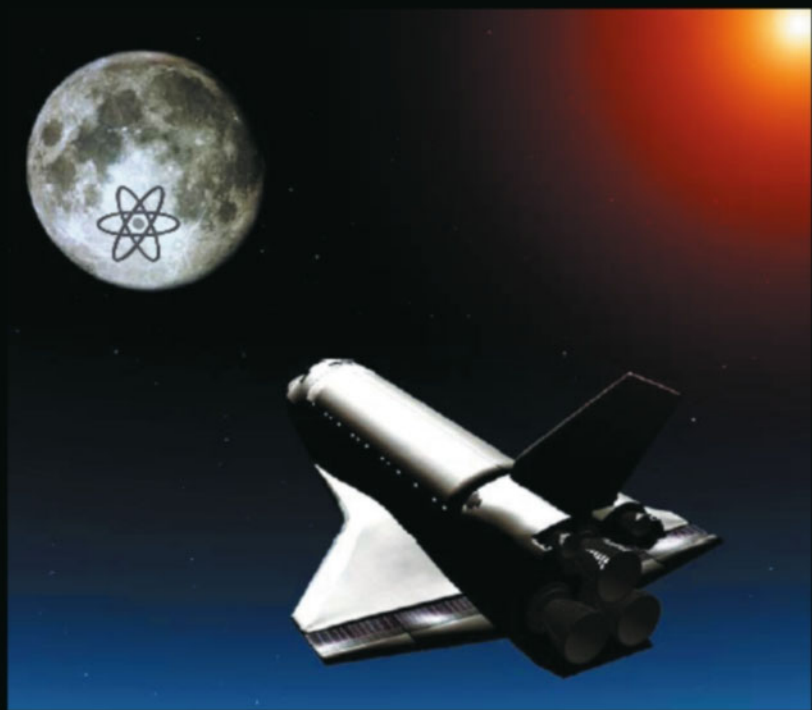


Gayle Farmer
COLD FUSION



Gayle Farmer

*COLD
FUSION*

This book is dedicated with gratitude and love
to my beloved husband,

Jeff Farmer

Without whom there would be no books

And to my inspiring editor, and dear friend,

Irene Gardner

Thank you

**Other Books
by
Gayle Farmer**

Mystery/Thrillers

**The Sessions and Browning
Detective Series**

**Secret Lives
Lethal Intent
Firestorm**

Young Adult Adventures

The Doubletree Kids Series

**Follow Your Dreams
Couples/All In The Game – Two Books In One
High Hurdles
Riding High
Riding Blind**

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COLD FUSION

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This is a work of fiction. Names, characters, places, and incidents are either the product of the author's imagination or are used fictitiously, and any resemblance to actual persons, living or dead, business establishments, events or locales is entirely coincidental.

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Gayle Farmer

*COLD
FUSION*

Chapter 1

The sun began its nightly dip into the ocean, throwing splinters of mauve, red and gold light into the sky and piercing the billowing clouds like lightning. With a dramatic Hollywood flair befitting a blockbuster movie and an almost audible hiss, it sank into the open arms of the sea, nestled a moment on the horizon and then disappeared.

The restaurant lights flashed on and the neon sign buzzed to life just as Terry entered the parking lot of *ELLA's* Restaurant. She pulled to a stop at the back door and hopped out of the car.

The classic '94 red Jaguar XJS, top down on this warm summer evening, and presently crammed with brown parcels, glowed in the setting sun.

Terry scooped up as many bags as she could carry and pulled the heavy door open with a grunt. "Ella, Chef? *Anyone?*"

Chef popped his head around the kitchen door and grinned in recognition. A tall white hat cocked jauntily to one side of his head gave him a debonair look. He nodded at her, eyes fixed on her full arms. "Yo, maiden comes bearing gifts, I see. Whoa, Echo Gardens *and* Seafood Paradise. I was a good boy, huh? You sure are a good girl."

