cautions necessary when interpreting the use of formulae imposed by legal regulation.

Although book reviews have appeared in this newsletter before, this issue is the first that I can recall that has a theatre review. Readers who attended the previous ACS Meeting may have seen or heard of COPENHAGEN by Michael Frayn, when it played in New York City. I missed that meeting, but I saw the play when it was staged recently in Toronto. COPENHAGEN is about the 1941 meeting of Werner Heisenberg and Niels and Margrethe Bohr during the war – and the atomic warfare implications.

Michael Grossman

Middlekauff Award for 2003 ACS Annual Committee Report

The Middlekauff Award Committee met using telephone discussions during the year. It was decided and then announced at the NYC ACS meeting that the 2003 CHAL Roger D. Middlekauff Award was made to Dr. Alice Robertson now of Evergreen Colorado.



Alice, an early member of the new Division of Chemistry and The Law (CHAL) was recognized for her long time service to CHAL as program chair, chair and councilor.

She was not able to attend the NYC meeting for health reasons and was sent an letter and the engraved ACS award plaque in the mail. A description, photo and biographical information are included below.

Biography:

Dr. Alice O. Robertson for a number of years, was Program Chair of the Division of Chemistry and The Law, and organized programs and symposia in matters relating to chemistry and law, specially patent and trademark matters, for national and regional and regional meetings as well as for the Finn North American Chemical Congress, held in Cancun, Mexico in November, 1997. She was also Chair, Councilor and Alternate Councilor for the Division of Chemistry and The Law. She served on a number of ACS Committees including Committee on Patents and Related Matters, Professional Relations Committee and Economic Status Committee. In the latter committee, she was chairman of the subcommittee which included members at that time. More recently, she was a member of the Divisional Activities Committee.

Alice utilized her interest in organic, especially medicinal, chemistry by practicing primarily as a patent attorney for a number of years, both for corporations such as Dow Chemical, Johnson & Johnson, Ball, and Merck, and in private practice with corporate clients and as Of Counsel with Grassler & Associates. Earlier she

was also engaged as Lecturer in Chemistry at Regis College in Denver. She has been elected to Sigma Xi and other honorary and research societies. Her academic degrees include Ph.D. from University of Wisconsin and J.D. from University of Colorado. She is admitted to practice before the U.S. Patent & Trademark Office and in Colorado.

Her husband, Dr. Dale Robertson, has also been very active in the American Chemical Society at both section and national levels. Their son, Dr. Scott Robertson, is also an ACS member.

Congratulations, Alice.

Howard Peters

About the Award

The Roger D. Middlekauff Award was established by CHAL in 1990. Roger was a Washington, DC attorney and ACS member specializing in FDA matters. He was instrumental in helping form and grow CHAL. He was also involved heavily in the maneuvering to incorporate the Division. On October 17, 1989, Roger who was in his early 50s stepped off his exercise bike at home and collapsed of heart failure and never regained consciousness. It was a blow to all concerned. This author had just flown into Washington for a meeting and learned of the sad events at ACS from the ACS staff liaison for the Patent Committee. (As an aside, that is also the date of the California Loma Prieta earthquake in the San Francisco Bay area. My wife Sally does have the habit of reminding me that I managed to be out of town for that BIG ONE.) Roger's wife Gale is also an attorney in Washington, DC and she received the first Middlekauff Award, on Roger's behalf, in 1990 at the ACS annual meeting in Washington. Subsequent winners of this CHAL service Award include: Howard Peters of Palo Alto, California; Michael Burns of Frederick,

Maryland; Ken Bjork of Midland, Michigan; Mike Gilroy of Atlanta, Georgia; Hubert Dubb of Belmont, California; Shirley Radding of Santa Clara, California; Jack Riley of Palo Alto, California; Rich Racine of Washington, DC; Jim Carver of Baton Rouge, Louisiana; Alice Robertson of Evergreen, Colorado; Mike Kaminski of Washington, DC; and most recently Barbara Lences, of Princeton, New Jersey. The award does not follow any set venue for presentation, although of late the placque has been presented as a surprise to the recipient on Sunday at the social hour before the CHAL Executive Board meeting. If you have nominees to present, the chair of the Award Committee can be reached at peters4pa@aol.com.



Puzzled by the Law?

Here is a law-related puzzle to ponder – readers' comments are sought – to be summarized in the next issue.

The equation: $\text{car speed} = 15.946 \times (\text{drag constant} \times \text{skid distance})^{1/2}$ (km/hr) is said to be usable to calculate a car's speed from its visible tire skid marks and an experimentally found drag constant. Is this correct? Derive the equation, including how to find the drag constant.

In the previous *Puzzled by the Law* I invited readers to construct legal

arguments to try to persuade a judge to refrain from ordering a convict's bio-sample, under the Canada *Criminal Code* – on the basis of rights of the convict's bio-relatives – to protect their privacy. Similarly, readers were invited to construct legal arguments on the basis of the legislation's silence on quality assurance standards, scientific verification, accreditation, and personnel training.

According to Canada *Criminal Code*,¹ a judge may order a bio-sample from a person convicted of certain offenses – for a “national DNA data bank”² – if the concerns for that person's privacy are outweighed by society's security needs.³ For this the Canadian legislation uses the language: “DNA profiles derived from bodily substances.” The legislation also speaks of “Forensic DNA analysis of stored bodily substances.”

The DNA profile would go into the national DNA data bank; and the bio-sample would be stored, and could be later used to generate a new more revealing profile as the technology advances – and it always advances. The law allows for a concern about the convict's privacy, but appears silent that the privacy of others might be invaded because of the convict's DNA profile. Those others might be the blood relations of the convict.

An interesting historical example of the use of DNA identification by bio-sample of a relative is in the probable identification of the remains of Czar Nicholas II and family. That identification was aided by comparison with DNA data of a grandnephew of the Czar's wife Alexandra Feodorovna, Empress of Russia – Prince Philip, the Duke of Edinburgh, of the British Royal family.⁴

I would guess that the Canadian legislators and their advisors either forgot to include the privacy of the relatives, or were oblivious to the concepts. I would doubt that the present technology now actually used for Canadian convict DNA profiles should

Treasurer's Report

January 1 – December 31, 2003

Starting Balance	\$12,631.54
Income	
Royalty, CRC Press Inc. (July - December, 2002)	\$ 108.08
Royalty, CRC Press Inc. (January - June, 2003)	129.48
Contribution - LA Alliance for Biotechnology	200.00
Contribution - Taylor, Porter, Brooks & Phillips	1,500.00
Contribution - Shaw Environmental, Inc.	1,250.00
ACS Division Dues (July - December, 2002)	7,964.56
ACS Division Dues (January - June, 2003)	4,711.00
ACS 2003 Division Allocation	3,036.71
ACS Reimbursement for Councilor Expenses	3,296.00
New Member Dues	20.00
Total	\$34,847.37
Expenses	
Division Officers' Caucus 2003 Dues	60.00
Incorporation - C. T. Corp. System	210.00
Spring Newsletter	5,154.63
Annual Bulk Mail Fee for 2003	150.00
Councilor Reimbursement for New Orleans	3,734.77
Reimbursement for DLC Travel Expenses for Secretary	465.86
Reimbursement for DLC Expenses for Program Chair	478.00
Executive Board Meeting, New Orleans	236.40
CHAL Reception, New Orleans	4,038.59
Guest Speaker Registration, New Orleans	840.00
Water Cooler, New Orleans	97.64
Councilor Reimbursement for NYC	3,761.00
Biotech Secretariat 2003 Dues	100.00
Fall Newsletter	5,596.83
CHAL Reception, NYC	3,628.50
Guest Speaker Registration, NYC	1,680.00
Executive Board Meeting, NYC	638.89
Poster/Newsletter UPS to NYC	206.67
Boston 2002 Speaker Travel Reimbursement	500.00
ACS Office of Graduate Education (NYC IP Symposium)	1,400.00
Bank Charges (January, 2003 - December, 2003)	28.40
Total	\$33,006.18
Ending Balance	\$ 1,841.19

be of much concern for the convict's relatives. But with the storage of convicts' bio-samples, future technology might legitimately be of concern to them. Perhaps the relatives' concern should center on what the state may some day be able to know about their genetic makeup. And compounding that concern may be a reality-based

fear that the agents and agencies of the state – and much of this would go on in secrecy, without the correctives of public scrutiny – would get the genetic data wrong, or interpret it wrong.

Based on the above, what legal arguments might persuade a judge to refrain from ordering a convict's bio-

sample to protect the privacy of blood-relatives? Not much. The Canadian legislation that allows the procedure is silent on the rights of the blood relatives; and they might not even have standing in court even if they did want to object. Perhaps a judge might be persuaded on the basis of general principles, and in the interests of justice. An additional concern is that it might be found that no one in the courtroom would understand that there might be a problem. On the issue of quality assurance standards, scientific verification, accreditation, and personnel training, the legislation is also silent. The inherent assumption seems to be that such matters are best attended to by the government personnel involved. I do not concur with such assumption; my experience⁵ with such issues under different legislation is that there are real concerns, but I find judges and Crown attorneys to be loath to question the government processes. And I have found that to challenge those processes is very difficult; the shroud of secrecy is very dense. Again, perhaps a judge might be persuaded on the basis of general principles, and in the interests of justice, but also, again, perhaps no one in the courtroom would understand that there might be a problem.

Michael Grossman

The Inherent Error of Treating an Acute Exposure by 8 Hour TWA Calculations

Rod O'Connor, Ph.D.¹

The OSHA or NIOSH use of 8-hour time-weighted average ("TWA") exposures to assess health risk is specifically designed to deal with continual, chronic exposure levels in the industrial workplace. Any attempt to treat a one-time, high-level, acute exposure by 8-hour TWA calculations is a misuse of the concept, and will lead to a completely misleading health risk analysis.

As a simple, hypothetical, example let us consider the case of a "gas chamber" execution in which the victim was exposed to hydrogen cyanide gas (HCN) for only five minutes (after which an exhaust fan completely removed all detectable amounts of HCN), at a *lethal* level of 100mg/m³.² His actual exposure was for only five minutes, but the typical OSHA 8-hour exposure calculation is made here. The OSHA calculation of TWA, from the *Code of Federal Regulations*^{3,4} would be:⁵

$$\text{TWA} = \frac{(100 \text{ mg/m}^3 \times 5 \text{ min}) + (0 \text{ mg/m}^3 \times 475 \text{ min})}{(5 \text{ min} + 475 \text{ min})} = 1.04 \text{ mg/m}^3$$

This is well below the OSHA permissible exposure limit (PEL) of 11 mg/m³,^{6,7} which an industrial hygienist expert witness might conclude as representing a perfectly acceptable, low health risk. That is small comfort for the victim, who would have been dead for most of those 480 minutes because of an acute exposure that is not amenable to 8-hour TWA treatment!

