UCLA research assistant, Sheharbano “Sheri” Sangji, died at the young age of 23. She was working on an experiment in the laboratory of Patrick Harran, a professor and the chair of chemistry and biochemistry at the University of California, Los Angeles (UCLA). The experiment involved the chemical 1-butyl lithium, an air-sensitive chemical, a highly flammable compound that spontaneously burns upon exposure to air. The chemical erupted into flames while Sheri was working in the Molecular Sciences Building on Dec. 29, 2008 igniting her clothes on fire.

Cal/OSHA said the plunger on the syringe she was using became dislodged, and the compound ignited and engulfed her clothing. Cal/OSHA said the lack of a lab coat was the single most significant factor in the severity of the burns that led to Sangji's death. She was severely burned on 43 percent of her body. She passed away in the hospital 18 days later due to the burns. Cal/OSHA issued findings critical of UCLA's lab safety inspection follow-up, training and record-keeping programs, and its failure to ensure the use of personal protective equipment, and fined the University. UCLA said it will not contest the findings or appeal the fine.

There are major lessons that can be taken from this tragic event in hopes that a similar future incident can be prevented. They are:

- Training all staff in how to perform protocols and procedures is required and is an essential component of the PI’s job. It is unclear whether or not Sheri was trained properly. Her PI had no written record of training nor could he remember when the training took place. Staff must be properly trained regarding the hazards they work with and how to do the job effectively. The PI must keep a copy of the training record to minimize liability. Each individual staff member should maintain their own copy of their training records, as well.

- Laboratory personnel should be taught the appropriate personal protection equipment (PPE) to wear when performing their protocols. Sangji was not wearing the correct PPE. This mistake contributed to her sustaining severe 3rd degrees burns. Flame resistant lab coats should be worn at all times in laboratories. Correct hand and eye protection should also be worn.

- Research laboratories are often open 24 hours a day, seven days a week including holidays. When working in the laboratory after hours, personnel should inform their PI and use the buddy-system. No one should work alone due to safety concerns. Sangji was working over the winter holiday break by herself when her incident occurred. If she was accompanied by other staff member her incident may have turned out differently.

PIs and laboratory staff should follow these simple rules above to ensure worker’s safety within a laboratory.
There are many restrictions and regulations regarding the disposal of chemicals used in laboratories. Both the West Virginia Environmental Protection Agency (WVEPA) and Morgantown Utility Board (MUB) have strict regulations as to what can and cannot be poured down the drain.

Along with MUB, the HSC monitors the water discharge from ALL buildings located at the Health Sciences Campus. It is important to follow the instructions on a chemicals MSDS for disposal procedures, since the chemical may interfere with the waste water treatment process, creating a release of polluted water into the Monongahela River. Major releases or particularly hazardous releases must be immediately reported to the Department of Environmental Protection or fines or penalties can be enacted.

If you have a major release of a hazardous material, you must contact the HSC Safety office immediately at 3-6924. Moreover, pouring anything down the drains outside any building is prohibited. These drains are connected to the storm water system, which drains directly into the river.

The following are six main categories of chemicals that CANNOT be disposed of down the drain. They are as follows:

- **Solid Chemicals** - Solid chemicals should never be disposed of down the drain.
- **Flammable Chemicals** - Liquids that have a flashpoint equal to or below 140°F cannot be disposed of down the drain. These liquids include solutions with greater than 24% alcohol content, and a variety of solvents.
- **Corrosive Chemicals** - Liquids that have a pH less than or equal to 5.5, or greater or equal to 10 cannot be disposed of down the drain.
- **Reactive Chemicals** - Liquids that could result in an explosion, heat generation, or toxic gas release cannot be disposed of down the drain. Examples include: cyanides, azides, oxidizers, water reactive, and air-reactive chemicals.
- **Toxic Chemicals** - Chemicals that have an LD50 less than 500 mg/kg OR are identified as carcinogenic, mutagenic, or tetratogenic cannot be disposed of down the drain.
- **Heavy Metals** - Heavy metals should never be disposed of down the drain.

Flushing corrosives down the drain with lots of water are NOT allowed.

To dispose of any of these six categories, please go to the HSC Safety Office website at [http://www.hsc.wvu.edu/safety](http://www.hsc.wvu.edu/safety) and complete a hazardous waste disposal form.

