



A MUTATED VIRUS.
A DEADLY OUTBREAK.

A POSSIBLE CURE IN
OUTER SPACE.

BONNIE
DORAN

MISSION FAILURE:
NOT AN OPTION

DARK
BIOLOGY

Dark Biology

Bonnie Doran

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DARK BIOLOGY

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Dedication

To my husband.

Praise for Bonnie Doran

First Place, 2005 East Texas Writers Association
Contest (young adult novel)

Second Place, 2006 Inspirational Writers Alive!
Contest (young adult novel)

1

Infection Minus Ten Months

Hildi's nose itched.

She ignored it. While she waited for her lab partner to emerge from the airlock, she checked the seals of her blue biocontainment suit again. Good habits could save her life.

Hildi pulled a coiled yellow air hose suspended from the ceiling and plugged it into a socket near her waist. The deflated suit expanded as air roared past her face. The familiar ballooning sensation saddened her for a moment. She'd miss her work here.

Then she grinned. She'd be wearing a pressure suit in her new job and performing similar cutting-edge work in an even stranger environment.

Her practiced eyes appraised Biosafety Level 4, the Centers for Disease Control and Prevention's most dangerous lab. Everything down and cold. But an adjoining room held liquid-nitrogen freezers filled with hot agents, the deadliest diseases known to man. Francine stepped from the airlock. Hildi's college friend had never worked in Level 4, but she moved with confidence. Hildi stared into Francine's faceplate and noted her calm expression. She'd do fine.

Hildi maneuvered past the stainless-steel tables dominating the room. She pulled two-inch test tubes, a

push-button micropipette, and other tools from drawers and placed them in the biosafety cabinet, a glorified box with a fume hood and clear front that rested on the work counter. She detached her hose, inhaling the reserved air in her suit.

Humming to herself, she walked into the adjoining room and attached her suit to another hose. Every time Hildi moved in the lab, she repeated the procedure, a necessary inconvenience if she wanted to continue breathing.

She punched a code into the lock of one of the stainless-steel freezers and extracted a vial of the latest X virus that may or may not have killed John Doe.

Returning to the biosafety hood, she slipped her yellow-gloved hands under the clear protective shield, a sneeze guard at a toxic salad bar. She withdrew a tiny sample of the unknown and released it into one of the tubes. After Hildi repeated the protocol many times, she keyed the information into the computer.

Hildi glanced at Francine just as she straightened from a hunched position over a microscope. Francine turned, her movements jerky like a marionette's. Her suit's chest zipper gaped, exposing her blue scrubs underneath. She seemed to shrink as her biosuit deflated.

Hildi froze.

"I've got a problem here!" Francine yelled, her voice quavering. The rush of air in their ears turned conversations in Level 4 into a shouting match. Francine fumbled for the zipper with trembling fingers.

Hildi's heart skipped several beats, then she zipped the suit shut in one smooth motion. "Zippers get worn. They can pop open."

Francine's white-rimmed, dark-chocolate eyes returned to normal. "How bad was that?" Her voice still quavered.

"Your suit had positive pressure the whole time. A hot agent couldn't get in. You OK?"

Francine gave a nervous chuckle. "Sure gave me the jumpy jitters." She turned back to the scope.

Hildi released the breath she'd been holding. Risk was part of the job. Zippers failed. Gloves failed. Usually it wasn't life threatening.

She placed the rack of tubes in the incubator cabinet maintained at the ominous temperature of warm blood, and then returned the original sample of hot agent to the freezer. Her mood descended into a gray chasm. She already missed the challenge of Level 4. But she had a job offer that would take her research to a whole new level. She could smell that Nobel Prize. Her brother Chet would never catch up to her now.

Hildi exhaled a heavy sigh that fogged her faceplate. "Done," she yelled. "Finally I can get out of here and scratch my nose."

"Thought you'd be used to it after three years."

"Never. Right now it's driving me nuts."

Francine chuckled and headed for the airlock.

Hildi followed. She inhaled the chemical smell as the decontamination shower sprayed disinfectant over her suit. The two of them scrambled out of their blue suits as soon as they reached the changing room. Hildi scratched her tingling nose with ferocity.

Francine grinned at her and walked to the regular showers which contained detergent for washing and a bath of ultraviolet light.

