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## Beyond CSI

*CSUEB trains future law, order,  
and forensic science pros*

**A woman of conviction:  
DA Nancy O'Malley '77**

**Skeletons key to  
forensic osteology**

**Family violence,  
shelters, and pets**

Spring 2011



An expert in crime scene reconstruction and examination, faculty member Keith Inman introduces Cal State East Bay students to sample evidence and tools of the trade at a private crime lab in Hayward.

PHOTO: HAN GORICA

# Corpses, crime, AND SOLVING FOR 'WHY'

## CSUEB TRAINS FUTURE LAW, JUSTICE, AND FORENSIC SCIENCE PROS

BY MONIQUE BEELER

EXAMINING CORPSES DOESN'T MATCH EVERYONE'S VISION OF THE IDEAL POST-COLLEGE JOB. BUT WORKING AS A FORENSIC AUTOPSY TECHNICIAN FOR THE COUNTY OF SAN MATEO AMONG SCALPELS, SCALES, AND CARDBOARD BOXES OF HOMICIDE EVIDENCE IS A FIT FOR KENNETH ADVINCULA '11. THE LABORATORY JOB, WHICH HE STARTED AS A CSUEB INTERN LAST SPRING, SUITED ADVINCULA'S CAREER GOALS AND ACADEMIC BACKGROUND IN SCIENCE, MATHEMATICS, AND CRIMINAL JUSTICE ADMINISTRATION. IT ALSO MESHED WITH HIS TEMPERAMENT, FULFILLING THE SCIENTIST IN HIM WHILE LETTING HIM HELP PEOPLE HEAL FROM THE DEATH OF A LOVED ONE.

"It's my job to figure out how they died," Advincula says. "When we finally figure out why they passed, that's rewarding. For a lot of people, that's what brings closure to them."

Like many of his classmates mesmerized by TV crime scene investigation shows such as CBS's popular *CSI* series, which draws 73 million viewers weekly, Advincula arrived at Cal State East Bay prepared to pursue a career in law or law enforcement. That was before his CSUEB experiences — in and out of the classroom — showed him that his academic and professional options exceeded those he'd known when he first enrolled. It's a familiar tale to Cal State East Bay faculty and staff. When recruiters for the University visit college fairs, prospective students often ask them: "Can I major in *CSI*?"

"The whole *CSI* boom contributed to (my initial interest)," Advincula says. "When I looked into it more, I was hooked by the stories of the people, how they passed, and the lives they were leading."





Michelle Rippy '02, a senior deputy coroner for San Mateo County, has returned to her alma mater as a lecturer, a role she relishes. "I absolutely love class discussion," she says. "It forces me to keep up with the current trends."

## SCIENCE VS. CSI

Spurred on, in part, by TV depictions of glamorous criminologists quickly solving cases — shows that one criminal justice professor labels "B.S.I." for their unrealistic portrayal of the profession — interest in forensic science, criminal justice administration, and associated fields has soared. Fortunately, the job outlook in the coming decade remains bright with demand expected to grow from 10 to 22 percent, depending on specialty. Nationwide, for instance, the U.S. has fewer than half the forensic pathologists it needs, according to a 2009 National Academy of Sciences report to Congress. The report also called for major reforms to the forensic science system nationally, including certification and accreditation, and new research to strengthen the scientific basis and reliability of methods, such as fingerprint and toolmark analysis, which have not undergone rigorous scientific study.

"Forensic science is not merely just popular at the moment but undergoing the most vigorous challenge in its 150 years," says Assistant Professor Keith Inman of the CSUEB Department of Criminal Justice Administration (CRJA). "This makes it a rich time to be in academia."

"What I find really exciting, especially with the (University's) emphasis on STEM (science, technology, engineering, and mathematics), is the opportunity to grow or be in the vanguard for progress in forensic science." That includes training the next generation of leaders in STEM education, he says.

The national push to further professionalize the role of criminologists — including criminalists, specialists who collect and analyze evidence — and improve the science they employ also makes it a rich time for CSUEB students studying CRJA and overlapping disciplines, from anthropology to computer science.

## SPECTRUM OF OPTIONS

"Criminal justice administration is such a big field," says CSUEB lecturer Michelle Rippy '02, who also serves as senior deputy coroner for San Mateo County.

"It's kind of a generic term for the spectrum of fields it encompasses — crime prevention and control, restorative justice, women in criminal justice," she says. "It gives students a well-rounded perspective."

Early in her career, CRJA Chair and Associate Professor Silvina Ituarte, for example, worked in victim advocacy in a victim witness program and later in a drug treatment center and a youth center diversion program. She also notes that technology is opening up new specialties.

