



A Newsletter for the
Elon Community

E-PEOPLE ♦ NEWS ♦ WHO'S NEW ♦ SPOTLIGHT ♦ EVENTS ♦ BENEFITS ♦ BIRTHS ♦ @ELON ♦ CONTACT US

December 2001 Issue

Get to know your colleagues a little better with this month's @Elon! Find out why [Cathy Silver Key](#), adjunct assistant professor of biology, says her involvement with the Human Genome Project was like working in a library. Learn what the [Office of Religious Life](#) has been up to this fall with our In the Spotlight column. And be sure to check out [Who's New](#) for profiles of some of Elon's newest employees. We hope you enjoy this issue!

E-PEOPLE

When Biology Makes History
[Cathy Silver Key's](#)



first job out of college was not your typical entry-level position.

WHO'S NEW

Which new Elon employee says she is hooked on running? Who was one of the youngest high school principals in the state? [Find out here!](#)

CONTACT US

The @Elon newsletter is published online nine times per year (February, March, April, May, June, September, October, November and December). The purpose of @Elon is to build community by providing news for the faculty and staff of Elon University.

If you have faculty/staff news to share, please e-mail [David Hibbard](#) in the News Bureau. We welcome your comments and suggestions. Please send these to [Mandy Dixon](#), editor of @Elon. Visit our [Contact Us](#) page for a complete listing of @Elon staff.

IN THE SPOTLIGHT

The Office of Religious Life

Learn how things have changed over the years for [Chaplain Richard McBride](#) and the Religious Life team.



NEWS & NOTES

Wondering what your [colleagues](#) have been up to lately? We answer questions such as these:

- Who presented a panel on online news ethics at the 2001 National College Media convention in New Orleans?
- Who was one of 12 invited speakers at the Buffalo Bill Historical Center's 25th annual Plains Indian Seminar in Cody, Wyo.?

PAST ISSUES OF @ELON

Printing @Elon in **PDF format** (using Adobe's Acrobat Reader) is easy! If you do not have this plug-in on your computer, just click on the logo at the right and follow the instructions. Once you have Acrobat Reader installed, just click on the issue below and print the PDF.



2001 Issues: [February](#), [March](#), [April](#), [May](#), [June](#), [September](#), [October](#), [November](#)

UPCOMING EVENTS

December is full of [holiday celebrations](#) at Elon, while January brings global speakers to campus.

FOR YOUR BENEFIT

If you'd like to [save some money](#) this holiday season, take a look at these discounts for Elon employees.



BIRTHS & BIRTHDAYS

Check out our list of [December and January birthdays!](#)



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The @Elon newsletter is published by the Office of University Relations.
Please contact any of these @Elon staff members with comments or questions.

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Katie Beaver '03



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BIRTHS & BIRTHDAYS

No births to report this month -- but plenty of birthdays!