He chuckled at her and peered into the bags, blue eyes alight. "Oh, my God, Terry, you outdid yourself. Just look at all this good stuff. The avocados are as big as your head and just give a look-see at those artichokes. Our dinner special is about to change. How about a ceveche served on half an artichoke, a tad

of crème fraiche and a caper or two? To die for. Or maybe some snow crab....” He turned toward her and winked. “I’ll get Brian to bring everything in from the car and then we’ll tear into those sacks. I can hardly wait to get started.”

He rubbed his hands in glee and continued to chuckle as he headed toward the dining room. After ensuring there were no customers to hear his unseemly display of bad manners, he bellowed for the busboy, who hurried across the dining room, brow furrowed in dismay.

“Good God, what?”

“Follow me and keep a civil tongue in your head.”

“Me? You’re the one screaming like a cow in labor.”

Chef gave him glare for glare, hesitated a moment, then returned to the kitchen with Brian in tow. He pointed at the bags and grinned, beetling his brows. “Incoming, my friend. Many more are waiting for you in the back seat of the car. There’s a treat in it for you if you’re quick.”

Brian leaned over the counter, surveying the goodies. “A treat? Sounds like a plan, Chef.”

Terry handed him her keys. “When you get it unloaded, can you park in the back? We’re going to be busy tonight, especially with live entertainment in the lounge. She’s taking up a prime spot and I’m here for the duration, so she’s gotta move. Just be sure to raise the windows and hit the alarm button, okay?”

The grin on Brian’s face spread from ear to ear. “Like totally thrilled. Anywhere in particular you want me to park it, Terry?”

Sparkling dark eyes alight, she tilted her head. “We have a ton of reservations, so leave the choice spots for the customers. Doesn’t really matter where, just so it doesn’t take up one of the front slots. Find somewhere in the back where it won’t get dinged by anybody else’s door.”

“You got it.” Brian left the kitchen twirling the key and humming.

“Stay in the lot, Brian.” Terry grinned at his retreating back then turned to Chef, watching him prowl through the bags.

“You won’t believe the prawns. I got five dozen and the Ahi is so gorgeous, I bought you eight pounds of it. I couldn’t resist. Just wait until you see it, bright red and so fresh it smells just like the ocean.”

She opened one of the bags and pulled a large package out. Plopping it on the stainless steel counter, she slit the white butcher’s paper open, flipped it and exposed the ruby-red fish. It made a striking contrast to the next package containing huge, dark green prawns. Terry handed both plastic bags to Chef with a wide grin and a pat on the shoulder. “Do I know how to make you happy or what?”

“Girl, you have the eye of the tiger when it comes to food, I’m telling ya. Pan-seared Ahi suddenly became the catch of the day. And those prawns? I think I’ll stuff them with prosciutto and Brie cheese and that great pepper sauce reduction you love. Top with a little crème fraiche and a sprinkle of caviar for \$45 a plate. How’s that sound? Make you a bet I’m sold out within the hour.”

“Me?” she said with a knowing smile. “You think I’d take a bet like *that*? You couldn’t give me good enough odds.” She arched her eyebrows and then turned to the newly arrived bags.

“All the fruits and veggies are outstanding, but the tomatoes and avocados are perfect, ready to go and so fragrant.” She picked up a tomato and sniffed the stem. “Look at that, would ya? I can’t remember anything as good as this season’s crop, can you? The fruit is beautiful, too, especially the melons and peaches. Man, you’ll be impressed.” Terry headed for the dining room. “Have fun, Chef.”

Outside in the parking lot, she heard the familiar growl of the Jag’s engine. Angel’s tires screeched across the blacktop as Brian parked the car.

* * *

Lenny and Jim stopped at the light on West Sunset Boulevard, waiting in the seemingly endless line wanting to

make the right turn onto North Beverly Glen. Their destination, the hills of Bel Air.

“I’m not sure about this one,” Jim said, inching the Suburban toward the approaching street. “It could end up being one of those endless deals, an extremely lucrative full-time job we don’t really want. I’ve never done a body guard job before and I’m not sure we need to start now. If only we could talk Baker into buying one of our dogs and leaving it at that. Rudy has two that’d be just right for them. Actually, Baker’s fine with it, but his wife’s scared of big dogs. Seems like she has some past issues.”