"A lot of times with us in criminal justice, students think you have to be in law enforcement or corrections working in a jail," Ituarte says. "There's way more than that."

Giving students full exposure to the options means that those pursuing studies in criminal justice also take courses in other disciplines, such as "Psychology of Personality," "Elements of Probability and Statistics," and "Medical Anthropology."

Partnerships between departments are not unusual. Assistant Professor Julie Beck helped found a freshman learning community, "Creativity and Social Change," that blended studies in CRJA with theater and dance. Inman and Professor William Thibault of the mathematics and computer science department have explored ways to use 360-degree computer imaging in forensic science. And Associate Professor Dawna Komorosky collaborated on a recent study with Dianne Rush Woods of the Department of Social Work (see *Save a Pet, Save a Life*, p. 30).

A CRJA degree prepares students for roles spanning insurance fraud investigator, parole officer, teacher in a women's prison, police administrator, and social worker. For students in the STEM disciplines, such as Advincula, job possibilities also include forensic laboratory technician.

"It can be very interesting for students — even those who don't want to carry a gun," Ituarte says. ▶



Close-up of a plastic headrest used in the laboratory at the San Mateo County Coroner's Office.

PHOTO: BECKMAN ELY



PHOTO: ANDREW GIBBER

When not in the classroom, Assistant Professor Keith Inman, above, can be found on the job at Forensic Analytical Sciences Inc. performing tasks such as firearm and toolmark examination.

Advincula doesn't carry a gun on the job, but he's seen his share of gunshot wounds, methamphetamine overdoses, heart disease, and other life-ending hazards. However, he learned on his first visit to the coroner's office, where his then-instructor Rippy handles case investigations, not to rely on assumptions.

"(Rippy) invited us on a field trip to go to the morgue," explains Advincula, who majored in applied mathematics with a minor in CRJA. "When we were there, she told us the story of a person who had been in a car accident. But it wasn't the car accident that killed her; she had medical issues."

The gap between outward appearances and what science revealed in the case solidified his interest in the field. When Rippy informed students that she was creating an internship at the coroner's office, Advincula quickly applied and was accepted. His colleagues were so pleased with his work, they invited him to stay on as an intern the following quarter. In February, they offered him a full-time position, which he eagerly accepted.

## REAL-WORLD PREP

Advincula credits the real-world preparation CSUEB faculty gave him for his on-the-job success.

"Most of the instructors are ... retired cops and (faculty) still working in the field," Advincula says. "They can give us

a better, bigger perspective. We're not just learning from a book. We're learning from a person who lived the life."

Inman, one of Advincula's former CRJA instructors, has been living the life of a criminalist for nearly 35 years, performing DNA analysis and crime scene reconstruction in private practice, for sheriff's departments, and public agencies such as the state Department of Justice DNA Laboratory. He worked on the high-profile Hillside Strangler case in the 1970s. When not in the classroom, he works for a private, Hayward-based crime lab, Forensic Analytical Sciences Inc., which reviews cases, assesses evidence, and offers services from bloodstain pattern interpretation to gunshot residue analysis.

A faculty member since 1997, Inman peppers lectures with references to cases he's worked on, often showing actual crime scene photos. Students enrolled in his courses soon learn it won't be a passive experience. During a session of "Comparative Evidence and Its Evaluation," an upper division CRJA course, students take in a short video, get a dose of forensic science philosophy from Inman, then examine the basics of a shooting case in which a police officer's body was found leaning against a boat just inside a garage in a Martinez neighborhood. The 1975 case was one of the first Inman worked.

## CRIME SCENES

"Here's what happens: An officer calls in a traffic stop," Inman explains to the 24 students scattered about the Meiklejohn Hall classroom. "Shortly after this, he says, 'I need backup.' A second officer shows up in mere minutes, and when he shows up, he finds the first officer shot."

"Based on what I gave you in this brief scenario, use your forensic imagination and imagine what evidence could exist."

At Inman's prompt, the students drag their desks into clusters of two or three to brainstorm.

After several minutes, Inman interrupts the thrumming, energetic conversations between students and asks the groups to call out their evidence ideas. Acting as scribe, he notes their responses — from bullet strikes to surveillance camera recordings — in blue ink on a white board at the front of the room.

"OK, Jhoanna, your group?" he says, soliciting evidence ideas.

"Timeframe in which everything happened," says senior Jhoanna Navarro, 23. "What time the call was made? What time back up came?"

Forensic autopsy technician Kenneth Advincula '11 gained early on-the-job experience through a CSUEB internship program at the San Mateo County Coroner's Office, where he now works full time.