<p>December 2001</p> <p>December 1 Richard Gang John Graves Jimmy Jones</p> <p>December 3 Gloria Graves William Shepherd</p> <p>December 4 Randall Bowman William Ingram</p> <p>December 5 Tom Mould</p> <p>December 6 Richard D'Amato Bea Sanford</p> <p>December 7 Kimberlee Elmore</p> <p>December 8 Lynette Lorenzetti Wonhi Synn</p> <p>December 9 Emily Goetz Laura Roselle</p> <p>December 10 Robert Craig</p> <p>December 12 Bernard Curry Tobias Jacobi John Sullivan</p> <p>December 14 John Burbridge Gene Gooch Amanda King Gina Roberts Bradley Young</p> <p>December 15 Julia Tabor Jamie Talley</p>	<p>December 17 Stephen Fortune Alison Poliseno</p> <p>December 18 Jeff Martin Eccles Wall</p> <p>December 20 Rosa Degraffenridt Melinda Rice</p> <p>December 21 Thomas Beveridge Richard Harris Vilma Rossato</p> <p>December 22 Mark Myers Richard Perry Jane Stephens</p> <p>December 23 Rhonda Belton Irene Burgess Michelle Stephens</p> <p>December 26 Holley Berry Wayne Brown Dolores Simonel</p> <p>December 27 Paul Adams Smith Jackson Miriam Stratton</p> <p>December 29 Kate Hickey Carol Williams</p> <p>December 30 Barbara Mebane Allison Russell Paula Wilkerson</p> <p>December 31 Michael Allred Patty Cox</p>	<p>January 2002</p> <p>January 1 Lynn Melchor</p> <p>January 2 Melanie Smith</p> <p>January 3 Louise Latta Nada Tawam</p> <p>January 5 Paul Parsons</p> <p>January 6 Theresa Beckett Stephen Braye Tracy Murray John Truitt</p> <p>January 7 Terri Kirchen</p> <p>January 8 Bette Brownlow Michael Gregory Stephanie Palma Lucile Stone</p> <p>January 9 Carl Edmonds Bob Guffey Doug McIntyre</p> <p>January 10 Mary Inabnit</p> <p>January 11 Dennis Turner</p> <p>January 12 Terry Williams</p> <p>January 13 Joe Davis Teresa Graves Joel Hollingsworth Andrew Perry</p> <p>January 14</p>	<p>January 17 Stefanie Barbour Barbara Rhoades Paige Vignali Alan White Chris Wilson</p> <p>January 18 Jessica Gisclair</p> <p>January 19 Jonathan Brown Michael Kingston Delmas Slade</p> <p>January 20 Suzanne Sioussat Susan Turner</p> <p>January 21 Mary Ector Remi Lanzoni</p> <p>January 22 Grace Bass Ryan Futrell</p> <p>January 24 Carrie Alter Betty Morgan Anthony Stubblefield</p> <p>January 25 Stephen Folger Timon Linn Rob Springer</p> <p>January 26 Lorraine Allen Bradley Glenn</p> <p>January 27 Beverley Lee</p> <p>January 28 Paul Weller</p> <p>January 29 Brian Baute</p>
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Kyle Torke

December 16

Eliana Bennett

Nicole Jones

Nancy McMillan

Carolyn Morrow

Romelle Nall

Linda Sabo

Michael Frontani

Richard Shirley

Jason Vincent

January 15

Mohamad Haj-Mohamadi

Marianne Hart

January 16

Scott Hildebrand

Carrie McVea

Carol Melton

Mary Jane Salter

Stephanie Hicks

Jill Stohs

Dan Wright

January 30

Sharon Spray

January 31

Helen Kreuzer

Sharon LaRocco

James Stovall

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FOR YOUR BENEFIT

Save some money this holiday season -- just by showing your Phoenix Card!



Did you know that working at Elon can save you money at local businesses? You can get discounts at those listed below just by showing your Phoenix Card! (Discounts vary, so please ask when you visit these businesses.)

- Burlington Tire Service
- Coming Attractions Beauty Salon
- Merchants Tire & Auto Center
- Sally Beauty Supply
- Sherwin-Williams
- The Challenge Golf Course
- Tires & Treads
- TJ Sports

If you have family coming to town for the holidays, keep in mind that the following Burlington hotels are offering a discount to Elon employees. To get these discounts, you will need to show your Phoenix Card at check-in.

- Best Western (770 Huffman Mill Rd., 584-0151)
- Ramada Inn (I-85 at Exit 143, 227-5541)

But wait -- there's more!

The Office of Human Resources also has discount coupons and brochures for the places listed below! (Please note that you will need to show the discount coupons with your Phoenix Card to get these discounts.) Just call ext. 5560 for details.

- AAA Carolinas
- Biltmore Estate
- Busch Gardens
- Carowinds
- Kings Dominion
- Sam's Club (limited time only)
- Sea World
- The Disney Club
- Tweetsie Railroad

For more information about employee discounts, please visit the Human Resources [Web site](#).