Lenny snickered. “Maybe we can talk Rudy into developing a buffed-out, athletic Chihuahua just for her. Ferocious little buggers when they want to be and absolutely fearless. Pound for pound, they’d rival a Dobie in a heartbeat.”

The traffic stopped again as a herd of tourists wandered across the street, eyes wide in wonder, gaping from one side of the road to the other, oblivious to the cars threatening to mow them over.

Only three cars ahead of them now. All drivers on alert, they jockeyed for position, eyes flitting from rearview mirror to side mirrors and back again, vigilant and ready to duke it out with the inevitable red light-runners who studiously ignored the signs warning of \$300 fines for doing so.

“You have to wonder why he called us. You’d think he’d just get a bodyguard from one of the services and be done with it. That’s the advice I’d give him.”

Nodding, Jim laughed as he muscled his way ahead of a determined Ferrari now caught in the middle of the intersection, attempting to make a left turn against the light.

A variety of indignant horns burst into song.

“Just sit there,” Jim shouted out the window. “Idiot!”

The Ferrari, not about to take that insult standing still, cut sharply to the left and charged down Beverly Glen on the wrong side of the line, sliding in front of a little girl in a BMW who was not about to argue, although she did flip him the bird.

The driver of the Ferrari stuck his arm out his window and sent everyone the American salute. It was promptly returned with vigor by the dozen or so closest drivers along with two more irate horn blasts. The teenager in the BMW edged her car forward until she was barely a breath away from the Ferrari's non-existent bumper. She grinned big and gave him a finger wave.

“Ah, don't ya love the City of Angels? Can't beat it for diversity, that's for sure.” Lenny stared out the window a moment, checked a street address and peered back down at his map. “Let's see here, three miles up to Via Verde. Turn left and follow it all the way up to the end.”

They didn't move fast enough off the line when the light changed and three horns blasted in unified impatience. One irate passenger in a convertible stood up in his seat and pounded his chest like a gorilla, shrieking insults at everyone in a three lane radius.

“Look at that asshole. I swear, Angelinos have to be the rudest drivers in the world,” Jim said, scowling in his mirror.

Indignant, Lenny snorted in reply. “Ha! These aren't Angelinos. Holy shit, man, most of the people on the road aren't even from the United States, let alone California. They're all driving rental cars. Check the plates. Wacky tourists. You can tell from the weaving, the staring from side-to-side and don't ya love the right turns from the left lane. God, *look* at that! A laugh a minute. It's the only time I wish I still wore a badge.”

Scowling out the window, he pretended to talk on his cell phone and take down license numbers. Studiously ignored by all concerned, he gave up and turned toward Jim. “Idiots.”

The winding road continued to climb, passing the gated entrances of one huge country club or equestrian estate after another. Trees towered above them, shading the entire road; only dapples of late afternoon sun penetrated the heavy cover.

“It should be coming up pretty soon,” Lenny said, once again checking the addresses on the wrought iron gates.

“Man, it’s gorgeous up here, isn’t it? High up like this, there’s no smog ... and the view? Look over there.” Jim pointed to the right and the top of the Los Angeles skyline. “Whoa. We’re definitely in the upper multi-millionaire neighborhood.”

“Yep, great zip code. Here it is, Jim.”

They stopped at the wide ornate gates and Jim pushed the button on the call box. Shortly, a voice said, “Baker residence. May I have your name, please?”

“Jim Sessions here to see Mr. Baker.”

The gates began to open before Jim finished. Tall California oaks lined the red brick driveway which forked in the middle. On the right, expansive emerald green lawns rolled down to a lovely white barn and a white paneled arena shaded by more huge trees.

To the left, a huge, multi-windowed, ultramodern house soared three stories into the air, rising out of the lush foliage like an alabaster phoenix. The ground level consisted of floor to ceiling windows and shaded patios nestled amidst flamboyant tropical gardens. The top floor, with its expansive lanais, offered an incredible view of the Los Angeles basin even as it reached for the fleecy white clouds that floated by on unseen winds.