PHOTO: MIKE GIBBER

# SAVE A PET, SAVE A LIFE

Researchers examine  
role pets play in  
decision to escape  
domestic violence



BY LINDA CHILDERS '85

A SHARED LOVE OF DOGS AND AN INTEREST IN DOMESTIC VIOLENCE RESEARCH LED TWO CSUEB ASSOCIATE PROFESSORS — DAWNA KOMOROSKY OF THE DEPARTMENT OF CRIMINAL JUSTICE ADMINISTRATION AND DIANNE RUSH WOODS OF THE DEPARTMENT OF SOCIAL WORK — TO EMBARK ON A SIX-MONTH RESEARCH PROJECT TO EXAMINE PET POLICIES AT THE STATE'S DOMESTIC VIOLENCE SHELTERS.

"The family pet is often an overlooked victim of domestic violence," Komorosky says. "Concern for the safety of a family pet prevents many women from leaving a violent situation. They fear the worst if they leave their pet behind."

Stories abound about pets that have been beaten, tormented, or killed at the hands of abusers. Both Komorosky and Rush Woods have heard heartbreaking stories of dogs and cats that have been shot, kicked, and bludgeoned in a cruel twist to domestic violence disputes.

"Batterers frequently threaten to kill or maim their partner's or children's pets, if they attempt to leave a violent household," Komorosky says. "They use animal abuse as a tool to demonstrate their control over their family."

Knowing that abandoning their beloved pets isn't a viable option for many women who are in an abusive relationship, Komorosky and Rush Woods set out to discover how many domestic violence shelters throughout California allowed pets, and how often women with pets were turned away. Their research project queried 73 shelters about their pet policies and found that most shelters don't provide care for animals, citing reasons including liability and space concerns. ▶



"The number of victims who never leave due to concern for the safety and well-being of a pet is immeasurable," Komorosky says.

According to research from the American Society for the Prevention of Cruelty to Animals (ASPCA) these concerns are well founded — 70 percent to 75 percent of women reporting domestic violence also stated that their partner had threatened or actually hurt or killed one or more of their pets. The ASPCA also notes that abusers often use family pets as a means of psychologically controlling their wives and children or to force them to remain silent about abuse.

"Studies have shown that violent and aggressive criminals are more likely to have abused animals as children than criminals considered non-aggressive," Rush Woods says. According to a 1997 study by the Massachusetts SPCA and Northeastern University, animal abusers are five times more likely to commit violent crimes against people and four times more likely to commit property crimes than individuals without a history of animal abuse.

Since most domestic violence shelters are overcrowded and underfunded, it's not possible to erect an on-site kennel or to pay the extra costs of caring for a family pet, report organizations surveyed in the CSUEB study.

"If a woman does have a pet, it usually goes to a foster placement or with a friend, and the victim is responsible for the cost," Komorosky says. "This is an issue, as most women leaving an abusive relationship don't have a lot of money,

so the cost could potentially prevent her from going to a shelter."

Rush Woods notes their research project is timely since securing protection for pets has become a big issue in the field of domestic violence. Four states passed laws in 2010 allowing companion animals to be included in restraining orders. Since 2006, 17 states, including California, have passed such legislation.

"Pets are being recognized as an important part of the family," she says. "They provide a sense of comfort, which is important for a woman and her children who are escaping an abusive situation."

The shelters that responded to the research study all noted that Komorosky and Rush Woods had identified a critical gap in the system — one that often forces women to choose between their own personal safety and the safety of a beloved pet.

"I see the next steps in our research project as helping to identify funding for these domestic violence shelters who want to accommodate pets and linking them with agencies and (volunteers) that can house pets on a temporary basis," Komorosky says.

She envisions the project aiding programs such as Pets and Women's Shelters (PAWS) Program, offered through the American Humane Society, which helps family violence emergency housing shelters to create safe environments that allow clients to bring pets with them. Additionally, the AHS offers grants to domestic and family violence shelters to assist with costs associated with adding on-site pet housing. The Humane Society of the United States also has developed a program, Safe Haven for Animals, that provides temporary shelter for pets and is available in 47 states.

Komorosky and Rush Woods now hope to develop a list of resources for California shelters to use so that when a survivor of violence is ready to leave a violent situation there will be no barriers.