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UPCOMING EVENTS

Want to get a little culture? Check out these great Elon events! Ticket information is listed at the right. For more information about these events, please visit Elon's [Cultural Events Calendar](#).



Tuesday, December 4
Department of Music Presents "A Christmas Festival"
McCrary Theatre, 7:30 p.m.

Thursday, December 6
Holiday Celebration with Luminaries
Scott Plaza, 6:30 p.m.

Thursday, December 6
82nd Airborne's All-American Chorus
Whitley Auditorium, 7:30 p.m.

Saturday, December 8
The North Carolina Symphony Holiday Pops Concert
Koury Center, 8 p.m.

Friday, December 14
Faculty and Staff Holiday Celebration
Moseley Center, 7 p.m.

Wednesday, January 9
Gilbert M. Grosvenor, "The Role of Geography in Global Citizenship"
McCrary Theatre, 6:30 p.m.

Wednesday, January 16
Winter Symposium: Prime Minister Ehud Barak
Koury Center, 6:30 p.m.

Thursday, January 17
**Martin Luther King Jr. Commemorative Program:
Denise Hartsfield**
Whitley Auditorium, 12 noon

Thursday - Sunday, January 17 - 20 and Wednesday -
Saturday, January 30 - February 2
Department of Performing Arts presents *Marvin's Room*
Black Box Theatre, 7:30 p.m. Wednesday - Saturday, and 2
p.m. Saturday and Sunday



Ticket Information



All tickets for performances in McCrary Theatre and Whitley Auditorium will be available three weeks before the event and may be picked up in the Faith Rockefeller Model Center Box Office between 12:30 and 5 p.m., Monday - Friday. People with Elon identification will receive tickets by showing their Elon ID cards. Seats will be held 15 minutes before each performance.

For additional information regarding specific programs, call the campus sponsor of the event or the Office of Cultural Programs.

McCrary Box Office Hours:
12:30 - 5 p.m., Monday - Friday

McCrary Box Office Phone:
336-278-5610

**Black Box Production
Reservations: 336-278-5650**

If you need special assistance for disabilities, please notify the Box Office or the Black Box Reservations staff when you request your tickets.

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IN THE SPOTLIGHT

The Office of Religious Life helps students, faculty and staff connect with the spiritual side of life.

By David Hibbard

If you think your job is stressful, hectic and full of surprises -- as well as rewards -- then you haven't seen anything until you visit the Office of Religious Life.

Being responsible for the spiritual health and well-being of a community which now numbers close to 5,000 people is no small task. The responsibility has grown over the years, and no one knows that better than Richard McBride, Elon's chaplain since 1984.

"It's a wonderful place to stay," McBride says of campus ministry, "because the challenges are different every year."

Perhaps no year in recent memory has presented more challenges, and the need for contemplation and reflection, than this one. Religious Life moved quickly to comfort a shocked and saddened community after news of the terrorist attacks reached campus. In the hours and days that followed, McBride and his staff were called upon to organize worship services, counsel individual students and generally assuage the fears of a wounded and shaken Elon.

"There are a lot of students whose first reaction to Sept. 11 was to want to be home with their families," says McBride. "I'm sure this Thanksgiving, the connection for our students with their families was deeper."

Creating a connection with the spiritual dimension of life is one of the primary goals of Religious Life, which has grown throughout McBride's tenure on campus. McBride *was* the entire office upon his arrival, when he was housed in Whitley Auditorium. The office has moved over the years (first to the corner of O'Kelly and Haggard Avenues, and then to its present Moseley Center location in 1995), and new staff have been added.

Father John Ruffo is in his third year as Elon's Catholic campus minister. Leading two Sunday evening worship services, a weekly Bible study and a host of other activities for Elon's 1,000 Catholic students is invigorating for Father John, who spent 25 years in a lay parish. "The students certainly challenge your ideas, but that is refreshing. It's exciting to see how eager they are to learn, to grow."