Notes:

1. Dr. O'CONNOR received his Ph.D. in physical-organic chemistry from the University of California at Berkeley in 1958. He retired in 1999 as a Professor of Environmental Studies at Baylor University in Waco, Texas. He is an environmental chemist who now provides consulting and expert witness services, specializing in exposure reconstruction and chemical safety issues. Chemical Consulting Services, College Station, Texas, Tel: (979) 693-5804 email: docroc34@hotmail.com
2. 100mg/m³ is the lowest lethal dose found in the literature (US Environmental Protection Agency, *Technology Transfer Network Air Toxics Website for Cyanide Compounds*, <http://www.epa.gov/ttnatw01/hlthef/cyanide.html>). Other values for lethal doses (as LC50) range as high as 3,404ppm (3,744mg/m³) for one minute (Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Cyanide*, <http://www.atsdr.gov/toxprofiles/tp8.html>). This value would yield an OSHA 8 hour TWA of 7.2mg/m³, still well below the OSHA PEL of 11mg/m³.
3. 29 CFR 1910.1000
4. <http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html>
5. "(1)(i) The cumulative exposure for an 8-hour work shift shall be computed as follows:

$$E = (C_a T_a + C_b T_b + \dots C_n T_n) \div 8$$
 Where: E is the equivalent exposure for the working shift.
 C is the concentration during any period of time T where the concentration remains constant.
 T is the duration in hours of the exposure at the concentration C"
6. 29 CFR 1910.1000 Table Z-1 — Limits for Air Contaminants
 Hydrogen cyanide CAS 74-90-8 11 mg/m³
 The PELs are 8-hour TWAs unless otherwise noted
7. "§1910.1000. Air contaminants. An employee's exposure to any substance listed in Tables Z-1, Z-2, or Z-3 of this section shall be limited in accordance with the following paragraphs of this section...8-hour *Time Weighted Averages*. An employee's exposure to any substance in Table Z-1, the exposure limit of which is not preceded by a "C", shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week."

Notes:

1. Revised Statutes of Canada 1985, c. C-46; as amended. *Criminal Code* – Forensic DNA Analysis – s 487.04 *et seq.* <http://laws.justice.gc.ca/en/http://laws.justice.gc.ca/en/c-46/42185.html>
2. *DNA Identification Act 1998*, c. 37 s.3. <http://laws.justice.gc.ca/en/d-3.8/48198.html>
DNA Identification Regulations P.C. 2000-1109 July 27, 2000 <http://laws.justice.gc.ca/en/d-3.8/sor-2000-300/95711.html>
3. 487.051(2) The court is not required to make an order...if it is satisfied that the person...has established that, were the order made, the impact on the person's...privacy and security of the person would be grossly disproportionate to the public interest in the protection of society and the proper administration of justice, to be achieved through the early detection, arrest and conviction of offenders.
4. Day, Justin "Nicholas II – By Justin Day." 1996. <http://52731681.home.icq.com/nicholas.htm> (1-11-2004) <http://52731681.home.icq.com/nicholas.htm> <http://www.richeast.org/htwm/ROMAN/ROMANOV.HTM>
5. I have argued this before: Grossman, *Some Recent Canadian Judicial Decisions Relevant to Forensic Chemistry*, presented at a Chemistry and the Law session, American Chemical Society national meeting, Anaheim, California, March 22, 1999.

Abstracts for Chemistry and The Law Papers

227th ACS National Meeting

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1. Recent updates to chemical patent practice: United States.

Sandra Thompson, Bingham McCutchen LLP, 600 Anton Boulevard, Costa Mesa, CA 92626-1950, Fax: 714-830-0722, sandra.thompson@bingham.com

Case law, practice tips, and updates from the USPTO are discussed in relation to a chemical patent prosecution practice.

2. Joint inventorship vs. joint authorship: An important distinction.

Karoline A. Delaney, Knobbe, Martens, Olson & Bear, 2040 Main Street, Fourteenth Floor, Irvine, CA 92614, Fax: 949-760-9502, kdelaney@kmob.com

It is a requirement in the U.S. for patent applications to be filed in the name of the true inventors of the claimed subject matter. In practice, determining who is an inventor can be a difficult process, especially where inventions arise out of research groups having several members. There is oftentimes a tendency within the scientific community to attempt to determine inventorship using the same principles that are used to determine authorship of technical publications. This can, however, lead to incorrect results. An overview of the law governing joint inventorship will be discussed, along with strategies for simplifying the inventorship determination.

3. The aftermath of *Madey vs. Duke University*: Is university research "experimental" or is it patent infringement?

Justin J. Hasford, Finnegan, Henderson, Farabow, Garrett and Dunner, 1300 I Street, NW, Washington, DC 20005, Justin.Hasford@finnegan.com

A party who without authority uses a patented invention can avoid infringement liability by establishing that such use was merely "experimental." In *Madey v. Duke University*, the Court of Appeals for the Federal Circuit acknowledged the experimental use defense as a formulation of the maxim *de minimis non curat lex*. The *Madey* Court held, however, that the burden of proving experimental use rests on the alleged infringer. Moreover, the Federal Circuit declared that the defendant's non-profit status as a research university is immaterial. Rather, the Court asked whether the defendant's use impacted a "legitimate business objective" or whether its use "was solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry." Thus, the *Madey* decision indicates that private universities will virtually never escape patent infringement liability by invoking the experimental use defense. Nonetheless, public universities remain immune from infringement suits under the doctrine of Eleventh Amendment sovereign immunity.

4. Working with your patent attorney: Preparing a thorough invention disclosure.

Karoline A. Delaney, Knobbe, Martens, Olson & Bear, 2040 Main Street, Fourteenth Floor, Irvine, CA 92614, Fax: 949-760-9502, kdelaney@kmob.com

The quality of the patent application produced by your patent attorney is dependent in large part upon the information she receives from the inventor. There are steps that every inventor can take to help ensure that the full scope of his invention is communicated to the patent attorney and embodied in the resulting patent application. A discussion of what infor-

mation and documents an inventor should include as part of a thorough invention disclosure will be discussed.

5. Changes in U.S. export license requirements for chemical and biological materials, equipment, and technologies since September 11th, 2001.

Scott Hubinger, Bureau of Industry and Security, Chemical and Biological Controls, U.S. Department of Commerce, Washington D.C., DC 20230, Fax: 202-482-2190, SHUBINGE@bis.doc.gov

Since September 11th, the U.S. has worked to strengthen both international and domestic export controls on materials, equipment, and technologies which could be used by terrorists to produce or deploy chemical or biological weapons of mass destruction. On May 31, 2002, the Bureau of Industry and Security (BIS) published a rule amending the Export Administration Regulations (EAR) to strengthen export controls on chemical and biological equipment and clarify existing controls on certain genetic elements and genetically modified organisms. On June 10, 2003, BIS further strengthened controls on biological equipment and biological toxins. Current efforts are focused on implementing understandings reached at the June 2003 Australia Group (AG) Plenary to control additional biological agents and the implementation of internationally agreed controls on chemical and biological protective and detection equipment under the Wassenaar Arrangement.

6. The complete biosequence patent search: Mission impossible?

Robert Austin, Regional Sales Manager, FIZ Karlsruhe, 376 Carter Road, Princeton, NJ 08540-7422, Fax: 609-333-8838, robert.austin@fiz-k.com

There are many public domain resources available for free on the web for nucleic acid and peptide sequence searching. For patent information professionals working in this area, it is important to understand how comprehensively these services cover sequence data from patent publications. The speaker will present a summary of the patent sequence content of various web-based public domain resources, contrast them with the sequence database resources available via STN International, and give some general advice on completing a thorough sequence based patent search.

7. Identifying regulated chemical substances for government and industry.

Deborah A. Kersman, Senior Scientist, Chemical Abstracts Service, 2540 Olentangy River Road, Columbus, OH 43210, Fax: 614-447-3747, dkersman@cas.org

National chemical inventories enable environmental agencies, customs agents and others to determine the regulatory status of a substance. An established Registry System, chemical expertise and system of nomenclature have enabled Chemical Abstracts Service (CAS) to assist in identification of regulated chemical substances around the world. CAS has provided chemical substance identification and chemical nomenclature, database processing and building support for the Toxic Substances Control Act (TSCA) Inventory for over 25 years under contract with the U.S. Environmental Protection Agency (EPA). Because of this work with the EPA, the European Community and Environment Canada contracted with CAS to compile and undertake substance identification of their initial and final inventories. CAS has also assisted other governments in building inventories. CAS Registry Numbers have been used as unique identifiers for the non-confidential portions of most national inventories since the

inception of the TSCA Inventory. This paper will discuss the process of chemical substance identification and the work of CAS in building and maintaining national chemical inventories.

8. Ethics and the practice of IP law.

Sandra Thompson, Bingham McCutchen LLP, 600 Anton Boulevard, Costa Mesa, CA 92626-1950, Fax: 714-830-0722, sandra.thompson@bingham.com

Key ethics issues and land mines in the practice of IP law are discussed, along with a review of recent case law on inequitable conduct.

9. Legal aspects of applications of chemical poison in plants of Central Asia.

Babtiyor Amonbotirovich Turaev, Department of Law, Samarkand State University, Nor Yakubov Street 2/18, Samarkand 703029, Uzbekistan, tbabtik@yahoo.com

It is known that chemical poisons play an important role in the production of field crops (cotton, wheat, fodder). Application of chemical poisons has allowed us to counterbalance harmful insects, pathogenic microorganisms and weeds and to direct the growth, development, and efficiency of plants to an optimum channel. Unfortunately the recent excessive application of the chemical poison, haloid, in herbicides, fungicide, defoliate has caused public alarm because of the illness of people, plants, and animals. In this connection it is necessary to increase the responsibility of heads of agricultural organizations for the correct application of chemical poisons or to impose penalties and legal responsibility.

10. Overview of patent enforcement around the Pacific Rim.

Donald G. Lewis, Chemical Patent Counsel, The Scripps Research Institute, 10550 North Torrey Pines Road, Mail Drop: TPC-8, LaJolla, CA 92037, Fax: 858-784-9399, dlewis@scripps.edu

The rules and procedures for patent enforcement differ markedly amongst the various Pacific Rim countries and are changing at an ever increasing rate. Enforcement in one country can impact enforcement in other countries and enforcement in multiple countries can lead to disparate results. Formulation of a coordinated enforcement strategy is essential. The business of patent enforcement around the Pacific Rim is both a moving target and a growth industry.