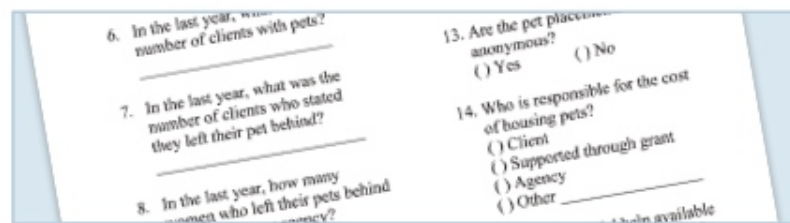
Associate Professor Dawna Komorosky, above, is greeted by Carly, who she adapted from a beagle rescue group. Komorosky's concern for animal welfare dovetailed with her expertise in domestic violence research for a recent project.

PHOTOS BY NINA ZUBET

"I see us identifying some of the best practices that shelters can tap into to ensure their residents' pets are well-taken care of until these women can get back on their feet," Rush Woods says. "There are animal welfare shelters and veterinary hospitals that might be open to providing temporary or foster care on a pro bono or sliding scale basis, but right now the domestic violence shelters are too overwhelmed to locate these resources."

Both associate professors see how the information from their research study can also be introduced in their classes.

"I think it's important for students who are pursuing a career in social work or criminal justice to be aware of the factors that might keep a woman from leaving a violent domestic situation," Rush Woods says. "If you don't know the proper questions to ask, you might not understand the victim has concerns about her pet's safety and that's why she's hesitant to leave." ■



## PET POLICIES LEAVE MANY ANIMALS BEHIND

Through a survey, of 73 domestic violence shelters throughout the state, CSUEB scholars confirmed that most do not offer care for pets, a practice known to deter pet-owning women from fleeing a dangerous household. Data from the American Humane Association points out why pet-friendly shelter policies matter:

- Of pet-owning women entering women's shelters, 71 percent reported that their batterer had injured, maimed, killed, or threatened family pets for revenge or to psychologically control victims.
- Thirteen percent of intentional animal abuse cases involve domestic violence.
- Between 25 percent to 40 percent of battered women are unable to escape abusive situations, because they worry about what will happen to their pets or livestock should they leave.
- Pets may suffer unexplained injuries, health problems, or permanent disabilities at the hands of abusers, or disappear from home.
- Battered women have been known to live in their cars with their pets for as long as four months until an opening was available at a pet-friendly safe house.



PHOTOS BY NINA ZUBET



NEW CSUEB CLUB PUTS

# Forensic Science

## Under the Microscope

BY LINDA CHILDERS '85

SLIPPING A GLASS SLIDE CONTAINING HAIR SAMPLES FOUND AT A CRIME SCENE UNDER A MICROSCOPE, SENIOR MARY KEEHAN PEERS INTO THE LENS IN SEARCH OF ANSWERS. DURING THE NEXT HOUR, KEEHAN AND SEVERAL OTHER STUDENTS WILL EXAMINE EVIDENCE FROM BLOODSTAINS TO FINGERPRINTS FOUND AT A MURDER INVESTIGATION SCENE. THEIR GOAL: RECONSTRUCT THE EVENTS LEADING UP TO THE CRIME AND ASSIST IN IDENTIFYING THE PERPETRATOR.

It's not a typical day in the classroom but rather a different type of crime scene, one where like-minded students — all members of the newly created CSUEB Forensic Science Club — meet to discuss the latest issues, news, and trends pertaining to one of the fastest growing professions — forensic science.

By studying minute details of a crime scene, these aspiring forensic scientists are learning how to identify criminals and analyze evidence against them, as well as how to perform comprehensive chemical and physical analyses of evidence and prepare reports describing the results.

Under the guidance of Assistant Professor Keith Inman of the Department of Criminal Justice Administration, the Forensic Science Club launched in spring 2010 and meets twice a month, attracting 20 students, primarily biology and chemistry majors, who hope to broaden their knowledge of forensic science standards, practices, and protocols. ▶



"We thought a Forensic Science Club could illustrate the scientific side of the criminal justice system and take students beyond what they're learning in the classroom," says Keehan, a biology major with a forensic science option and one of the club's founders.

Fueled by mainstream exposure from television programs, including *CSI: Crime Scene Investigation*, and high-profile criminal trials, interest in forensic science as a profession has soared. According to the Bureau of Labor Statistics, forensic science was one of the fastest growing careers in 2008 reporting a 30 percent jump in the number of forensic science technicians. The field bridges the gap between medicine, science, and the law — yet students quickly learn that the popular *CSI* television shows, with their highly stylized forensic techniques, don't always accurately portray the real world of forensic science.

"Every aspect of a real investigation takes much longer than it does on *CSI*," says junior Samantha Dunn, a chemistry major with a forensic science option and co-founder of the Forensic Science Club. "In real life it can take months to get some test results back, and not all cases are ultimately solved."