Ray Crompton is the InterVarsity Christian Fellowship minister. The largest campus ministry in the United States, Crompton says InterVarsity is cutting-edge in its approach.



Father John Ruffo blesses a dog at the annual Blessing of the Animals service.



Members of the Elon community join together for the Day of Prayer and Remembrance on Sept. 14.



Richard McBride has been Elon's chaplain since 1984.



The Office of Religious Life sponsors the walking labyrinth in October.

"There are no cookie-cutter chapters," says Crompton, who has been at Elon for 10 years. "Because we are interdenominational, we reach a large cross-section of people. InterVarsity also tends to focus on the unique needs of individual communities, so every chapter is different."

Rene Summers became the first full-time secretary for the office in 1995, but McBride says her role extends far beyond routine office duties. "Rene has a great gift for listening. She's probably heard more boyfriend/girlfriend stories than anyone." Summers is Elon's connection to Young Life, a spiritual organization that links college and high school students together to share their faith. About 50 Elon students take part. "It's so exciting for me to see college students making spiritual choices without mom and dad there," she says.

Today, there are nine religious and spiritual organizations on campus, including Elon Hillel (the campus Jewish fellowship), the Elon Gospel Choir and the Baptist Student Union. Working with Religious Life, these organizations plan and participate in a variety of programs throughout the year, such as the Turning 21 celebration, the walking labyrinth in October, the Blessing of the Animals and the Hometown Heroes program, which recognizes community leaders nominated and selected by the freshman class.

Whether it's through the traditional Thursday morning Chapel service in Whitley, holiday events, or helping a student or staff member deal with a family loss, McBride believes Religious Life provides balance for the Elon family in today's hectic world.

"Fifty percent of (college) students say they want to integrate spirituality into their everyday lives," McBride says. "I think there's a longing for connection today, a connection to purpose. Technology never quite satisfies the human yearning for connection."

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WHO'S NEW

We asked some new members of the Elon community to tell us about themselves.

Compiled by News Bureau Director David Hibbard

Barbara G. Boyette, assistant athletics director, director of academic progress/life skills development

Barbara brings an extensive background in college athletics to her new position at Elon, where she will monitor the progress of almost 400 student-athletes. Previously, she served as associate director of student academic services at the University of North Carolina at Greensboro, and she also worked for the University of Maryland.



Originally from York, Pa., Barbara earned a bachelor's degree from Washington University, a master's degree from Miami University and a doctorate from the University of Maryland.

Barbara says she got hooked on running a few years ago. She enjoys it so much that she recently completed her second marathon! She and her husband, Alan, enjoy traveling with her three stepchildren, Chris, Sarah and Emily.

Rob Brown, director of purchasing

Rob held a variety of positions at the University of Kentucky before accepting his new position at Elon. As UK's assistant director of purchasing, Rob managed the department's staff, administered contracts and interpreted purchasing laws and regulations. He also worked as central manager of the university's departmental store system from 1993-1999.



A Virginia Tech graduate, Rob also has a background in sales, including six years as a retail sales manager with Lowe's stores in Virginia and Kentucky.

Rob is excited about his new position at Elon for several reasons, especially the fact that it puts him closer to his hometown of Roanoke, Va. He says he's been "overwhelmed" by the warm and friendly welcome he's received on campus.

Nora Driver, assistant business manager and ticket manager for athletics

Nora says she has wanted to get back into college athletics since she graduated from Elon in 1998. As an undergraduate, she held a work-study job in the athletics department and says she fell in love with the atmosphere.



Nora was able to stay around athletics at her previous job as a social studies teacher at Williams High School in Burlington. Nora served as the athletic trainer for all varsity and junior varsity teams at the school, a position which fit right in with her love of the outdoors and spectator sports. She also enjoys camping, hiking and building campfires.

