The IUPAC Safety Training Program

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Chair, IUPAC Committee on Chemistry and Industry
Coordinator, STP
IUPAC Committee on Chemistry and Industry

Role and Strategic Priorities

- Projects that share best practice globally
- Knowledge transfer to developing countries
- Capacity building (e.g. safety training workshops)
- Public appreciation of chemical science and technology
- Reputation and trust

*Provides the IUPAC ‘home’ for industrial companies*

*Economic development plus societal and environmental factors*
The Safety Training Program

Enables experts from developing countries to learn about safety and environmental protective measures by visiting and working in plants of IUPAC Company Associates in the industrialized world.
Administration

IUPAC Committee on Chemistry and Industry (COCI)
- Recruiting, vetting and approving trainees
- Matching trainees and Host Companies
- Financial Support for travel
- Trainee recruiting and placement

Host Companies
- Trainees’ local expenses
- Development of course of study; training
Selection of Trainees

Professional scientists and engineers who are currently:

Involved at a supervisory or managerial level in chemical companies, governmental or scientific institutions, or universities;

Engaged in aspects of safety and environmental protection or in the teaching of these fields;

Influential in their workplaces and within their home country.
Trainees and Host Companies

Host Companies
Fellows
New Trainees
Trainees since 2000

Ms. Esma Toprak - Director of Chemical Engineering Laboratories, Bogazici University, Istanbul, Turkey
Trained at BP Amoco Chemicals Research Laboratory and Chemical Plant, Chicago, IL and Green Lake, TX

Prof. Ali A. El-Emam - Dean of Faculty of Pharmacy, University of Mansoura, Egypt
Trained at Bristol-Myers Squibb Corp. Laboratories and Production Facilities in New Jersey, USA
Trainees since 2000

Mr. Tersoo Charles Gwaza - Shell Petrochemical Development Company, Port Harcourt, Nigeria
Trained at Sasol, South Africa

Mr. Kelvin Khisa - UNIDO National Cleaner Production Centre
Nairobi, Kenya
Trained at Sankyo, Japan

Mr. Isiaka O. Bakare Dare, Rubber Research Institute of Nigeria, Benin City, Nigeria
Trained at Mitsui Chemical Co., Japan
Trainees since 2000

Mr. Zhang GuoHong, Unilever, China
Trained at BP Chemicals, USA

Ms. Jane Nyakang’o, UNIDO National Cleaner Production Centre, Nairobi, Kenya

Ms. Ana Luisa Arocena, Waste Management Expert, Montevideo, Uruguay

Trained at BP Chemicals facilities in Naperville, IL USA and Lima, OH USA
Trainees since 2000

Prof. Said Mohammed Mahmoud Bayomi
Pharmaceutical Chemistry, University of Mansoura, Egypt
Trained at Astra Zeneca, UK
Trainees since 2000

Mr. Godfred Nyarko
Health, Safety and Environment Coordinator
Tema Lube Oil Company, Ghana

Mr. Fabian Benzo Moreira
Occupational Health and Safety
University of Uruguay, Montevideo

Trained at Mitsui Chemical Co., Japan, 2007
Trainees since 2000

Dr. Gursharn Singh Grover

Host Company: Novozymes A/S - Denmark

Training: June 2008
Responsibilities of Trainees

Utilize learnings within their place of employment

Disseminate knowledge gained in the program throughout home country

Establish new programs to improve safety practices within home country.