11. Enforcement of patents in China.

Hans Lee, Intellectual Property Department, Patents Section, Deacons, Alexandra House, 3rd-7th and 18th Floors, Central, Hong Kong, Fax: 852-2810-0431, hans.lee@deacons.com.hk

Enforcement of patents in China may seem like a myth to many US concerns. In fact, there are important rules of engagement and tactics which litigants must observe and be aware of so as to avoid disadvantages. Issues concerning pre-emptive measures, choice of jurisdiction, evidence, security and other tactics are also discussed.

12. Enforcement of patents in Australia.

Stephen Sharp, Patent & Trade Mark Attorneys, Griffith Hack, Level 29, 100 Miller Street, North Sydney, NSW 2060, Australia, Fax: +61-2-9925-5911, stephen.sharp@griffithhack.com.au

The Australian system of patent enforcement is reviewed and contrasted with the US system. The approach of the Australian courts to claim construction is described and contrasted with the approach employed by the US courts. Special issues relating to indirect infringement and contamination of expert evidence are described. Revocation proceedings, invalidity of patents for lack of "fair basis", and recent comments on the test for "inventive step" by the High Court of Australia are discussed.

13. Patent infringement litigation in Japan: Japan as an option for global forum shopping.

Shoichi Okuyama, Patent Attorney, Okuyama & Co, 8th Floor, Akasaka NOA Building, 2-12 Akasaka 3-chome, Minato-ku, Tokyo 107-0052, Japan, Fax: +81-3-3588-1397, okuyama@okuyama-ip.co.jp

Recent, dramatic changes toward the reform of patent infringement litigation and intellectual property protection in Japan are discussed. The ongoing judicial reform is taking shape and IP protection is now enjoying broad and intensive attention from political perspectives. Sweeping changes have been taking place and more is to come. Recent developments as well as future changes are outlined. For example, the average pendency period of intellectual property infringement litigations has come down to 15 months in 2002 from some 35 months 10 years ago, and it is less than 12 months within the Tokyo District Court. A detailed plan for further promoting IP protection was put together and published in July 2003 by a commission headed by the Prime Minister and attended by all cabinet members. This commission broke down the bureaucratic walls among governmental agencies. A short outline of standard patent infringement litigation is also provided.

14. Patent infringement litigation in the Pacific Rim: Views and contrasts from the U.S.

Bradford J. Duft, Buchanan Ingersoll LLP, First National Bank Center, 401 West A Street, Suite 1900, San Diego, CA 92101-7908, Fax: 619-578-5940, duftbj@bipc.com

Significant changes in the patent law have taken place in the U.S. over the last 20 years. The impact on patent infringement litigation and intellectual property protection in the U.S. are both vast and important. High points are briefly discussed as well as contrasted with patent litigation practices in Pacific Rim countries. A brief overview of patent infringement litigation in the chemical arts is provided.

15. Changes in patent cooperation treaty practice.

Antoinette Konski, and Sandra Thompson, Bingham McCutchen LLP, 1900 University Avenue, East Palo Alto, CA 94303, Fax: 650-849-4800, antoinette.konski@bingham.com

Recent changes to PCT practice will be discussed, along with tricks and tips of the trade to get the most out of the PCT process.

16. Changes in foreign patent practice - Europe.

Sandra Thompson, and Antoinette Konski, Bingham McCutchen LLP, 600 Anton Boulevard, Costa Mesa, CA 92626-1950, Fax: 714-830-0722, sandra.thompson@bingham.com

Recent updates to European Patent Law and Practice will be discussed, along with issues related to inventorship and provisional prosecution in Europe.

17. Changes in foreign patent practice - Asia/Pacific Rim.

Sandra Thompson, Bingham McCutchen LLP, 600 Anton Boulevard, Costa Mesa, CA 92626-1950, Fax: 714-830-0722, sandra.thompson@bingham.com

Recent updates to Asian/Pacific Rim Patent Law and Practice will be discussed, along with issues related to claim drafting, specification structure and prosecution in Asian and Pacific Rim countries.

18. Emerging technologies and inventorship issues.

Bernard Rose, Bingham McCutchen LLP, 1900 University Avenue, East Palo Alto, CA 94303, Fax: 650-849-4800, bernie.rose@bingham.com

A look at emerging technologies, such as nanotechnology, and how inventorship in these technologies can be challenging to determine.

continued on next page

19. The lawyer is in.

Sandra Thompson, Bingham McCutchen LLP, 600 Anton Boulevard, Costa Mesa, CA 92626-1950, Fax: 714-830-0722, sandra.thompson@bingham.com

This will be an informal drop-in session where questions can be asked of lawyers and/or patent agents including, but not limited to those, listed above. These lawyers and patent agents will be members of CHAL, available here without fee. Questions may be just about any topic you desire: about legal career possibilities, and about the law itself: patent, trademark, copyright, trade secret, etc. Questions may be of practical or theoretical interest. The discussions should be interesting, notwithstanding that correct answers are not guaranteed. This session will be of an informational and educational nature only; the considerations of questions asked will not be in the context of any lawyer-client relationship; answers (if known) will not be formal legal advice

20. 100 Years of Flight - PART A.

Howard M. Peters, Peters, Verny, Jones & Schmitt L.L.P., 385 Sherman Avenue, No. 6, Palo Alto, CA 94306, Fax: 650-324-1678, peters4pa@aol.com, and Sally Peters, PARC Inc

The National Inventors Hall of Fame (NIHF) (www.invent.org) of Akron, Ohio designated 2003 as the celebration of 100 years of flight. 17 Inventors were inducted in 2003 for their contributions to aviation. The ACS (<http://www.acs.org>) focused its 2003 National Chemistry Week (NCW) celebration on aviation and atmospheric and space science. This first poster focuses on the Wright brothers and their U.S. Patent No. 821,393 (filed 6 months before their successful flight), Charles Martin Hall and the aluminum production in U.S. Patent 400,665, and Stephanie Kwolek for her work on the space polymer KEVLAR in U.S. Patent 3,819,587. The ACS NCW program and its aviation event booklets are presented.

21. 100 Years of Flight - PART B.

Howard M. Peters, Peters, Verny, Jones & Schmitt L.L.P., 385 Sherman Avenue, No. 6, Palo Alto, CA 94306, Fax: 650-324-1678, peters4pa@aol.com, and Sally Peters, PARC Inc

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22. 100 Years of Flight - PART C.

Howard M. Peters, Peters, Verny, Jones & Schmitt L.L.P., 385 Sherman Avenue, No. 6, Palo Alto, CA 94306, Fax: 650-324-1678, peters4pa@aol.com, and Sally Peters, PARC Inc

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23. 100 Years of Flight - PART D.

Howard M. Peters, Peters, Verny, Jones & Schmitt L.L.P., 385 Sherman Avenue, No. 6, Palo Alto, CA 94306, Fax: 650-324-1678, peters4pa@aol.com, and Sally Peters, PARC Inc

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24. Introduction to expert witnessing: The legal requirements.

Eyal H. Barash, Finnegan, Henderson, Farabow, Garrett and Dunner, 1300 I Street, NW, Washington, DC 20005, Fax: 202-408-4400

Abstract text not available.

25. The mechanics of expert witnessing: The expert report and testimony

Jennifer S. Swan, Finnegan, Henderson, Farabow, Garrett and Dunner, 1300 I Street, NW, Washington, DC 20005, Fax: 202-408-4400, jennifer.swan@finnegan.com

Abstract text not available.

26. Expert witnessing from a European perspective.

Paul Inman, Simmons & Simmons, CityPoint One Ropemaker St., London EC2Y 9SS, England, Paul.Inman@simmons-simmons.com

Mr. Inman is a senior associate at the London office of Simmons & Simmons. His practice includes primarily patent litigation, with an emphasis in pharmaceutical matters, in the UK High Courts, and other European courts and tribunals. Mr. Inman will offer a European Perspective on expert witnesses.

27. The expert's point of view.

G. Patrick Stably, Chief Operating Officer, SSCI Inc, 3065 Kent Avenue, West Lafayette, IN 47906-1076, pstably@ssci-inc.com

Abstract text not available.

28. Introduction to mock trial relating to chemical related personal injury of an employee.

Neal Langerman, Advanced Chemical Safety, 7563 Convoy Court, San Diego, CA 92111, Fax: 858-874-8239, neal@chemical-safety.com

The mock trial will present some of the issues related to a chemical-related personal injury to an employee. The situation is injuries resulting from a failure of a pressurized chemical distribution container. The chemical was a mixture of Methylene chloride and Chloroacetic acid. The injured party is suing the chemical supplier and the manufacturer of the stainless steel distribution container. The mock trial will focus on presenting, and cross-examining expert testimony.

29. Venture capital in a changing economic climate.

James W. Loss, Bingham McCutchen LLP, 600 Anton Boulevard, 18th Floor, Costa Mesa, CA 92626, Fax: 714-830-0726, jim.loss@bingham.com

The availability of venture capital and the ability to grow a business in the

present economy will be explored, along with options for today's small and mid-size businesses.

30. Angel investors and venture activity in today's scientific and technology markets.

Timothy Rupp, Bingham McCutchen LLP, 600 Anton Boulevard, 18th Floor, Costa Mesa, CA 92626, Fax: 714-830-0726, timothy.rupp@bingham.com

Mr. Rupp will offer his insight into the topic of angel investors and venture activity in today's market.

31. The origin and purpose of the doctrine of equivalents.

Kevin G. McBride, Jones Day, 55 West Fifth Street, Suite 4600, Los Angeles, CA 90013-1025, kgmcbride@jonesday.com

Abstract text not available.

32. Recent treatment of the doctrine of equivalents.

Michael A. Tomasulo, Jones Day, 55 West Fifth Street, Suite 4600, Los Angeles, CA 90013-1025, matomasulo@jonesday.com

Abstract text not available.

33. Impact of doctrine of equivalents on chemical patent practice.

Charles A. Kertell, Jones Day, 55 West Fifth Street, Suite 4600, Los Angeles, CA 90013-1025, cakertell@jonesday.com

Abstract text not available.

34. Round Table Discussion and Question and Answer.

Kevin G. McBride, Michael A. Tomasulo, and Charles A. Kertell, Jones Day, 55 West Fifth Street, Suite 4600, Los Angeles, CA 90013-1025, kgmcbride@jonesday.com, matomasulo@jonesday.com, cakertell@jonesday.com

Abstract text not available.