Jim parked in front of the flagstone footpath, glanced at Lenny and shrugged. They stepped out of the SUV, clutching their attaché cases close to their sides. They wove their way along the path, flanked on both sides by ponds full of colorful Koi, hiding behind lily pads or nibbling the sides of the pool.

“What do you figure is behind door number one,” Jim said as it swung slowly open.

“A very wealthy man.”

A middle-aged woman in a black uniform opened the door. She nodded. “I am Mrs. Hodges. Please come in. Dr. Baker is waiting for you on the veranda. This way, please.”

Jim and Lenny glanced around the room, taking in the minimalist furniture and avant-garde art. Their heels clicked across the highly polished gold travertine marble floors as they followed Mrs. Hodges.

She led them to a wide set of French doors, opened them and stepped onto the flagstone patio. “Dr. Baker, Mr. Sessions and Mr. Browning have arrived.” She stepped back, ushered the men outside and closed the door behind her.

Arnie Baker approached them, hand outstretched. Introductions made, he indicated chairs next to him at the table.

“I appreciate the quick response. May I offer you some refreshments?” He shrugged at the pitcher of iced tea, saw their nods of approval and poured.

Jim took the offered glass and gazed over the low wall to the distant riding arena below. A young girl of about ten jumped her pony under the watchful eyes of her trainer.

He returned his glance to Arnie and nodded. “What can we do for you, sir? I understand you’re concerned that someone might be stalking your family?”

The man continued to stare at the child for a moment, his expression filled with pride and loving concern. “That’s my daughter, Sara, taking a riding lesson. I’ve got the best seat in the house.” He chuckled a moment and then heaved a deep sigh. “Some man is watching my family, following them around and it’s scaring them to death. I’m so afraid they’ll be kidnapped I can hardly sleep.”

Lenny flipped the switch on his pocket tape recorder and leaned forward. “Why, beyond the obvious, would you think they’d be kidnapped? Has anyone tried to approach them or make contact? Your family consists of your wife and daughter, correct?”

Baker nodded. “Sara is ten. She’s the light of my life, and my wife is named Candace. She should be down any time now. They’re going for a ride after we finish and she’s changing into her riding gear.” He continued to watch the child and her pony.

“Why do you think they’re being stalked, sir?” Jim took a grateful swallow from his glass, then shifted in his chair and began to rise. A young woman dressed in beige breeches and tall black boots strode across the veranda from another section of the house, a velvet helmet in her hand.

“Please, gentlemen, be seated,” she said, smiling at Jim. She took his outstretched hand and then reached toward Lenny and nodded. “I’m Candace Baker, pleased to meet you.” She patted her husband’s arm several times and took the chair next to his. “Am I late? I hope I haven’t missed anything important?” She placed the helmet on the table and reached for a glass of iced tea.

“No, darling, on the contrary. Your timing is perfect. Please tell them what occurred the other day at Lawson’s.”

Candace nodded, pale blue eyes blinked twice as she glanced at her daughter. “It was so strange. Sara and I wanted to make a special dinner, something we’d seen on a TV cooking show, so we went shopping to pick up some special ingredients. It all started in the vegetable section. Some man came up to me real close, you know, stepped into my space and started rooting through the onions, reaching across me, almost touching me.

“I moved away pretty quick, picked up some mushrooms, I think, and a tomato and headed for the meat department. Next thing I know, he’s right there at my elbow. This time he talked, asked me if I needed a handyman, anyone to work around the yard or the house.” She paused a moment, slightly out of breath.

“I told him I didn’t need any help, picked up some veal chops and headed down another aisle. He just stood there, watching me as we picked up some risotto. He never took his eyes off us. I could feel him staring. We got in line and he walked out the door as soon as he saw us getting ready to leave. By that time, Sara had noticed him as well.

“Anyway, we only had a couple of things, so we got through the line fast. We felt kinda spooked, so we hurried across the lot. I threw the bags into the back seat ... the top was down ... and slid behind the wheel. I barely got the engine started when he was, like, right there.”

Her voice rose and a light film of perspiration glistened on her upper lip. Candace’s right leg started to bounce and she clasped her hands until the knuckles showed white with strain.