File report with IUPAC
  Evaluation of training - host company, content of program, usefulness
  Activities to be undertaken to apply training after return home
Typical Training Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Place</th>
<th>Activity</th>
<th>Responsible Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, 10/13</td>
<td>7:00</td>
<td>Travel from Chicago to</td>
<td>Lima</td>
<td>Jeff Gilman</td>
</tr>
<tr>
<td></td>
<td>12:30</td>
<td>Kevin’s Office</td>
<td>Welcome to Lima</td>
<td>Kevin Sprague</td>
</tr>
<tr>
<td></td>
<td>12:45</td>
<td>East Chicago Pizza</td>
<td>Buffet Lunch</td>
<td>Kevin Sprague &amp;</td>
</tr>
<tr>
<td></td>
<td>2:00</td>
<td>Kevin’s Office</td>
<td>Week’s Logistics and HSE Resources Table</td>
<td>Kevin Sprague</td>
</tr>
<tr>
<td></td>
<td>2:30</td>
<td>Lobby</td>
<td>Safety Video Orientation</td>
<td>Jayne Kisor</td>
</tr>
<tr>
<td></td>
<td>2:45</td>
<td>Office/Restroom</td>
<td>Break</td>
<td>On Own</td>
</tr>
<tr>
<td></td>
<td>3:00</td>
<td>Chuck’s Office</td>
<td>Welcome by Plant Manager and his vision on HSSE</td>
<td>Chuck Treloar</td>
</tr>
<tr>
<td></td>
<td>3:30</td>
<td>Nick’s Office</td>
<td>Review HSE Co-Op Program</td>
<td>Nick Steimle &amp;</td>
</tr>
<tr>
<td></td>
<td>4:00</td>
<td>Driving Tour of Plant</td>
<td>Driving Tour of Lima Chemical Plant</td>
<td>Jeff Gilman</td>
</tr>
<tr>
<td></td>
<td>5:30</td>
<td>Wingate</td>
<td>Hotel Check In and Break</td>
<td>Jeff Gilman</td>
</tr>
<tr>
<td></td>
<td>6:00</td>
<td>TBD</td>
<td>Dinner</td>
<td>Jeff Gilman &amp; Kevin</td>
</tr>
<tr>
<td>Tuesday, 10/14</td>
<td>7:30</td>
<td>Hotel</td>
<td>Pick Up</td>
<td>Jeff Gilman</td>
</tr>
<tr>
<td></td>
<td>8:00</td>
<td>Visitor Center</td>
<td>Front Office Pause for PAWS</td>
<td>Jeff Gilman</td>
</tr>
<tr>
<td></td>
<td>8:15</td>
<td>Jan Kentner Office/field</td>
<td>Explain PAWS process and conduct a PAWS observation</td>
<td>Jim Cook &amp; Jan</td>
</tr>
<tr>
<td></td>
<td>9:30</td>
<td>Joe Martz Office</td>
<td>Lima Safety Programs, Traction and areas of responsibilities</td>
<td>Joe Martz</td>
</tr>
<tr>
<td></td>
<td>10:30</td>
<td>Dave Breitigam Office</td>
<td>Lima IH Programs and areas of responsibilities</td>
<td>Dave Breitigam</td>
</tr>
<tr>
<td></td>
<td>11:30</td>
<td>Medical Clinic</td>
<td>Lima Medical Programs and areas of responsibilities</td>
<td>Linda Schumacher &amp;</td>
</tr>
<tr>
<td></td>
<td>12:30</td>
<td>Someplace healthy</td>
<td>Lunch</td>
<td>Kellie Johnston</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>BDO Lab</td>
<td>Review Lab safety and safe sample collection issues</td>
<td>Bob Schantz</td>
</tr>
<tr>
<td></td>
<td>2:30</td>
<td>Dave Linderud Office</td>
<td>PSM and the Lima Process Safety Committee</td>
<td>Dave Linderud</td>
</tr>
<tr>
<td></td>
<td>3:15</td>
<td>Tom Say’s Office</td>
<td>NPDES sampling and visit outfall and ponds.</td>
<td>Tom Say</td>
</tr>
<tr>
<td></td>
<td>4:30</td>
<td>Kevin’s office</td>
<td>GHSER</td>
<td>Kevin Sprague</td>
</tr>
<tr>
<td></td>
<td>5:30</td>
<td>Hotel drop off/break</td>
<td>Drop off and Break</td>
<td>Kevin Sprague</td>
</tr>
<tr>
<td></td>
<td>6:30</td>
<td>Dinner at the</td>
<td>Dinner</td>
<td>Kevin Sprague</td>
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<tr>
<td></td>
<td></td>
<td>Sprague House</td>
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</tbody>
</table>

Employees directly involved
Shadowing by trainees
Hands-on experiences
Tours of facilities
Participation in decision-making
Safety Training Program Workshops

Mechanism for follow-up and monitoring of progress

Held at IUPAC Congresses
  Ottawa – 2003
  Beijing – 2005
  Turin – 2007
  Glasgow - 2009

Trainees present and discuss activities they have pursued since their training

Plenary speakers address topics of concern in the country or region where the Congress is held
Acknowledgments

Host Companies
BP Chemicals – USA
Bristol-Myers Squibb – USA
Sasol – South Africa
Sankyo Co. – Japan
Mitsui Chemical Co. – Japan
AstraZeneca – UK
Novozymes - Denmark

Financial and Administrative Support
IUPAC
UNESCO
UNIDO
Further Information

Application Forms
Brochures
Reports from Trainees
Articles and Publicity
Workshop Summaries