35. How to avoid the Patent Office/FDA squeeze.

Jessica Wolff, Paul, Hastings, Janofsky & Walker LLP, 3579 Valley Centre Dr., San Diego, CA 92130, Fax: 858-720-2555, jessicawolff@paulhastings.com

Arguments made to the FDA to obtain approval for clinical trials may cause difficulties while obtaining or enforcing a patent. Close coordination of patent prosecution and regulatory strategies may be used to maximize the chances of success with both the Patent Office and the FDA.

36. Major changes affecting technology licensing in the European Union.

Charles Cobler, Paul, Hastings, Janofsky & Walker LLP, 55 Second Street, Twenty-Fourth Floor, San Francisco, CA 94105, Fax: 415-856-7100, timcobler@paulhastings.com

Two important changes affecting all technology licensing in the European Union will become effective May 1, 2004. First, the Commission's new block exemption governing technology transfer will make important substantive changes from the existing block exemption. Second, Council Regulation 1/2003 will vest each of the then-to-be 25 Member States with the power to determine whether an exemption under Treaty Article 81(3) is available if the block exemption does not apply, and it will also eliminate the opportunity to notify agreements to the Commission for its consideration whether to grant a negative clearance and/or whether the agreement is exempt by reason of Treaty Article 81(3).

37. Defending charges of willful infringement: "Is the existence of a substantial defense enough?" and other lessons from the Knorr case.

Peter Munson, Paul, Hastings, Janofsky & Walker LLP, 3579 Valley Centre Drive, San Diego, CA 92130, Fax: 858-720-2555, petermunson@paulhastings.com

If an infringer is held to have "willfully" infringed a patent, the damages may be tripled. The Court of Appeals for Federal Circuit is reexamining three basic issues encountered in determining whether an infringer has acted willfully: 1) Is it appropriate for a jury or trier of fact to draw a negative inference when an infringer uses the attorney-client privilege and/or work product privilege to shield production of information regarding its infringement? 2) Is it appropriate to draw a negative inference when an infringer has not obtained legal advice before infringing? 3) If the infringer shows that there exists a substantial defense to infringement, should this be sufficient to defeat liability for willful infringement even if the infringer did not obtain legal advice before infringing?

38. Patent drafting with an eye toward Europe and Japan.

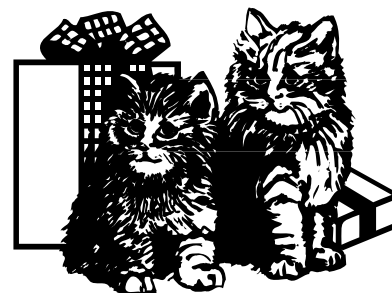
Diane Gardner, Paul, Hastings, Janofsky & Walker LLP, 3579 Valley Centre Drive, San Diego, CA 92130, Fax: 858-720-2555, dianegardner@paulhastings.com

Despite many advances over the past decade to harmonize the patent laws of countries with important pharmaceutical markets, patent prosecutors are still confronted with differing patentability requirements in many countries, including Japan and the member states of the European Union. Recent changes in European patent practice have exacerbated these challenges. Once aware of these considerations, careful planning in the drafting of a priority U.S. patent application will optimize the likelihood of obtaining valid and enforceable patents in these important markets.

39. Battling the Written Description Requirement of Patents in Prosecution and Litigation.

Kurt M. Kjelland, Paul, Hastings, Janofsky & Walker LLP, 3579 Valley Centre Drive, San Diego, CA 92130, Fax: 858-720-2555, kurtkjelland@paulhastings.com

Biotechnology inventions have recently been placed under increased scrutiny for compliance with the written description requirement. This talk will examine recent developments in the Federal Circuit written description jurisprudence, including the Enzo Biocare and the University of Rochester decisions, and strategies for adequately describing a pharmaceutical or biotechnology invention.



The Use of the Criminal Law for Workplace Health and Safety Enforcement in Canada — Please No — a Polemic^{1 2}

Michael Grossman^{3 4}

Almost twelve years ago there was a terrible disaster in a coal mine in Canada's eastern province of Nova Scotia. Twenty-six men were killed by underground explosion at Westray.⁵ In Nova Scotia history such disasters are not unheard of — for example at Springhill a century and a year before — February 21, 1891.⁶ And again at Springhill two-thirds of a century further on — October 23, 1958.⁶¹ Nor is the province's history remarkable in comparison with that of coal mining elsewhere in what are now the world's industrially developed economies.

But what is remarkable about Westray is that it happened in the modern era, notwithstanding that its causes have been well understood and preventable for decades. I theorise that such disasters are no longer so frequently heard of in the Appalachians^{7 8} and the Poconos, nor in the Cambrians,⁹ nor along the Ruhr, because of normal safety and engineering practices, and because the economies of those regions have largely progressed beyond coal as an energy feedstock. In the modern era such disasters seem largely reserved to the world's less developed economies, or less caring societies — which should not include Canada.

Westray was followed by legal proceedings, and a Public Inquiry.^{10 11} The legal proceedings were complex, muddled and useless, and must have been very expensive. The Inquiry and its report were, however, worthwhile. Almost 7 years after the disaster, *Criminal Code* amendments — Bill C-259^{12 13 14} — were advocated by the United Steelworkers of America¹⁵ and the Canadian federal New Democratic Party. Four years later, the ruling federal Liberal Party's government-sponsored Bill C-45 was enacted as *Criminal Code* amendments.^{16 17}

The laudable intentions for this are presumably and essentially that tougher sanctions of the criminal law to punish and deter guilty corporations and people would help make the future safer. This is no doubt to some extent true; but it is mostly not true and is quite bad policy.

As I have argued similarly before,¹⁸ although there are workplace transgressions that should be viewed as criminal and treated as such, the criminal law is most usually inappropriate for legitimate workplace issues. In Canada, the appropriate law is most usually of the regulatory/administrative/public welfare kind. These legal regimes include federal and provincial labor relations and workplace health and safety legislation.¹⁹

An essential feature of a proper regulatory process is a well-qualified and ever-present inspectorate to advise, and if necessary issue orders; but who are also empowered to immediately shut down, if necessary, dangerous workplaces. The concept of inspectorate has its origins in British law from the Factories legislation, starting²⁰ two centuries ago.

While Bill C-45 may be spoken of as amending the *Criminal Code* to additionally criminalize bad workplace behavior of corporations and their directors and personnel, I am concerned that as passed into law, police and Crown attorneys, and judges, would now take it as a cue to apply the *Criminal Code* more broadly in the workplace. It is this new spirit of using the criminal law that concerns me most, although I am still concerned with the actual substance of this new legislation (particularly new s. 217.1^{21 22}).

I previously argued that for workplace issues the criminal law is fraught with lexogenic^{23 24} dangers — that is — apply the criminal law and

workers are worse off because of it.

This is essentially because the central focus of the criminal law is to accuse and convict individuals. Unlike a better-systems approach of regulatory/administrative/public welfare law, that in theory at least, strives for a matrix of beneficial methods and human interactions, Canadian criminal law is played like a game to catch and blame and jail someone; the efficacious functioning of the work-process system is largely irrelevant.

But, from a workers' perspective, for workplace governance, the efficacious functioning of the work-process system should be paramount. Regulatory/administrative/public welfare law has a decent hope of addressing this. In this context, the most important Westray legal question is: How was it possible that the Nova Scotia mining inspectorate allowed such dangerous conditions to persist for more than a few hours? The science and engineering to prevent the disaster were well known; it could and should have been applied.

Perhaps the new world economy was not so kind to Nova Scotia coal; perhaps the commodity price was too low to support reasonable livelihoods for the miners and safe mines at the same time. That region of Nova Scotia has suffered economically for decades. Perhaps Nova Scotia workers, and their union, were given the morally impossible task of choosing between livelihood and risking life itself. In my view an important purpose of government is to protect its citizens by imposing on industry the requirement that workers have both decent livelihoods and low risk for life, limb and lung.

As I have opined above, the appropriate way to address such issues is for the state to try to fulfill its public health & safety function by adequate

inspection and enforcement of regulations – engineering safety standards. While there may also sometimes be legitimate reasons to apply already existing criminal law, it should not have a prominent role in workplace health and safety.

Canadian criminal law has some other troubling aspects. It would neglect analyzing and correcting workplace systems in favor of a distorted emphasis for fault, blame and retribution upon individuals. It has its own game-like dynamic that draws its legal players – police, and Crown and defense lawyers – into lengthy and expensive litigation that might offer no relevant insight on needed workplace improvements. Its legal players are likely ignorant of the relevant science, engineering and labor relations; and many may not care about such things.

In a sense, the criminal law is surrogate for vengeance in the guise of future prevention by deterrence – understandable enough – and it does deter some – but it is no proper replacement for routine good engineering practices enforced all along the way by an inspectorate always promptly on the job.

In the end, the application of the criminal law to otherwise workplace issues would do no one very much good, except perhaps its own legal players – including myself – I practice criminal law defense in Toronto.

And there is worse. The criminal law process in Canada doesn't do so well even in an appropriate criminal law context. It is has serious – and structural – difficulty in figuring out physical reality. It is seriously error-prone in ways that are hard to correct^{25 26 27} – *Marshall*,^{28 29} *Morin*,³⁰ *Milgaard*³¹ – even if such correction were high on the government agenda. Its methods of application sow legitimate distrust in government – most notably police subterfuge as a routine law enforcement tool.

At least for *Marshall*, *Morin* and *Milgaard* there was commonly agreed upon realistic evidence of crime – though not committed by Marshall, Morin and Milgaard. But in the *Klassen* case, the Klassen family, et al. suffered as accused of very serious criminal charges based on “...stories [that] were obviously the concoctions of deeply troubled children.”³²

It is not that the horrendous stories in *Klassen* were false (later recanted by the three tellers) that is such an affront to justice, nor that in *Marshall*, *Morin* and *Milgaard*, innocent men were convicted – all systems and processes have errors – but it is that the reasons for the errors involved such awful performance of government personnel with awesome powers over ordinary citizens, and the failure of very senior personnel to turn the process back for obvious reasons.

In addition to its inefficacy, there are further reasons to try avoid the criminal law process in favor of other legal approaches. In Canada's present era, the evaluation of evidence at a criminal law trial can sometimes have a character of a game of chance. And even the guilty are entitled to decent treatment – speedy trials, reasonably available bail, and adequate medical care when in custody – which are not always available to criminal accuseds in Canada's present era. Exacerbating all this is that, unlike the USA, Canada does not have the same theoretical bedrock of constitutional rights – for example, Canadians are not always guaranteed trial by jury,^{33 34} and the *Charter of Rights and Freedoms*³⁵ has a “notwithstanding clause”³⁶ so that Parliament can override it. American observers may also notice that the Canadian criminal law process has an unfortunate penchant for secrecy; and I would suggest a prior review of *The Cheese Shop*³⁷ and *The Pet Shop*³⁸ to anyone embarking on a transparency expedition for Canadian government data.