An avid reader, Nora has just finished "The Venetian's Wife" by Nick

Bantock and J.K. Rowling's "Harry Potter and the Sorcerer's Stone." Nora also looks forward to October every year, when you can find her at the Halloween horror haunts around town.

Pat House, director of development support

Pat's background in higher education will serve her well in her new role in institutional advancement. Before coming to Elon, Pat worked as director of Seton Hall University's institutional image campaign, and before that, she was associate vice president for enrollment management at Seton Hall.



Pat holds a bachelor's degree from Boston College, a master's degree from Fairfield University and a doctorate from Seton Hall. She says receiving her doctorate was one of the most gratifying moments in her life for one simple reason: "I had been working on that for more than 10 years!"

A frequent visitor to museums and art galleries, Pat and her husband, Steven (dean of the College of Arts and Sciences), also enjoy sporting events. She says they thoroughly enjoyed spending time at Rhodes Stadium this fall, and they look forward to basketball games in Alumni Gym. Pat also enjoys drawing and painting, and says she wants to learn to play golf.

Pat says a bowl of pasta always sounds appetizing, along with any type of cheese. And while she enjoys all types of music, she says, "I am beginning to show my age by listening to music of the 70s and 80s more often!"

Mark Rumley, director of school outreach programs

Mark will have little trouble adjusting to his new surroundings, because they're really not that new. A Burlington native, Mark graduated from Elon in 1984 before earning a master's degree from North Carolina A&T State University.



He joins Elon after serving as a principal in the Alamance-Burlington school system, most recently at Audrey Garrett Elementary School. He also holds the distinction as one of the youngest high school principals in the state; he was just 30 years old when he became principal of Southern Alamance High School.

Mark will have several responsibilities in his role as director of school outreach programs, a new position in the School of Education. He will work closely with the state department of public instruction, documenting services and seminars Elon provides for public schools. He will also handle placements for student teachers and will teach in the School of Education.

Mark enjoys spending time with his wife, Cathy, and their four children, Caroline, 19, Chadbourne, 15, Catherine, 13, and Christopher, 11. He also enjoys listening to a variety of music, including classical, beach and French romantic organ music. He is a member of the American Guild of Organists. You can also find Mark winding down with a good book, taking a walk or traveling in his spare time.

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NEWS & NOTES

Do you have faculty/staff news that you'd like to share? Please e-mail [David Hibbard](mailto:David.Hibbard@elon.edu) all the details.

Janna Quitney Anderson, instructor in communications, presented a panel on online news ethics at the 2001 National College Media convention in New Orleans on Oct. 26. She discussed her research study of online news managers' take on ethics. Statistics show that nearly half of the online news managers polled believe their publications are less accurate than their traditional print counterparts. Anderson completed the study with Dr. David Arant of the University of Memphis. They urged the online news industry to address ethical issues and suggested that every online news site should have a corrections and clarifications button, leading readers to updated or changed information.



Anderson currently serves as a consultant for the Online News Association's Digital Credibility Study, working in conjunction with Howard Finberg of the Digital Futurist Consultancy and Martha Stone of Whole Media Consulting, who have been awarded a \$225,000 grant from the John S. and James L. Knight Foundation.

Anderson also had a freelance news story on research by students in Elon's 2001 Winter Term course, "One Neighborhood, One Week on the Internet," published in USA Today last summer. The story received full-page treatment in USA Today and was distributed and reprinted in dozens Gannett-owned newspapers across the United States.

Andy Angyal, professor of English, taught two Saturday classes on Catholic social teachings for the Diocese of Charlotte's Adult Lay Ministry program at Our Lady of Grace Church in Greensboro, N.C., on Oct. 20 and Nov. 3.