“He said I did so need a handyman and there was no sense in denying it. The guy was very ... *determined*. He put his hand on the door handle like he was about to open it. Man, I just slammed the gear into drive and took off. I’ve never been so scared in my life.”

She picked up her glass of iced tea and took several swallows. “That happened on Monday. On Thursday, Sara and I went to the library to return our books and pick up some new ones. I never saw him approach. It was like, one minute he was just *there*. He told me I’d better change my mind and stop playing games with him. His tone was positively ominous, kind of like, *or else*.”

Arnie reached out for her quivering hands, taking them in his. “Candace, you’re safe here, honey. Don’t worry. Jim and Lenny will make sure nothing happens to you.” He turned to the men, eyebrows elevated in question.

Lenny responded with an eyebrow lift of his own. “Have you talked with the police, made a statement?”

Arnie shook his head in disdain. “God no, why bother? In the first place, there’s nothing they can do because no crime was committed. If, by some horrible chance a paparazzi nut gets hold of this, they’ll be parked along the road to the house and chasing us everywhere we go. No, that’s why I want to hire you.”

“Well, there are a couple of problems with that,” Jim said. “We’re Private Investigators. We aren’t bodyguards and we don’t offer that service, although I agree it’s what you need. That’s why I strongly suggested to your husband that you buy one of our dogs.”

Before he could continue, Candace held up her hand. “He doesn’t need the convincing. I’m the one against buying a dog, especially a big one. I don’t think it would be a good idea around the horses, for one thing, and Sara is only ten and little for her age.” Her voice drifted and stopped. Finally, “I think she would be afraid.”

“Mrs. Baker, please let me assure you, our dogs are highly trained for the exact job you need. They’ll give their lives

protecting you and Sara. As for the horses, the dogs will ignore them. Let me ask you, would you mind if I brought someone in to visit you?"

"It's a dog, isn't it?" Her tone said defeat but her eyes were angry. She shot a quick glance at her husband, then stared at Jim. "It better not make a mess ... or ... anything."

"I'll be right back. While I'm gone, please give Lenny as complete a description of that man as you can, what he looked like, his clothing, his speech patterns. Anything you remember."

Jim went into the house, back across the huge entry room and out the door. As he approached the SUV, a glossy black head popped up in the driver's seat. Round dark brown eyes wide, ears up, he smiled. Jim opened the door and snapped his fingers.

A sleek black body glided out of the car and stood in the rays of the morning sun, glistening. His huge body rippled with muscles, his neck smooth and well-developed. Long, powerful legs confirmed his ideal balance. He was a perfect specimen in every way, able to climb a chain link fence and clear a six foot wall in one leap. Utterly fearless and totally devoted, he was Jim's constant companion.

They entered the house and the clickety-click of the dog's nails produced an almost musical tone on the marble. As they stepped out onto the veranda, Jim said, "Mrs. Baker, this is Tony."

Her mouth dropped open as she stared at the dog. Gaping in amazement, she said, "Oh, my God, a Doberman? He's magnificent, but they have a bad reputation, don't they? I've heard all kinds of stories about them turning on their owners or on kids." Visibly taken aback, she leaned into her husband and took his hand.

Expression outraged, Jim said, "Excuse me, but that's just not true. I've been in the business of breeding Dobies for almost fifteen years, and my trainer has even more time invested in schooling them. If an animal is loved, trained and cared for by its family, it does not turn on them ever. When you hear stories

like that, you can be assured the owners did their best to alienate and anti-socialize the dog. It's never happened with any dog we've trained. Never, not even once."

Candace pursed her lips and gazed at Jim a moment. "I'm sorry, I didn't mean to offend you. That was just rude. It's just that when I was a child, my neighbor's police dog got loose and attacked me. I try not to carry it around, but sometimes it's hard to forget." She reached an unconscious hand to her lips and then shuddered.

"I can understand that. Being attacked by a dog is very frightening, but as far as our dogs are concerned, you can put that fear out of your mind. Properly trained animals, especially Dobermans, always bond with their families. Their loyalty is unquestioned. The dogs we breed are expected to do a variety of things, and we train them according to their temperaments. Take Tony, here." He glanced at the dog by his side, stroking the silky head.