The prospects are still worse for

workers. With the *Criminal Code* now amended to enhance application to workplace health & safety, police and Crown attorneys, and judges, may indeed be encouraged to ply their trades there. But how would they deal with the complexities of toxicology and chemical engineering for a workplace fatality? Or how would they deal with the complexities of workplace organization? – for which an entire speciality – labor relations law – was developed.

I have a worker-side bias, and I fear that in a criminal law enforcement investigation candidates for blame and jail would include ordinary workers – guilty or not. The majority of them, without trade union protection, would be easy targets. Also at risk would be the workers' unions. And the at-risk list would extend to include engineers and chemists, company management and supervisory personnel, and the inspectorate.

Because, in the Canadian criminal law context a person to blame would be sought, everyone would be well advised to say nothing. Silence is good legal advice for a criminal law investigation. In contrast, in the workplace regulatory and labor relations context, all parties would be encouraged for frank and thorough discussions as to the cause of the fatality. The prospect of a criminal law investigation would stifle future prevention.

Notes:

1. This is an updated and revised version of “The Criminal Code and its enforcement – please not in the workplace – a polemic,” by the author, published in the TORONTO WORKERS' HEALTH & SAFETY LEGAL CLINIC NEWSLETTER, AUTUMN 2000, pages 3 & 4. Toronto Workers' Health & Safety Legal Clinic, 180 Dundas Street West, Suite 301, Toronto, Ontario, Canada M5G 1Z8; 416 971 8832; fax: 416-971-8834; WORKClinic@olap.org, <http://www.worksafety.ca/>
2. The original version was written to argue against certain proposed *Criminal Code* amendments. The present revisits the issues after similar amendments were actually enacted.
3. The author practices criminal law defense in Toronto. He is on the Board of Directors of the Toronto Workers' Health & Safety Legal Clinic, and is the Clinic's Treasurer.
4. The opinions expressed here are those of the author

continued on next page

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- who may be contacted: h2841@netcom.ca
5. May 9, 1992.
www.littletechshoppe.com/ns1625/wraymenu.html
 6. See R.A.H Morrow, *STORY of the Springhill Disaster...*, SECOND EDITION, St. John, New Brunswick, 1891.
 - 6.1 See Melissa Fay Greene, *Last Man Out/The Story of the Springhill Mine Disaster*; Harcourt Inc., Orlando, ...Toronto, ..., 2003, ISBN 0-15-100559-1.
 7. <http://www.pitwork.net/disast.htm>
 8. <http://pittsburgh.about.com/cs/coal/>
 9. <http://www.pitwork.net/disast.htm>
 10. www.gov.ns.ca/enla/pubs/westay/execsumm.htm
 11. *The Westray Story/A Predictable Path to Disaster/ Report of the Westray Mine Public Inquiry*, Justice K. Peter Richard, Commissioner; November 1997.
 12. Second Session, Thirty-sixth Parliament, 48 Elizabeth II, 1999 THE HOUSE OF COMMONS OF CANADA BILL C-259 *An Act to amend the Criminal Code (criminal liability of corporations, directors and officers)* First reading, October 21, 1999.
 13. http://www.ourtimes.ca/features/01apr_westay.html
 14. – and another Bill was introduced in 2003: 37th PARLIAMENT, 2nd SESSION EDITED HANSARD • NUMBER 074 Thursday, March 20, 2003 15:10 *Criminal Code* Ms. Alexa McDonough (Halifax, NDP) moved for leave to introduce Bill C-418, an act to amend the Criminal Code (criminal liability of corporations, directors and officers).
She said: Mr. Speaker, I beg leave to introduce a bill to amend the Criminal Code, the purpose of which is to hold corporations, directors and company officers criminally responsible if they knowingly put the lives of their employees at risk. (Motions deemed adopted, bill read the first time and printed) ***
 15. <http://www.uswa.org/uswa/program/content/687.php>
 16. Second Session, Thirty-seventh Parliament, 51-52 Elizabeth II, 2002-2003
STATUTES OF CANADA 2003 CHAPTER 21 *An Act to amend the Criminal Code (criminal liability of organizations)* BILL C-45 Royal Assent 07 NOVEMBER 2003 – THE MINISTER OF JUSTICE – First reading, June 12, 2003.
 17. <http://www.ccohs.ca/headlines/text106.html>
http://canada.justice.gc.ca/en/news/nr/2003/doc_31024.html
<http://laws.justice.gc.ca/en/index.html>
 18. Grossman, *The Law of Occupational Health and Safety in Ontario, Second Edition*, Butterworths, Toronto and Vancouver, August 1994, ISBN 0-409-90414-7.; Chapter 13.1.
 19. for example :
Labour Relations Act, 1995 Statutes of Ontario, 1995, Chapter 1 Schedule A <http://legis.acjnet.org/http://209.195.107.57/en/index.html>
Occupational Health and Safety Act Revised Statutes of Ontario, 1990, Chapter O.1 <http://legis.acjnet.org/http://209.195.107.57/en/index.html>
Canada Labour Code. CHAPTER L-2 <http://canada.justice.gc.ca/stable/EN/Laws/Chap/index.html> <http://canada.justice.gc.ca/FTP/EN/Laws/Chap/L/L-2.txt> *Consolidated Statutes – Complete documents for download Department of Justice of Canada*
 20. 1802, 42 George 3, c.73. United Kingdom.
 21. CHAPTER 21 "Duty of persons directing work 3. The Act is amended by adding the following after section 217: 217.1 Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task."
 22. By this amendment, the new *Criminal Code* s. 217.1 would be useable with the criminal negligence provisions of the *Criminal Code* s. 219, 220 & 221. All three of these are indictable offence under the *Code*, for which there is a right to trial by jury; but that right is of the *Code* – changeable by Parliament – and is not a fundamental Canadian constitutional right.
 23. – a word I have coined in analogy to the iatrogenic = harm caused by medical practice.
 24. See Grossman, cited above, 13.1, note 7.
 25. See Kirk Makin, Justice Reporter, Birmingham, "When a guilty finding raises a reasonable doubt/ Ottawa considers British case-review commission as possible model for reviewing inmates' claims of wrongful conviction", *The Globe and Mail*, national news, 19 December 1998, page A15.
 26. See Kirk Makin, Justice Reporter, "Conference hears case for legal reform/Morin's wrongful murder conviction should prompt more change, participants say", *The Globe and Mail*, national news, November 13, 1999, page A11.
 27. See: "Atoning for the three Ms of the Canadian justice system/Canada should follow Britain's lead in setting up a criminal review system," *The Globe and Mail*, Wednesday, November 24, 1999; "Tempering mercy with justice for David Milgaard/ Why is it taking so long to reform the system for exonerating the wrongfully convicted?," *The Globe and Mail*, Tuesday, November 23, 1999; and "Timothy Appleby and David Roberts, "What delayed justice for 30 long years/The police already had David Milgaard./Did another suspect just complicate matters?," *The Globe and Mail*, Tuesday, November 23, 1999. www.theglobeandmail.com
 28. <http://www.sgc.gc.ca/epub/Abocor/e199805/e199805.htm> A. Hickman, *Report of the Royal Commission on the Donald Marshall Jr. Prosecution*, Halifax: Province of Nova Scotia, 1989.
 29. Michael Harris, *Justice Denied: The Law Versus Donald Marshall*, Macmillan of Canada, September 1986, ASIN 0771596901 • Manette, *Elusive Justice Beyond the Marshall Inquiry*, Fernwood Books Ltd, March 1992, ISBN: 1895686024.
 30. See Sean Silcoff, "Probe begins into Morin's wrongful conviction" *The Globe and Mail*, 5 September 1996, page A8; and "Justice for all", a *Globe and Mail* editorial on the same topic, 6 June 1996, page A18. See also Kirk Makin, "Ontario awards Morin compensation/Unexpected move includes apology for wrongful murder conviction and \$1.25-million for family's 12 year ordeal" *The Globe and Mail*, January 25, 1997, pages A1 & A10.
See also: Kirk Makin, Justice Reporter, Whitby, Ontario, "The lawyer who has 'a cause for a client'/ James Lockyer is famous for clearing the wrongfully convicted. He's not so big on helping the guilty./It is hard not to live, eat and sleep each case", *The Globe and Mail*, column one, May 12, 1999, pages A1 & A12.
 31. •See: Joyce Milgaard, with Peter Edwards, *A Mother's Story/The Fight To Free My Son David*, Doubleday Canada Limited, 105 Bond Street, Toronto M5B 1Y3; 1999. •See also: Carl Karp & Cecil Rosner, *When Justice Fails/The David Milgaard Story*, McClelland & Stewart, Inc., 481 University Avenue, Toronto M5G 2E9; 1991 & 1998.
 32. Margaret Wente, "Scandal of the Century," *The Globe and Mail*, COMMENT/COUNTERPOINT, January 6, 2004, page A15. www.theglobeandmail.com
http://www.religioustolerance.org/ra_reddeer.htm
<http://www.cbc.ca/news/background/klassen/>
http://www.injusticebusters.com/2003/Ross_Ross_and_White1.htm
 33. Canadian *Charter* s. 11 (f).
 34. US *Constitution* Amendment VI.
 35. – being Schedule B, Part I of the Canada Act 1982, including the *Constitution Act*, 1982 (1982 c. 11 (United Kingdom)), s. 1.
 36. Canadian *Charter* s.33 – the notwithstanding clause.
 37. <http://www.mwscmp.com/mpfc/mpfc.html>
<http://www.mwscmp.com/mpfc/cheese.html>
<http://www.mwscmp.com/python.html>
 38. <http://www.mwscmp.com/mpfc/petshop.html>

Internet Miscellany

Philippine Federation of Chemistry Societies

<http://www.info.com.ph/~pfcs2000/pfcs.html>

An Act to Regulate the Practice of Chemistry in the Philippines, and for Other Purpose RA 754

<http://www.info.com.ph/~pfcs2000/chemlaw.html>

University of Exeter

<http://www.ex.ac.uk/chemweb/undergrad/>

BSC Chemistry and Law: 4 Year Degree

<http://www.ex.ac.uk/chemweb/undergrad/listings/FM11spec.pdf>

topics.practical.org Chemistry, Forensic

http://topics.practical.org/browse/Chemistry,_Forensic

Cefic, the European Chemical Industry Council

<http://www.cefic.org/>

FBI Laboratory <http://www.fbi.gov/hq/lab/labhome.htm>

PATENT TRUTHS – 100 Years of Ford

2003 was the 100th anniversary of Ford. Have you heard these?