Hildi hung her short suit next to Francine's long one. She reached up to caress a sleeve of the guardian

that protected her against infection. "Thanks for keeping me safe. I'll be back."

Hildi stripped and marched naked to the shower. No modesty in this job. Afterward, she tugged on jeans and a mauve T-shirt.

Her lab partner's perfect complexion glistened as she toweled off. Hildi's pale skin and red curls contrasted with Francine's coffee coloring and corn-rowed black hair. Not exactly twins separated at birth.

"When do you get in to Houston?" Francine pulled on black leggings and a flowered tunic then grabbed her tiny purse.

"Around four." Hildi grimaced. "Rush hour. My favorite time." She longed for the feel of the afternoon sun on her face, but she wouldn't enjoy it today.

"I'm surprised Director Hunt gave you such a long leave of absence."

"It's a fantastic opportunity." Her spirits bounced like an acrobat on a trampoline. "But it's not like I won't be working." She grunted as she wrenched her holds-anything-and-hides-everything handbag from her locker.

Francine smiled. "You know, I might just lock you in one of the labs until after your flight leaves."

Hildi laughed. "You wouldn't dare."

"Don't try me. I'm missing you already." Francine hugged her. "I can't believe you'll be gone for over a year."

Hildi swallowed to keep her voice from cracking. "I *will* be back for visits, you know."

"You'd better be."

They walked through another airlock into a corridor and less-lethal safety levels. The burning, moist smell of giant autoclaves bid a pungent farewell.

"You just don't want to work with Chet." Hildi baited her friend.

"Don't rub it in." Francine lowered her voice. "Did you hear? Your brother's in big trouble." Francine sounded like she relished the thought.

Hildi groaned. "What did he do this time?"

"Chet worked on that new anthrax sample from England without authorization. Director Hunt turned three shades of purple."

"Hunt's a bit paranoid about the paperwork, that's all."

Francine shook her head. "Your brother has an attitude."

"I know." Hildi frowned. "It's hard to work in the same building with him when he avoids me like—well—the plague."

"He's done a good job at alienating *everyone* around here, so don't feel special."

They drove directly to the airport in Francine's tired green Altima. The Atlanta traffic, abysmal at any time of the day, choked Hildi with exhaust fumes. She turned up the AC. "Sure you don't mind caring for my cat?"

"Whiskers will be just fine."

Francine pulled up to departures, opened the trunk, and hefted the bulky suitcases. "What do you have in here, moon rocks?"

Hildi grabbed her carry-on. They chatted until a security officer ordered, "Clear the lane, please."

Hildi fished in her purse for a tissue and gave Francine one more tight hug. "Thanks for everything."

"*Vaya con Dios.*"

Hildi wheeled her suitcases to the nearest door, her stomach fluttering as if she'd just won the lottery.

Maybe she had.

Hildi deplaned in Houston after an unremarkable flight. She heaved her suitcases onto their wheels and stepped outside. A tanned man in a polo shirt and jeans held a sign. *Dr. Hildebra*. Someone hadn't quite fit her name on the cardboard. Situation normal.

"Evangeline?" He smiled.

"Please call me Hildi."

"Larry Gomez."

Hildi stifled a gasp and flung her starstruck feelings aside as she wiped sweaty palms on her jeans. Larry's exploits in space were the stuff of legend. She shook his hand.

He loaded her luggage into the trunk of his silver Jaguar convertible. More diesel exhaust assaulted Hildi as they headed south on I-45. She'd expected oil fields and cowboy hats when she first came here but instead found apartments, shopping centers, and malls. Same humidity as Atlanta, same traffic. He chattered nonstop.

Hildi interrupted. "So tell me about the rest of the team."

"You'll like them. Jasper Reingold and Frank Schotenheimer."

Hildi nearly jolted out of her seat. "Frank?" If she'd known, would she have volunteered for this assignment?

In a heartbeat.

Larry's face held a puzzled frown. "You know him?"

She hesitated. How had Larry missed knowing

about her relationship with Frank? Would it jeopardize her chance to work in space? No way to hide it now. "We were engaged."

"Well, things are about to get interesting." Larry's mouth quirked. "The director moved him up from a later mission when our pilot shattered his leg yesterday."