"He loves to play with people, interacts very well, and has a couple of tricks that come in handy in my work. When he was young, he used to be very standoffish, the way a guard dog should be with strangers. Over the past couple of years he mellowed with age. On top of everything else, he keeps very bad company."

"Bad company?" Candace tittered under her breath as her eyes roamed his body, noting the perfect conformation, the glossy coat and bright, intelligent expression. "He's a splendid animal. I breed thoroughbred show horses and I know quality when I see it. May I touch him?"

"Absolutely. Stretch your arm out and make a fist. Offer him your knuckles to sniff."

"Tony," she murmured in that sing-song way people instinctively use when talking to a strange animal. "You're such a good dog, oh yes, you are." She continued to croon as he approached and licked her hand. Smiling, she ran gentle fingers along the top of his head and sighed as the dog closed his eyes, tongue lolling out the side of his mouth, completely relaxed.

She turned to Arnie, hands clasped in front of her stomach now, unsure and vaguely defensive. “What do you think about this, hon? Do you feel comfortable with a big dog like Tony around?”

“Yes, I do. I have from the beginning. I did a lot of checking and in the world of guard dogs no one is better regarded than their trainer.” He turned to Jim as though for agreement.

“Mrs. Baker, instead of going for your ride, why don’t you all come out to the training facility, meet Rudy and the dogs and see how you feel. It’s a nice drive, about an hour and a half and mostly in the country. At least you can give it a try, meet the dogs and make a decision based on knowledge.”

Candace hesitated a moment and then pulled out her cell phone. She punched a button and waited. “Luci, would you tell Sara to come up to the house when the lesson’s finished? We have to pass on our ride, but we’re still going on an adventure. Yes, thank you.” She closed her cell and glanced at Arnie.

Face like a thundercloud, Sara Baker stomped up the path from the barn to the house, waving her arms and muttering. She hurried across the veranda to Candace, scowling.

“Mommy! You promised we could go on a trail ride and Luci just told me plans changed. Again. That’s twice this week. Why?”

“Sara,” her father admonished, “we have guests. Please say hello to Mr. Sessions and Mr. Browning.”

Color tinged the young girl’s cheek as she nodded. “Excuse me. How do you do?” She turned back to Candace and made a face, mouthing the words, *What’s up*, as her mother leaned forward.

“We’re going to take a ride out to the country and check out a dog. One like that.” She pointed at Tony.

“Oh! Oh, my goodness, he’s beautiful, Mommy. What’s his name? Can I pet him?”

Candace glanced at Jim, eyebrows arched. She shrugged.

“Sure you can,” he said. “Just reach out your hand and let him sniff it first.”

She followed his directions to the letter, walking quietly to the dog, hand extended. Murmuring to Tony, she sat next to him on the floor and chuckled as he licked her fingers. “You’re sweet.” Sara patted his head while Tony wriggled in appreciation. “He’s a very nice dog, Mommy. We’re gonna get one like him to take care of us, aren’t we? A great big one.” She turned back to the dog and embraced him, hugging his neck.

Tony clamped his ears to his head and closed his eyes, brows furrowed in canine ecstasy. Tongue hanging out of his mouth, he smiled, his short tail rotated quickly, wagging his hips.

Non-committal, Candace rose and smiled at her daughter. “Honey, let’s scoot upstairs and change clothes, shall we? It’s a bit of a drive and we want to get started.”

Publisher's Note

There is a new space race underway in the world today that has received little attention in the media. Although it isn't often discussed by politicians, it has the attention of many major players on today's international board.

Most of the world's leading powers, including the U.S., Russia, China, India and Europe are setting their sights on the moon, specifically on its vast supply of a substance rarely found on Earth that some believe could hold the key to fusion reaction.

Nations across the globe are in a race to be the first to develop a functional fusion reactor. The prize in these efforts is a virtually unlimited, clean, non-radioactive fuel source called Helium-3.