1. In 1903, Henry Ford (1863-1948) decided to incorporate the Ford Motor Company. There were twelve original financial backers. He went to the local attorney of his major backer, Alexander Malcolmson, the largest coal dealer in Detroit. The main attorney for the incorporation was Horace H. Rackham, a neighbor of the Fords. When Ford couldn't come up with the legal fees, he suggested that Rackham might make his fee by an investment in the new company. In an uncharacteristic move, the conservative Rackham borrowed \$5,000 (mostly from his mother) and became one of the twelve investors.
2. The Ford Motor Company paid no dividends for years. The profits were plowed back into the company. Around 1914, Horace and John Dodge (yes – the Dodge boys and early suppliers/investors of Ford who later started Dodge) finally sued Ford for an accounting and back dividends.
3. Rackham was on a trip to Europe when the Ford-Dodge suit was resolved and he received his check for back dividends of Ford for 15 years for over \$300,000.00. Rackham sent it back with the note that someone had misplaced the decimal point. The check was for real. Around 1919, Ford bought out all the remaining initial partners. Rackham received between fifteen and twenty million (in 1919 dollars) on his \$5,000 investment, becoming the darling for philanthropy in Michigan. The Horace H. Rackham School of Graduate Studies at University Michigan was one of his first and most visible donations. (Source: Dr. Robert Elderfield, the synthetic heteroatom organic chemist, was at the University of

Michigan in Ann Arbor in 1961.)

4. The early Model-T and Model-A contained significant amounts of wood. Ford required his parts suppliers to ship in wooden boxes having required tree type, specific dimensions, and thicknesses. Employees of Ford would then disassemble the boxes and the pieces would fit exactly into the cars on the assembly line. When I was in high school near Penn State 45 years ago, I had a 1930 Model-A Ford 4-door sedan. In our restoration to make the car road worthy (it still had mechanical brakes), we had to replace the wooden floorboards that had rotted after 25 years of Pennsylvania winters.
5. Ford used so much wood that he convinced James Kingsford (who had married a cousin of Ford) in Upper Peninsula of Michigan to start a sawmill and provide specialty wood parts. A lot of wood waste was generated, so Ford and Kingsford started making charcoal. Until 1955, you could only buy Kingsford charcoal from your local Ford dealer. (The mascot for the Kingsford High School was and still is “the Flivvers.”)
6. Kingsford Charcoal was eventually sold off, and around 1970, was acquired by our local Clorox Co. of Oakland. In June, Clorox announced that the dismal weather throughout the US had caused dismal sales of charcoal in the spring and profits would be off. The Clorox stock price sank 6% in a few hours.
7. The current Ford president and CEO, Bill Ford, is a great grandson of Henry Ford (and also a great grandson of Harvey Firestone). Ford used his charcoal on his annual camping trips with Firestone, Luther Burbank, Edward Burroughs, and on occasion Thomas Edison. I wonder what the conversations

around that campfire would have included.

8. Ford and his wife were invited in the late 1930s to the White House by President and Mrs. Roosevelt. I believe it was to meet the King and Queen of England, at a reception. Ford declined saying that his wife had already scheduled a garden party in Detroit for that day.
9. While on a visit to Ireland (probably looking for new plant sites), the local vicar convinced Ford to contribute \$500 to the repair of his church. The newspapers reported that Ford would donate \$5,000 to the church. The red-faced vicar appeared to apologize to Ford for the error. Ford said he had no problem writing the check for the full \$5,000, but he would insist that a stone marker be placed by the church door with the biblical inscription, “I WAS A STRANGER AND YE TOOK ME IN.” The vicar took the \$5,000 and the stone was placed.
10. Ford was interested and involved in the peace efforts. War was wasteful. When The Great War was looming in Europe, he made a special tour of European countries trying to stave off the conflict. The trip was a failure. In 1919, a Chicago newspaper columnist printed that Ford was “an ignorant pacifist.” Ford sued for libel. On the stand, the opposing lawyer tried to show that while Ford was well versed in certain subjects that he was in the main – ignorant. In response to a particular offensive series of questions, Ford finally said, “Look, on my desk I have a series of electric buttons connected to the offices of my staff. When I have a question, I push one of those buttons to summon someone who has the answers or who can get the answers. Why should I clutter up my mind with the type of general information you have been asking

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about?" Ford won the lawsuit (remember this was in Chicago) and the newspaper was fined – six cents. And who got all the money involved – the lawyers on both sides. And I still love a story with a happy ending.

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Dr. Peters is a founding & charter member of CHAL. He is a patent attorney in Palo Alto, California.

This column, inspired by Dr. Peters' Trivial Pursuit® confrontations with his family, is also appears (with the same or similar content) in the *Silicon Valley Chemist*. "100 Years of Ford" appeared in the *Silicon Valley Chemist* in two installments – August & December 2003 – Vol. 25 – Nos. 8 (page 3) & 12 (page 2) – <http://www.scvacs.org/newsletter/news0312.pdf> <http://www.scvacs.org/newsletter/news0308.pdf> From the *Silicon Valley Chemist*: "The Patent Truths column by Howard Peters will continue in the Silicon Valley Chemist about every other month. The Peters' have a new grand daughter Megan Elizabeth Bhatt born June 27th in Carmel, Indiana – another beautiful Hoosier granddaughter. Thus, there are more things on their

plate. The response to the second request of feedback from the readers was higher and both months' responses totalled about 36 – about 1% of the SCV membership. Sometimes writing to this ACS local section (or I believe any local section) and getting a response of any kind is like herding kittens or writing to a cemetery. The most biting comment was that I should be happy with at least 9 responses – that was probably more than the number of votes I received from local section members in the election last year to become a member of the ACS Board of Directors. Lawyers (even chemist-lawyers) are evidently still not popular."

Theatre Review

COPENHAGEN by Michael Frayn,¹ The Winter Garden Theatre, Toronto
Reviewed by Michael Grossman

The work of the Manhattan Engineer District – the Manhattan Project – was a response to the very real fear that the Third Reich could and would build an atomic bomb. In *HEISENBERG'S WAR/The Secret History of the German Bomb*,² the central question pondered by Thomas Powers is why it did not, as was found out by the Allies in the closing months of the War in Europe. Could not Germany, the cradle of much of modern physics, and a nation of very substantial industrial and engineering resources, even during wartime, have done so. Powers question implies further questions: Did the Third Reich not get the bomb because its scientists and engineers were not up to the task; or because it would be too much of a strain on wartime resources; or was it because Werner Heisenberg, the project's lead scientist, did not want it? And if he did not want it – why – was it for moral reasons?

In *COPENHAGEN*, which has been staged in London and New York, and is reviewed here from its Toronto production, Michael Frayn deals with an aspect of this question. In 1941, Heisenberg visited Niels Bohr in Copenhagen. The world was well into the war. Lise Meitner had explained U235 fission in 1939.³ *COPENHAGEN* is a theatrical speculation of why Heisenberg visited Bohr and what

they might have talked about.

Powers in his final chapter – "What Happened?"⁴ – concludes that the Third Reich could have had the bomb had its leading scientists pressed for it. They did not; Heisenberg did not. Powers discusses various reasons, practical and moral. But Powers finds no clear explanation to come through. Nor does Michael Frayn in *COPENHAGEN*.

But Frayn does give a range of possibilities, all in the context of dialogue that repeatedly makes theatrical analogy to the uncertainty principle and complementarity. Frayn's Niels and Margrethe Bohr and Werner Heisenberg also make repeated implicit reference to the two approaches to science – an approach of theory that sought to describe particles such as electrons and their actions in terms of mathematical models, verses an approach that used mathematics only to account for experimental observations.

The stage setting is simple – only Frayn's three characters with chairs and a bench. There is sometimes a simple projected background, occasionally of physics equations. The moral uncertainty with which the first act concludes is theatrically emphasized when " $\Delta x \Delta p \geq h$ " enlarges to end the act. Frayn, and Michael Ball and Martha Henry (as the Bohr's), and

Jim Mezon (as Heisenberg), did quite well with the chemistry and physics, and the litany of science's great names. And, although much of the science was likely beyond the easy understanding of much of the audience, it was presented well enough that the audience probably got the moral intention.

In a 1956 essay (not referred to in the play),^{5,6} Heisenberg himself seems to argue that Germany was left behind in atomic research because it did not make the massive economic investment that the USA was making, because "...Germany alone remained far behind, as a consequence of the 1933 catastrophe."⁷ I take this to refer to the rise of Hitler as Chancellor, and to the of the origins of the Third Reich. Heisenberg's observation here may have some validity – the Nazis were not keen on modern physics – fortunately for the rest of the world – senior Nazis did not seem to realize the potentials of atomic research for warfare.

Another reason Heisenberg gives for American dominance is that "...the emigration of a number of eminent German physicists to the United States also helped considerably to secure to America the leading rôle..."⁸ What Heisenberg did not write was that many scientists, including of these eminent physicists, left central Europe because they were fleeing for their lives, and they wound up in the USA doing atomic science because they did realize its warfare potentials, and

were scared to death that the Nazis did too. The view from the Manhattan Engineer District – that the Third Reich was atomic-bomb-capable – was a valid reason to proceed, and with the massive investment that was allocated. Fryan's Niels and Margrethe Bohr give some emphasis to the irony that many of these scientists were Jews.

I find Heisenberg's essay style somewhat obscure and difficult to interpret. Perhaps there are sensitive catch words that should and should not be used when writing in Germany only eleven years after the War. As best I understand it, he gives only reasons of American investment and German failure to invest, and the emigrant scientists, for Germany's lagging atomic program. No moral reasons are given, which does not mean that he did not have moral reasons during the War.

Surely, that the USA did make the massive investment, and the Third Reich did not, resulted in the USA alone having the bomb. But that does not answer the essential questions at the start of this review – merely rephrases them. In *COPENHAGEN*, Michael Fryan, Michael Ball, Martha Henry and Jim Mezon did excellent jobs in setting out the range of possible answers – with interesting speculations – but in the end the uncertainty remains. An implication of *COPENHAGEN* is that Heisenberg was personally uncertain himself. Perhaps part of the reason he went to see Bohr was to have fatherly advice.

Whatever Heisenberg and Bohr said to each other in Copenhagen in 1941, and why Heisenberg went there, would not have influenced what was to become the Manhattan Engineer District – and when Bohr did eventually go there, his expertise was not directly applicable to the issues of engineering, reaction kinetics, industrial chemistry, and industrial organization, that in addition to atomic theory, was necessary to actually

construct the bomb.