She stared at the scenery. Frank? On her team? Scenes flashed in her mind. Their first kiss that had warmed her to her toes. Her growing suspicions. The night she confronted him about his gotta-work-late excuses, and he confessed his affairs. Trampled dreams.

Lord, I could use a little help here.

Larry must have sensed her mood. He didn't say a word for the rest of the trip.

An hour later, they pulled up to the employee entrance of a sprawling facility, the salty tang of the Gulf of Mexico perceptible even this far from the ocean. Shimmers of heat rose from the pavement. After the security guard examined their badges, he beamed. "Dr. Hildebrandt? Welcome. Let me page Dan Stockton for you. He asked me to notify him when you arrived."

Hildi's mind whirled. First Frank and now Dan? Last time they'd talked, Dan had been training in Alabama. Probably his idea of a romantic surprise. She tried to submerge a surfacing smile. She wanted to jump into his arms when Dan arrived. Instead, she forced herself into neutral pose. He wore a periwinkle silk shirt with coordinating tie. Always a tie, as if he could never relax.

Larry whispered in Hildi's ear, "Now you know why he's earned the nickname Dandy Dan."

"Hildi." Dan stepped toward her with an eager grin, glanced at Larry, and stopped in mid-stride.

"You know him, too?" Larry's glance bounced back and forth between them like a hyperactive tennis ball.

Dan hesitated. "Uh, yes. We've met."

An uncomfortable silence descended. Hildi stared at the polished floor, counting the squares. She didn't want to tell the mission commander about another relationship, especially when she couldn't explain it herself. An on-again, off-again, long-distance relationship that was going nowhere.

Larry cleared his throat and turned to Hildi. "Another fiancé? Have *we* ever been engaged?"

Hildi laughed, relieved he didn't ask any more questions.

Dan smiled. "Would you rather go to your quarters first or eat?"

Her stomach rumbled in response.

"Perry's Steakhouse?" Larry still eyed them with suspicion.

"Yes, sir." Dan spread his arms and planted his feet on the emblem emblazoned on the floor, like a barker at the circus. "Welcome to the Johnson Space Center and phase two of astronaut training."

2

"I" Minus Nine Months

Chet's nose itched.

He scowled as he waited forever for his new lab partner to emerge from the airlock. Hildi's leftovers again. Francine wasn't his idea of a perfect coworker, but the boss hadn't given him a choice.

"What took you so long?" he yelled as she finally entered Level 4.

"Keep your pants on." She glared at him through her faceplate, muttering under her breath.

Chet clenched his jaw. Francine's hostility could ruin a perfect morning. Must have gotten it from his sister. Well, two could play at that game. "Set up the microscope and slides in the hood," he snapped. "I'll get the virus."

"Yes, sir."

Chet ignored her as he maneuvered past the counters to the incubator. He extracted a rack of tiny plastic flasks containing an unknown procured by a British epidemiologist in the Congo. They contained living cells from a monkey's kidney, tiny drops of blood from an unnamed human victim, and a nutrient bath. If John Doe died from a virus, the monkey cells would shrivel up and burst. Chet could be holding one of the deadliest diseases known to man. And it was the

deadly diseases that fascinated him.

He carried the rack and set it beside the microscope. He placed one of the flasks under the scope, leaving the cap in place, then stared into the eyepieces until he got a clear look at the living cells. The virus itself, of course, would be too small to see.

Francine took test tubes to another safety hood.

"Careful with that. And handle those slides with tweezers."

"I know the protocol." Her back blocked Chet's view of her work. Probably deliberate. His blood pressure rose. If she did her job, she'd extract droplets of the unknown with a pipette and place them on slides. But he couldn't do *his* job of supervision with her antagonism.

Chet performed a day's detective work with no conclusive evidence that John Doe died from a virus. He huffed. Most viruses came, mutated, and went. Sometimes they killed people. But most of them were small potatoes compared to Ebola. Get exposed to that, and you could kiss the world good-bye in hours, not days. And no one knew where it came from. Now *that* was a mystery worth solving, not this stupid name-that-virus game.

He stood and stretched, checking the chest zipper of his suit again. He'd heard through the grapevine about Francine's zipper episode. He glanced at her to check her suit seals, but she bent over her work, still not finished. What a slug. He had better things to do than supervise a minion.

Time to check the monkeys.