**Steps to Take If a Chemical Spills on You**

Spills or splashes can occur when working with chemicals. When a chemical gets knocked over, splashed or spilled, it often makes contact with laboratory personnel. Taking immediate action is very important. Follow the steps below if a chemical spills on you or a co-worker:

- **Eye Contact**: Promptly flush eyes with water for 15 minutes and seek medical attention. If wearing contact lens remove them immediately from the eye and dispose of them. Seek medical attention.
- **Ingestion**: Call Poison Control at 9-1-800-222-1222 or 9-911 and seek medical attention.
- **Skin Contact**: Promptly flush the affected area with water and remove any contaminated clothing. Soap may be necessary for non-water soluble compounds. If symptoms persist after washing, seek medical attention.
- **Inhalation**: Move the victim to fresh air. If the victim is unconscious or not breathing, seek emergency medical attention immediately. Death or permanent injury can occur within three to five minutes.

**Let Clean Harbors Collect Your Hazardous Waste Every Day**

Laboratory personal no longer have to store their chemical hazardous waste for long periods of time. Clean Harbors is here to service WVU’s need for disposing of chemical hazardous waste. They will be on campus every day to collect all chemical hazardous waste. However, the appropriate form will still need to be completed. This form can be found at [http://www.hsc.wvu.edu/safety/ChemHaz_Waste.asp](http://www.hsc.wvu.edu/safety/ChemHaz_Waste.asp). Prepare all waste according to the website outline. If there are any questions on chemical waste, feel free to contact the Safety Office at 3-6924.
**Get to Know a HSC Researcher**

**Giovanni Piedimonte, MD**

**Department:** Pediatrics

**Background/Credentials:** Professor and Chairman of the Department of Pediatrics and Physician-in-Chief of WVU Children’s Hospital.

**Favorites:** Anything Italian or French.

**Music:** Jazz and Classic.

**Movie:** The Godfather, Part I.

**Book:** “Outliers” by Malcolm Gladwell.

**Travel Destination:** Machu Picchu (Peru).

**Describe your research in 50 words or less**

Our research focuses on the multiple environmental factors (e.g., indoor/outdoor pollution, infections, allergens, diet) affecting the fetus and/or the infant during critical developmental windows, and particularly on the role played by the early-life environment in the pathogenesis of chronic diseases extending into adulthood, especially asthma, obesity, and diabetes.

**If you received a five million dollar grant for research, what would your dream research project be?**

A genome-wide association study (GWAS) of WV children to determine genomic signatures and genome-environment interactions responsible for the disproportionate incidence of asthma, obesity and diabetes in this State.

**What is one thing that people might be surprised to know about you?**

At a recent AAMC meeting, an executive coach told me that I actually have a type B personality. I think this would surprise many of my friends and foes.

**What are some of the safety issues in your laboratory?**

Many of our studies involve the use of viruses (e.g., RSV, rhinovirus, flu, etc.). We follow safety rules strictly and have never had any problem.

**What do you like most about working at WVU?**

People! This place is packed with talented folks, and most of them are easy and fun to work with.

**What do you like most about West Virginia?**

Same as above! West Virginians are the best asset this State has.

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**Laboratory Safety in the News**

**Harvard Medical School Staff & Students Poisoned**

Investigators are trying to determine whether six people were intentionally poisoned at a research building at Harvard Medical School. The scientists and students became ill on August 26th after drinking a potentially lethal chemical, sodium azide, that was found in a single-serve coffee machine near the pathology lab. Sodium azide is an odorless white solid. One person became unconscious. All six were taken to the hospital. None suffered long-term effects from the poisoning. The federal Occupational Safety and Boston Public Health Commission are investigating. Harvard University Medical School is increasing security and installing new video cameras throughout the building in response to the poisoning.

**Three Graduate Students Sent to Hospital after Ga. Tech Chemical Spill**

Three Georgia Tech graduate students were treated and released the following day due to mixing two incompatible chemicals in preparing a lab session for the next day. The chemicals were reported to be nitric acid and potassium cyanide. The two chemicals mixed together creates a strong irritant and can be deadly.

A HAZ-MAT team was able to neutralize the spill of the dangerous chemical sometime after 9 p.m., Atlanta Fire spokesman Capt. Bill May said.

The building, which houses part of the College of Computing and several science and engineering labs, was evacuated with no reported injuries.