He-3 is a light, non-radioactive isotope of helium which is rare on Earth, but highly abundant on the moon's outer crust. As a power source, at least in theory, Helium-3 is an extremely potent, non-polluting substance with virtually no radioactive by-product. It is so powerful that many scientists estimate just one space shuttle load, or roughly 25 tons, could supply the United States with its entire energy needs for a whole year.

If the space shuttles were converted to the mission of mining the moon for He-3, our current fleet could potentially carry enough He-3 to supply energy to the entire planet with materials to spare. Energy costs would be the equivalent to oil at \$7.00 per barrel and the profit to the U.S. taxpayers could exceed \$300 billion per year. Each and every year.

The United States is currently leading in this race, but our lead is dwindling. While the U.S. is consistently cutting back on the budgets for these technologies other countries, including China, are expanding their programs in effort to achieve these lofty goals.

At a time when other countries are putting more resources into fusion research, less and less U.S. funding is going into developing these technologies. And while other countries are working to nurture the talented engineers that can develop these technologies, the United States is cutting support in favor of more immediate goals and projects.

Currently China produces engineers at a rate of ten to one over the U.S. and Europe combined.

The race to mine the moon will be won, and to the victor will go the spoil, but the winner of this race is far from certain.

Professor Gerald Kulcinski of the Fusion Technology Institute, University of Wisconsin, is one of the leading researchers in fusion technology. He currently maintains the only Helium-3 fusion reactor in the world. Working with what can only be considered a shoe-string budget of barely a million dollars annually, he maintains a staff of five graduate research assistants.

Working with a limited budget and facing heavy skepticism among his peers, Kulcinski has produced notable results. Kulcinski's He3-based fusion reactor is very small. The reactor contains spherical plasma roughly 10 centimeters in diameter that can produce sustained fusion with 200 million reactions per second.

Currently the reactor uses more energy to sustain the reaction than it produces, but Kulcinski and his staff believes that with time and funding, the breakthrough will come.

The reactor uses a technology called inertial electrostatic confinement (IEC). This differs from other approaches to nuclear fusion in several important ways.

Using the IEC approach, Helium-3 would not require a huge tokamak reactor like the multibillion-dollar one being developed for the international ITER project.

Kulcinski's IEC reactors would have a price tag of about \$50,000 each and would be small enough to sit on a table top. Each of these reactors could power a small city or a large industrial complex.

The reason the reactors can be so small is because Helium-3 is non-radioactive so the He-3 reactor will not require the heavy shielding need in other reactors. Equally important is the fact that there will be no radioactive by-product from the reactors, making the Helium-3 reactor a truly clean, safe and virtually inexhaustible power supply.

The use of a lightweight, clean fusion reactor is not limited to powering to our cities and power plants. Nuclear propulsion has another potential uses. They include a wide variety of propulsion methods that use some form of nuclear reaction as their primary power source. Many military submarines and a growing number of large civilian surface ships, especially icebreakers, use nuclear reactors as their power plants.

Additionally, various types of nuclear propulsion have been proposed, some already tested, for spacecraft applications.

In March 2004, NASA began a partnership with the Department of Energy's (DOE) Naval Reactors Program which has a lot of experience in developing rugged, compact, long-lived reactor systems for use in harsh conditions. In September 2004, NASA's JPL (Jet Propulsion Laboratory) selected Northrop Grumman Space Technology in California as the contractor for co-designing the proposed Prometheus JIMO spacecraft. The contract award was for approximately \$400 million, covering work through mid-2008.

Projections said that the engine could ultimately be used to take a manned mission to Mars and to power other ambitious deep-space vehicles and missions. These might well include a mission to mine Helium-3 from the moon.

Nuclear power and propulsion will likely be an important factor in missions to carry humans to Mars and back.

Using current rocket technology, it would take at least six months to cruise to the Red Planet. Project Prometheus could cut this travel time to two months. Like the moon, Mars also has substantial deposits of readily available Helium-3. This technology could eventually become the critical factor in the success of a mission to mine the moon.

In view of the current budgetary concerns of the United States, funds for this project have been substantially reduced and its success faces an uncertain future.

Other Books by Gayle Farmer

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