But perhaps their conversation, even if misinterpreted by both, reflected or raised in Heisenberg some moral concerns that he – even passively – acted on back in Germany for the remainder of the War. Even though that would have been serious treason, the Nazis would not likely have realized it. But if he did acts of omission for moral reasons, why did he not say so in his essay, when the War was safely over? Was he still concerned about admitting to what would have then been treason?

For further readings: ^{9 10 11 12}

(An irony, probably not intentional: Prominently displayed at the lobby refreshment counters at The Winter Garden Theatre, where *COPENHAGEN* was staged in Toronto, were Carlsberg Beer logos. The irony – Bohr's Institute was financed by the Royal Danish Academy of Science, which according to George Gamow¹³ drew its main financial support from the Carlsberg Brewery, willed to it by the brewery's founder. And, Bohr and his family lived in the Carlsberg Mansion.)

Notes:

1. *COPENHAGEN* by Michael Frayn. Starring Michael Ball, Martha Henry and Jim Mezon; directed by Diana Leblanc. January 2 - 22, 2004. National Arts Centre/Neptune Theatre co-production. Presented in Toronto by David and Ed Mirvish www.mirvish.com The Winter Garden Theatre, 189 Yonge Street. This theatre review for the performance of Tuesday evening January 13, 2004.
2. Thomas Powers, *HEISENBERG'S WAR/The Secret History of the German Bomb*, LITTLE, BROWN AND COMPANY, Boston, New York, ...; 1993; ISBN 0-316-71623-5.
3. see Ruth Lewin Sime, *Lise Meitner/A Life in Physics*, University of California Press, 1996. ISBN 0-520-20860-9. see also Powers, *ibid.*, at page 48.
4. Powers, *ibid.*, at page 478-484.
5. see Prof. Dr. phil. Werner Karl Heisenberg, Direktor des Max-Planck-Instituts für Physik, Göttingen; "Pure and Applied Research in Atomic Physics," in *SCIENCE AND THE ECONOMIC ORDER*, Metallgesellschaft AG, Frankfurt am Main, May 1956; pages 149-160, at pages 154 & 155.
6. *SCIENCE AND THE ECONOMIC ORDER* appears as a 75th anniversary commemorative book of Metallgesellschaft AG; containing essays of nine eminent German science scholars, including Heisenberg. Also included: Prof. Dr. phil. Dr. rer. nat.h.c. Dr.-E.h. Dr.phil. nat.h.c. Otto Hahn, Präsident der Max-Planck-Gesellschaft zur Förderung der

Wissenschaften e. V., Göttingen; "Uranium: the Key to the Revelation of the Ultimately Small and the Release of the Infinitely Great/A Personal Reminiscence," pages 85-109.

7. at page 155.

8. at page 154 & 155.

9. For further readings: references cited above, &

10. <http://www.nbi.dk/NBA/webpage.html>

11. Nicholas Dawidoff, *The Catcher Was a Spy/The Mysterious Life of Moe Berg*, Pantheon Books, New York, 1994.

12. George Gamow, *THIRTY YEARS THAT SHOOK PHYSICS/The story of quantum theory*, THE SCIENCE STUDY SERIES, Anchor Books, Garden City New York, 1966.

13. see George Gamow, *ibid.* pages 49 & 50.

Mission/Goals of CHAL

The mission of the Division of Chemistry and The Law is to provide a forum within ACS for members who work in careers involving the interaction of Chemistry and The Law. Some typical examples would include chemists and chemical engineers working in the fields of patents, copyright, trademarks, intellectual property, occupational health and safety, regulatory compliance, forensic science, product liability, toxic tort and environmental law.

Our goals are to provide an interactive forum for chemists who work in these positions, to provide Division members and the ACS membership at large with high quality, inter-disciplinary programs, symposia, and publications in these areas, and to promote and increase the public understanding of chemistry and its interactions with the law.

We also desire to expose ACS members (chemists, chemical engineers, and students) to alternative career opportunities which provide an interdisciplinary challenge, between chemistry and its application to areas of law, and in law and its applications to chemistry.

Welcome New Members

In the year 2003, Chemistry and the Law was pleased to welcome 238 New Members. They represent 20.5% of the total membership (1160) as of October 31, 2003.

The New Members includes 99 members who are new ACS members who chose CHAL as their one "free" division for a year. If we meet their needs, and hold their interest, they will renew at their first anniversary. The other 138 New Members are new ACS members who didn't select CHAL as their "free" division or "veteran" ACS members who elected to join Chemistry and The Law.

Please join in welcoming all of our New Members. They are the important growth factor for our programs and activities. Here are the names and cities of the 238 New Members.

Acharya, Ajay	Kenilworth, NJ	Choi, You Chul	Foster City, CA	Goel, Vineet	Martinez, GA
Agostino, Sandra	Toronto, Canada	Chronister, Chris	Alachua, FL	Goodson, David	Hinsdale, IL
Agyei, Anthony	Rouses Point, NY	Colovic, Dusanka	Munster, IN	Gordon, Leonard	Norwalk, CT
Ajayi, Samuel	Corvallis, OR	Condo, Anthony	Ithaca, NY	Grayson, E Lynn	Chicago, IL
Akindele, Adesuyi	Nigeria	Coppins, Janet	Fairfax, VA	Guild, Jennifer	Tustin, CA
Andersen, Gayle	Miami, FL	Corman, Daniel	Houston, TX	Guttman, Harry	Washington, DC
Aremu Cole, Janet	Central, SC	Cox, Dawn	Lawrenceville, IL	Haberman, John	New York, NY
Autry, Mark	Richmond, VA	Coyne, Martin	Pittsburgh, PA	Hall, N Gail	Boston, MA
Aveline, Beatrice	Boston, MA	Cozad, Ann	Columbia City, IN	Hamilton, Mark	Northwood, OH
Aylesworth, Stacy	Sacramento, CA	Creech, Denise	Washington, DC	Harding, Kathy	Parker, CO
Bachmeier, Cullin	Richfield, MN	Crystal, Joseph	New York, NY	Hathcock, Kevin	Woodstock, GA
Balasubramanian, Marudai	Ann Arbor, MI	Dallstream, Katherine	Gladstone, MO	He, Ze	Davis, CA
Ballard, Greg	Phoenix, AZ	De Crosta, Michelle	E. Hanover, NJ	Hemmick, Sr Lucinda	Stony Brook, NY
Barry, Chester	Arlington, VA	Delafield, Bobby	Arlington, TX	Hodge, Julia	Los Angeles, CA
Bass, Chancey	Jackson, MS	Desomma, Martina	Woburn, MA	Holman, Jeffrey	Australia
Bauer, Mark	Bristow, VA	Diaz, Roy	Washington, DC	Hoong, Lee	Suwanee, GA
Baysinger, Grace	Palo Alto, CA	Dixon, Gail	Quincy, IL	Howard, Emil	Annapolis, MD
Beerman, Daniel	West Chicago, IL	Domzalski, Alison	Brooklyn, NY	Hoyte, Wayne	Morris Plains, NJ
Benitez, Marcelino	Ceiba, PR	Dorn, Loretta Therese	Hays, KS	Hudson, Danielle	Tuskegee Inst, AL
Betzel, Margaret	Columbus, OH	Droessler, Brad	Madison, WI	Huizar, Irene	San Antonio, TX
Bhat, Tara	Billerica, MA	Dunay Volk, Pamela	Glenville, NY	Hurst, Tamiika	Detroit, MI
Boeshaar, David	Greenfield, WI	Duncan, Christine	Ontario	Ingram, Vedoster	Washington, DC
Bouchez, Cynthia	San Diego, CA	Duquenne, Celine	Collegeville, PA	Jacobs, Gregory	Blue Bell, PA
Boyer, Nora	Haworth, NJ	Durden, Catherine	Allendale, NJ	Jenkins, Kenneth	San Francisco, CA
Bradford, Ivy	Tuskegee Inst, AL	Eaken, Elizabeth	Seymour, IN	Jenkins, Stephen	New Orleans, LA
Branch, Catherine	Winston Salem, NC	Ekpenyong, Akaniyene	Nigeria	Jimenez, Wilberto	San Sebastian, PR
Brooks, Danielle	Grovetown, GA	Elaiwat, Hebah	North Bergen, NJ	Johnson, Ann Marie	Seattle, WA
Brown, Jay	Cary, NC	Fauconnier, Theresa	Canada	Johnson, Brent Arthur	Irvine, CA
Buckwalter, Brian	Half Moon Bay, CA	Feenstra, Erin	Alexandria, VA	Johnson, Bryan	San Diego, CA
Burton, Carlyn	Houston, TX	Figueroa, John	Washington, DC	Johnson, Jeffrey	Houston, TX
Bynum, Micheal	Fort Hood, TX	Fite, Brett	Mountain View, CA	Johnson, William	Ann Arbor, MI
Byrne, Michael	Allison Park, PA	Flores, Cindy	Denver, CO	Kalow, David	New York, NY
Cadena, Deborah	Encinitas, CA	Foley, Melody Russo	Bartow, FL	Kapur, Preeya	Baltimore, MD
Calderon, Camilo	Chicago, IL	Fowkes, Steven	Menlo Park, CA	Karnes, Tasha	Covington, LA
Campbell, Tamera	Bahamas	Frank, Walter	Philadelphia, PA	Keenan, Kathleen	Dayton, OH
Caner, Hava	Israel	Garciapacheco, G	Mexico	Khayat, Jason	Buffalo, NY
Cardoza, Laurie Ann	Lawrence, KS	Gartner, Jennifer	Parsons, KS	Kim, Hyunjin	San Ramon, CA
Carmichael, Peter	San Diego, CA	Geoffrey, Michael	Lombard, IL	Klein, Daniel	Alexandria, VA
Carroll, Angela	Woodridge, IL	Giamalva, Cynthia	Saint Louis, MO	Klingaman, Steven	Carbondale, IL
Carver, Maureen	Austin, MN	Giametta, Jeffrey	Albany, NY	Knutson, Jennifer	Minneapolis, MN
				Kombolias, Mary	New Orleans, LA
				Kosinski, Susan	Westfield, MA
				Koss, Ann Marie	New York, NY
				Kreatsoulas, Constantine	Princeton, NJ
				Krenicky, Michael	Ridgeway, CT
				Ladd, Thomas	Indianapolis, IN
				Lauro, Peter	Providence, RI
				Le, Quyen	Elgin, IL
				Leach, Douglas	Hockessin, DE
				Lederer, Donald Jr	O Fallon, MO
				Lee, Eunjee	Columbus, OH
				Lenk, Thomas	Mountain View, CA
				Leichen, Megan	Richland, WA