The school's environmental health and safety units are going to review the safety procedure with lab personnel.
Parking Lot Safety

When thinking of parking lots, one normally does not think of potential hazards associated with it. Parking lots are designed for vehicles and not pedestrians. Therefore, hazards are everywhere. The National Safety Council’s *Journal of Safety Research* reported 2,057 work-related deaths on company parking lots between 1993 to 2003. Both pedestrians and drivers should view parking lots as if they were streets and intersections. After all, they do have set speed limits and have the same traffic markings to indicate traffic patterns. Below are safety tips for both pedestrian and drivers to follow when using parking lots.

**Pedestrians Safety**

- Be cautious and aware of your surrounding when walking in a parking lot.
- Do not assume that drivers can see you when you can see them. In many cases, the pedestrian sees and hears a vehicle before a driver can see the pedestrian due to blind spots in vehicles.
- Treat the parking lot like a street. Looking both ways before crossing, use crosswalks, and always use sidewalks whenever possible.
- Walk down the parking lots aisles and not in-between vehicles when walking to and from your vehicle.
- Try to avoid areas where it would be hard for a driver to see you, for instance in loading dock areas.
- Try to walk in groups when in a parking lot. It makes it easier for driver to see.
- In bad weather like snow, wear proper footwear to provide adequate traction to avoid slipping and falling.

**Driver Safety**

- When looking for a place to park, park further away where there is less pedestrian and vehicle traffic.
- Whenever possible, avoid being in reverse. More incidents happen in reverse due to not knowing your surroundings.
- Pull all the way through the parking space to avoid being reverse when leaving. If you cannot, now is the time to back into the space, since you have had to time check the surroundings.
- Drivers of motorcycles and bicycles are to follow the same traffic rules as drivers of vehicle.
- Slow Down! The speed limit is 10 mph in the parking lots. Any faster speeds may result in a fatal injury to a pedestrian.
- Reduce speeds in bad weather. In wet weather, vehicle have a higher chance of skidding.
- Be cautious in parking garages. They have tight spaces and low clearance. Older parking garage may not be able to handle today’s large vehicle so drive cautiously. Also, it is harder to spot pedestrians in parking garage.

**How to Dispose of Empty Chemical Containers**

With many laboratories moving, a large number of chemicals are being deposed of in the trash. Just as there are restrictions on what can go down drains, there are restrictions on what chemicals can on in the trash. When deposing of empty containers follow the proceeding steps:

- For water soluble chemicals, rinse the remaining traces of chemicals in the sink with plenty of water. If the chemical is a high hazard, do not rinse the container. It must go out as hazardous waste.
- Greater than 5 gallons that previously held hazardous materials must be dispose of as hazardous waste.
- Less than or equal to 5 gallons can be disposed of in the trash.
- Empty containers that previously held HIGH TOXIC materials must be handled as hazardous waste. (i.e. Sodium Azide”)
- Remove or obscure the container’s label and mark “Empty” on it. Make sure that you cannot read the label.
- The cleaned, unidentifiable container can then be placed into the trash. Glass containers can go in the recycled trash or in with the broken glass container regardless of whether it is broken or not.
**WVU Health Alert - Prevention and Response to H1N1 Flu**

**Prevent:**
- **Cover your mouth and nose** with a tissue when you cough or sneeze then place tissue in the garbage. If a tissue is not available, cough or sneeze into your upper sleeve or elbow, not into your hands.
- **Wash your hands often** with soap and water for at least 20 seconds, or use an alcohol-based hand gel.
- **Avoid touching your eyes, nose or mouth.**
- **Avoid contact with sick/ill persons.**

**Recognize the Symptoms:**
- Fever over 100 degrees and:
  - Cough
  - Sore throat
  - Sudden onset of illness and body aches
  - Other symptoms may include: runny or stuffy nose, chills, headache, fatigue, vomiting and diarrhea

**Prevent the Spread:**
Contact your supervisor by phone if you develop symptoms.
- **Stay home at least 24 hours after there is no longer a fever (100 degrees Fahrenheit or 38 degrees Celsius) without the use of fever-reducing medications.**
- **Staying away from others while sick can prevent others from getting sick too.**
- **Most people with influenza do not need to go to a healthcare provider.** This will help to avoid spreading the illness.
- **People at higher risk for flu complications should contact their healthcare provider (call ahead).** This includes:
  - children under the age of 5 years & people 65 years and older
  - pregnant women
  - people of any age who have chronic medical conditions (such as asthma, diabetes, or heart disease)
- **Contact your healthcare provider if your symptoms do not improve in 3-5 days**
- **Call 911 immediately if you have difficulty breathing**