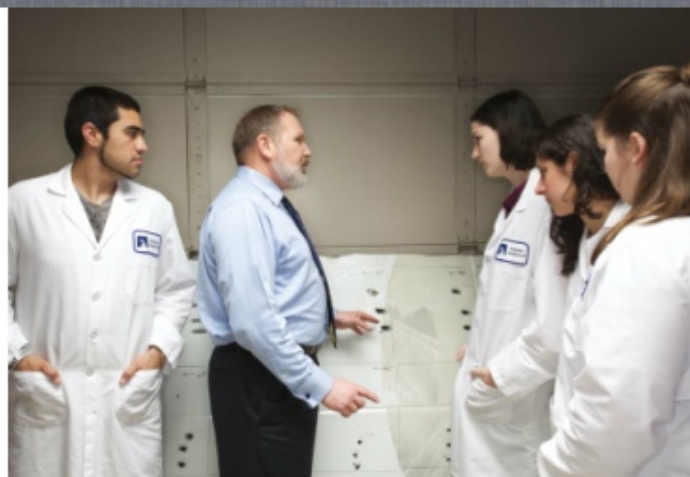
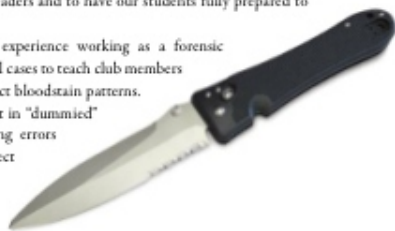
Dunn says club members often joke about analytical forensic tools that don't exist except on television and the show's misrepresentations about how forensic scientists process evidence.

In real life, those who aspire to work in the forensic science field typically have a strong foundation in the physical sciences. At CSUEB, undergraduate chemistry and biology majors can choose to take the forensic science option. Many students, including Dunn and Keehan, plan to continue their studies after graduation and obtain medical degrees, which are needed for employment as a forensic pathologist or medical examiner.

The CSUEB forensic science option is a 119-unit program offered through the Department of Biological Sciences. Students take courses in physical sciences and mathematics, biological sciences, and criminal justice administration.

"The Forensic Science Club complements our existing curriculum by offering students access and exposure to what they would see in an actual crime lab," Inman says. "My goal is to train the next generation of forensic leaders and to have our students fully prepared to compete for jobs in crime labs."

Inman, who has over 30 years experience working as a forensic scientist, uses evidence photos from real cases to teach club members techniques including how to reconstruct bloodstain patterns. At one recent meeting, Inman brought in "dummiied" evidence samples containing packaging errors to help teach students how to protect the integrity of evidence by preserving it properly.



Assistant Professor Keith Inman, second from left, explains to students on a visit to a Hayward crime lab a procedure for testing the angle at which a bullet enters sheet metal. Students, from left, are: Jebel Iniguez, Liza Adams, Gracia Frias, and Samantha Dunn.

PHOTO: MARY ZIEGLER

Since forensic scientists often are called upon to testify at trials or hearings to explain evidence or laboratory techniques to jurors, Inman also has devoted time at club meetings to discussing effective presentation skills and how to face intense scrutiny while on the witness stand.

"We're all going to be called upon to testify in court at some point in our career, and there isn't a class that prepares you for what to expect," Dunn says. "Keith knows how tricky cases can be and how our court testimony can impact the case."

For Keehan, who hopes to work in a forensic lab after graduation, the one-hour to two-hour club meetings provide a welcome opportunity to analyze evidence and crime scenes, and brainstorm theories and observations with other students.

"Some of our meetings start with a PowerPoint presentation of actual case files, and club members discuss possible scenarios about what may have occurred at the crime scene," she says. "We start with what the police would have seen when they first arrived on the scene and go through each step, making a hypothesis, and then comparing the results to the opposite situation."

While the photos depict actual crime scenes, Keehan says the club mandates that members keep the information confidential and not discuss cases outside of the group.

Another recent club meeting featured a guest speaker who discussed his 33-year career as a forensic scientist working in private and government crime laboratories. He also donated a comparison microscope to the club that can be used to analyze side-by-side specimens of fibers, hair, and ballistics.

Keehan says club members plan to schedule more guest speakers as well as presentations on new developments in the field of forensic science.

"Forensic science is an ever-changing field that presents a lot of unique challenges," says Keehan. "Evidence only gets you so far — to solve a case you need to have good analytical skills combined with stellar police work." ■



PHOTO: MARY ZIEGLER

A trial of evidence comprises fake blood, an old shoe, and bullet casings in mock crime scenes Assistant Professor Keith Inman stages for students enrolled in the course "Comparative Evidence and its Evaluation."