Lesmes, George	Alexandria, VA	Sanders, Vanessa	Terre Haute, IN	Szeliga, Jamaica	Arlington, VA
Lewin, Edward	Chicago, IL	Schweitzer, John	Ann Arbor, MI	Talpavila, Rohana	Sri Lanka
Li, Sonia	Pembroke Pines, FL	Sellars, Trineshia	Tallahassee, FL	Tatalovich, Jason	Deerfield Beach, FL
Lightner, Derek	Santa Clara, CA	Semanscin, Jessica	Astoria, NY	Tavassoli, Bahareh	Nailsea Bristol, UK
Lincoln, David	Webster, NY	Shackelford, Amy	Fairmont, WV	Taylor, Jonathan	Chicago, IL
Linden, Patricia	San Rafael, CA	Shah, Azam	Cincinnati, OH	Taylor, William	Caledonia, MI
Liu, Jih Hua	Libertyville, IL	Shao, Feng	Trevese, PA	Tchedam-Ngatcha, Beatrice	Canada
Lorenz, William III	Lincoln, NE	Shu, Zhifu	Bridgewater, NJ	Tessarzik, Janine	Altamont, NY
Lugo, Libia	Canovanas, PR	Sistrunk, Melissa	Houston, TX	Thornburgh, Bruce	Lowell, MA
Luis, Steven	San Diego, CA	Skinner, Keith	Denver, CO	Triano, Nicholas III	N. Andover, MA
Maier, Leigh	Centreville, VA	Smeland, Tor Einar	Forest Hills, NY	Trippe, Anthony	Columbus, OH
Manluccia, Charles	Ridgefield, CT	Smith, Ron	Charlotte, NC	Turner, James	Clayton, NC
Mann, Dana	Zeeland, MI	Snow, Robert Allan	West Chester, PA	Ukat, Patrick	Akwa Ibom, Nigeria
Marino, Melissa	Takoma Park, MD	Snyder, Nicole	Storrs/Mansfield, CT	Verni, Christopher	Boston, MA
Mattox, Mark	Kalamazoo, MI	Sorokac, Elizabeth	Las Vegas, NV	Verrill, Harland	Flint, MI
Mazur, Tanya	Bethesda, MD	Spruce, Lyle	Chula Vista, CA	Weeks, George	Danbury, CT
Mcneil, Jane	Belmont, MA	Stclair, Matthew	Phoenix, AZ	Wilfred, Kimuhu	Netherlands
Means, Jennifer	Chicago, IL	Stephens, Robin	Burlingame, CA	Willis, Richard	N. Waterboro, ME
Mehta, Peter	Walnut, CA	Stewart, Duane III	Pittsburgh, PA	Wilson, Jeffrey	Cambridge, MA
Moses, Macaulay	Warri Delta, Nigeria	Sueyoshi, Tsuyoshi	Tokyo, Japan	Wilson, Melinda	College Park, MD
Mustafa, Shams	Woodbridge, NJ	Sukta, Andre	Brookfield, IL	Wilson, Norman	N. Huntingdon, PA
Nelson, Angela	Overland Park, KS	Summerfield, Ann	Fairfax, VA	Worth, Gerald	Gales Ferry, CT
North, Doug	Waterbury, CT	Sun, Jin Hua	Wallingford, CT	Yogaish, Soophul	Mauritius
Nwachukwu, Chidiebere	Nigeria	Sundeen, Joseph	Yardley, PA	Young, Jennifer	Winston Salem, NC
Oconnor, Ryan	Minneapolis, MN	Swartz, Michael	Milford, MA	Young, Josephine	Washington, DC
Olson, Ragnar	Lincolnwood, IL	Szczerbicki, Sandra	Portland, OR	Zell, Lou Ann	Richmond, VA

12 Benefits of ACS Division Membership

Whether you join CHAL or several ACS Divisions, you will find your professional life enhanced – by new knowledge, new contacts, and new accomplishments. Division membership affords unique benefits – at modest cost. Among the benefits most valued by division members are:

1. Access to national meeting abstracts, preprints, and/or reprints of papers
2. Enhanced opportunities to present papers at national and divisional meetings
3. Substantial savings on publications
4. Career advancement through professional development and networking opportunities
5. Advance notice of upcoming events
6. Membership directories
7. Scientific and technical exchange with colleagues that sparks new directions in your work
8. Timely information on the latest trends in areas of special interest
9. Enthusiasm and renewed commitment to your professional goals
10. Recognition of your discipline's vital contribution to chemistry's advancement
11. Opportunity to suggest symposia topics and participate in technical programming
12. Continuing education and professional development opportunities

15 Year Members

Here are the Names and Cities for the 23 CHAL members who have demonstrated their loyalty and long-term interest in Chemistry and the Law. Our thanks and congratulations to each 15 year member; two of them, David Jaffer and Jim Carver, seem very familiar because they have served the division in leadership roles.

Berka, Karen	Van Wert, OH
Blackman, Scott	Washington, DC
Brooks, Thomas	Columbia, SC
Carver, James	Baton Rouge, LA
Cooper, David	Portland, OR
Dellerman, Karen	RTP, NC
Dinner, Dara	King of Prussia, PA
Dunlap, Thoburn	Painesville, OH
Gray, William	Guilford, CT
Jaffer, David	Palo Alto, CA
Kay, Michael	Portland, OR
Linderman, Jeffrey	Mc Lean, VA
McGreal, Michael	Rochville, MD
Mixan, Craig	Indianapolis, IN
Monroe, Bruce	Wilmington, DE
Murphy, Darlene	Lincoln Univ, PA
Richeson, Cedric	Oshkosh, WI
Romagnoli, Joseph	Fredrick, MD
Sallee, Philip	Pleasant Plains, IL
Silverman, Robert	Cambridge, MA
Spiegel, Allen	Springfield, NJ
Strozier, Robert	Houston, TX
Wnek, Gary	Richmond, VA

2004 Patent Information Users Group Annual Conference

The Patent Information Users Group, the International Society for Patent Information, is pleased to announce that the PIUG 2004 Annual Conference will be held Saturday, May 22 to Thursday, May 27, 2004, at the Wyndham Baltimore Inner Harbor Hotel in Baltimore, Maryland. Monday thru Wednesday, May 24 to 26 will encompass the main Technical Session, preceded by the PIUG Business Meeting, Sunday, May 23. Pre and post workshops will be held on Saturday and Sunday, May 22-23, and Thursday, May 27. An exhibit room featuring patent information suppliers will be held in conjunction with the technical session.

The technical program will include presentations on "Updates from Patent Offices", "How to Find Patent Information" (on a limited budget, non-patent literature, etc.), "Where to Find Patent Information and Patent Documents" (especially hard-to-find items, or alternatives to searching and getting the document from the same source), "Patent Country Coverage and Traditional Patent Information Sources" (how countries are selected for coverage, which countries not covered should we care about, and practical problems with adding countries, etc.), and "Hot Topics" in patent information. There will be panel discussions featuring patent information experts, patent information producers and vendors, and patent office managers.

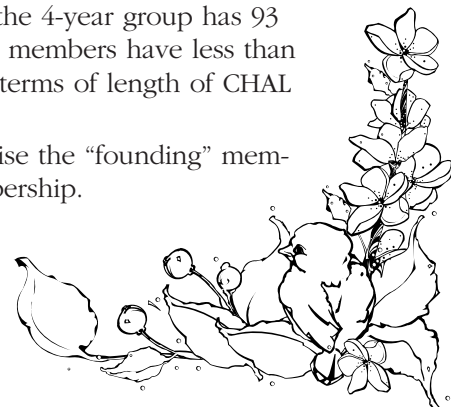
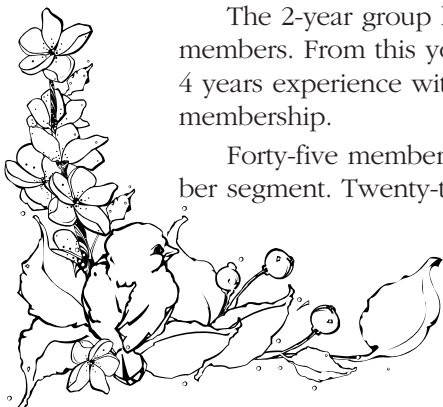
The Wyndham Baltimore Inner Harbor Hotel is offering meeting attendees the guest rate of \$165 until April 21, 2004. For updated information about the program and arrangements, please see the PIUG website, <http://www.piug.org>.

Member Statistics

We continue to be a "new" division with 238 new members added in 2003. Ninety-nine of the 238 were "free" members, joining ACS in 2003 and who chose Chemistry and the Law as their "free" first-year division. How many of the 99 will continue depends upon what they expect and what we provide as a division. Of course 238 new members constitute 20% of the total membership of 1160.

The 2-year group has 211 members; the 3-year group has 127; the 4-year group has 93 members. From this you can conclude that 576/1160 or 50% of the members have less than 4 years experience with the division. We are a "young" division in terms of length of CHAL membership.

Forty-five members with 21 years of CHAL membership comprise the "founding" member segment. Twenty-three members have 20 years of CHAL membership.



Application for Membership

Chemistry and The Law
Division of ACS

Please enroll me as: Member
 Affiliate

of Chemistry and The Law (CHAL)
ACS Members, Please print your
name and address exactly as they
appear on the C&EN label

Dr. Mr. Mrs. Ms. (Circle one)

Mailing Address

City/State/Zip Home Office

Work Phone No.

Home Phone No.

eMail Address

Check One:

- ACS Member (\$15.00)
- ACS Society Affiliate (\$15.00)
- ACS Emeritus / Student (\$5.00)

ACS Membership No.

Divisional Affiliate (\$20.00)

Please make a check payable to "Chemistry and The Law"
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Palo Alto, CA 94303-3015

Signed: _____

Date: _____

PNI: 7635N

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Please make a check payable to "Chemistry and The Law"
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Signed: _____

Date: _____

PNI: 7635N

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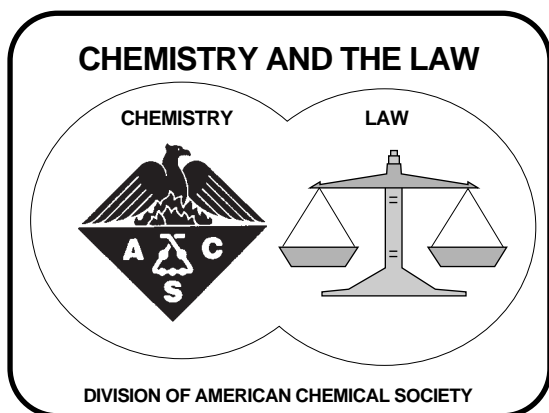
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Ken Colton

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<http://membership.acs.org/c/chal/>

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