Chet stepped down a corridor into another room lined floor to ceiling with stainless-steel wire cages. Most were empty, but a few contained rhesus

monkeys, their screeching muted by the rush of air in Chet's ears. The monkeys raced back and forth in their cages, eyes staring at him from furless pink faces. They recognized him even through his faceplate. Eager paws reached through the bars for treats. The dominant male displayed his boredom and yawned, exposing wicked canine fangs.

Chet grinned as he grabbed fruit-flavored cereal bits from a box and held out his hand to the male. The monkey plucked the bits from his open palm, crammed them into his mouth, and held out his paw for more.

Keeping his palm flat, Chet distributed the treats. None of the lab animals ever bit him, but their sharp teeth could easily puncture his gloves. Bad idea.

Chet lingered at the cage of his favorite primate, a brown rhesus weighing twelve pounds. Minnie's eyes were solemn as she took the cereal. She'd survived the Ebola virus. All of them were survivors. They should be allowed to live the rest of their days in peace, but they would never leave Level 4 except in body bags destined for the autoclave.

Francine came in and offered treats as well. When she turned to face Chet, she raised an eyebrow and smirked. Chet fumed. Everyone in the lab got attached to the monkeys. So did he. Why was it such a big surprise?

"Did you finish the slides?" He slammed the cereal box on the counter.

"Yes." She spat the word.

Francine should be fired for her sullenness. He hoped he never worked with her again.

"I'm leaving." Chet beat her to the airlock. He cycled through and entered the men's suiting area.

After he finished the decontamination procedure and pulled on jeans and a T-shirt, he strode through the final doors of the level. Francine's back retreated ahead of him in the hallway. She must have dressed in record time.

Chet passed his badge in front of the security scanner, nodded at the guard, and left the building. A cool April day greeted him outside, and he donned his jacket for the short walk home. He pounded toward Shepherd's Lane, his stomach tightening as he seethed about the unfairness of it all. While he'd been sweating in Sierra Leone, working to identify and contain an unknown virus, perfect little Hildi nabbed the opportunity of a lifetime—experimenting with viruses in space. He usually ignored her ambition as long as it didn't trample his own objectives, but enough was enough. She'd mirrored his every professional move. They even looked alike.

Their work on vital vaccines—Hildi with Lassa fever, Chet with Ebola—could revolutionize the African continent already ravaged by AIDS. Whoever won the race would get all the accolades. Last one in was a rotten egg. And he'd never win if the director kept giving him such stupid assignments.

That Nobel Prize is mine, dear sister.

He stopped as his elderly neighbor shuffled out her front door. "Hi, Edna. Let me get your paper for you." The news carrier had tossed it on the roof of her aging Cadillac, the jerk. Edna nodded her thanks and shuffled back.

Chet stepped into the sparseness of his house—gray blinds, modern couch and chair in red, a large-screen television in basic black, a small dinette. A metal-and-glass display case showed off his origami

creations, with his beloved full-rigged sailing ship in a prominent place. Baker's racks in the kitchen sagged under the weight of appliances and alphabetized gourmet ingredients.

He set his briefcase near the door and strode to the kitchen. Peering into the refrigerator, he pulled out a bottle of Riesling and poured a glass into stemmed crystal. A perfect pairing with his Szechuan chicken.

He marinated the chicken and chopped vegetables. Waiting for the brown rice to finish steaming, he sat in the chair, sipped his wine, and read a bit from his e-reader.

A blinking light on the phone near his elbow indicated a voice mail. He punched the button.

"Hi, honey. It's your mom. Hope you're having a good day. We're praying—"

He erased the message. He should switch to cell phone only. She didn't know the number.

When the timer chimed, Chet pulled himself out of the chair, heated his wok, and stir fried his dinner. The dish needed more crushed red pepper but otherwise was perfect. He ate it with ivory chopsticks and chased his meal with another glass of wine.

After cleaning up, he turned on the news and pulled his latest origami project toward him. Events hadn't changed since yesterday—war, economic woes, tsunami damage. Someday they'd announce real news like a vaccine for AIDS, and he wanted to be a part of it.

The anchor paused, apparently waiting for the teleprompter to switch to another story. His dark hair had just the right touch of gray to lend him authority. "In Houston's Johnson Space Center, the crew of the first manned Rigel capsule is training for its mission to