Clyde Ellis, associate professor of history, was one of 12 invited speakers from the United States and Canada at the Buffalo Bill Historical Center's 25th annual Plains Indian Seminar in Cody, Wyo., in September. The seminar brings together noted scholars in Indian studies. Ellis' presentation was titled "I'm Always Thankful I Went to That School: Kiowas, the Rainy Mountain Boarding School, and the Negotiation of Identity." The presentation was based on research for his first book, "To Change Them Forever: Indian Education at the Rainy Mountain Boarding School, 1893-1920."



Ellis also spoke at the annual meeting of the Western History Association in San Diego in October. He presented a paper

titled "I Go to the Jesus House and I Listen and Listen and Listen: Christianity and Kiowa Identity." The paper is from his upcoming book, "The Jesus Road: Kiowas, Christianity, and Indian Hymns."

An essay by Ellis, titled "There Is No Doubt the Dances Should Be Curtailed: Indian Dances and Federal Policy on the Southern Plains, 1880-1930," appeared in a recent issue of the Pacific Historical Quarterly, a refereed journal. A previously published essay, "We Don't Want Your Rations, We Want This Dance: The Changing Use of Song and Dance on the Southern Plains," has been reprinted in "American Nations: Encounters in Indian Country, 1850 to the Present."

Ellis has also accepted an invitation to serve as a consultant for the Oklahoma Historical Society's NEH grant for the state's new museum on Indian history and culture.

Tom Erdmann, associate professor of music, had his article, "Rick Braun: Life in the Fast Lane," published in the October 2001 issue of the International Trumpet Guild Journal. He was also the music judge at the Northwest Guilford High School Marching Band Festival on Oct. 27 and the Lee Senior High School Marching Band Festival on Nov. 3 in Sanford, N.C.



Byung Lee, associate professor of journalism, presented two papers during October. He presented "Clashes Between Businesses and Consumers Over Unsolicited Commercial Emails" at the sixth annual Ethics of Electronic Information in the 21st Century convention in Memphis, Tenn. Lee co-authored this paper with Wonhi Synn, associate professor of business administration.



Lee also presented "Different Types of Internet Adopters: An Analysis of Assimilators, Hoppers and Sensors" at the 17th Annual Q Conference, held at Ball State University in Muncie, Ind. He co-authored this paper with Janna Anderson, instructor in communications.

Gabie Smith, assistant professor psychology, gave a presentation titled "Teaching as Scholarship: Conducting Pedagogical Research while Enhancing Classroom Experiences" at the National Lilly Conference on College Teaching, held Nov. 15-18 at Miami University in Oxford, Ohio. The presentation provided an overview of a five-step model for conducting and disseminating pedagogical research.

Smith and colleague Tami Eggleston of McKendree College in Illinois developed the model through their collaborative involvement in research projects concerning teaching activities and techniques designed for psychology courses. One such project was recently published in a Teaching of Psychology journal article titled "Comprehension of APA Style Through Manuscript Analysis."

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E-PEOPLE

Cathy Silver Key's first job out of college was not your typical entry-level position. She worked as a lab technician in the planning stages of the Human Genome Project.

When Biology Makes History

By Katie Beaver '03

To understand Cathy Silver Key's role in the Human Genome Project, which neared completion earlier this year with the announcement that scientists had sequenced human DNA, she says to think of it as working in a library.

Key, an adjunct assistant professor of biology at Elon since 1999, worked as a lab technician with the project in its planning stages after graduating from the University of Missouri at St. Louis. She helped build part of the human-yeast DNA library that was published this year. "This library potentially contains all the information for human life," she says.

To envision how scientists sort out all the genes in a human cell, Key says to think of a library full of books. "Just like each book contains information, each piece of DNA or gene contains information for the cell," she says. "In a library, the books are sorted according to topic and in alphabetical order. To map the human genome, scientists create a library that contains DNA rather than books."



Key's Role in the Human Genome Project

Cathy Silver Key says she got involved in the Human Genome Project simply because she was looking for a job after graduating from the University of Missouri at St. Louis. She worked on the project from 1988-89 at the Center for Genetics and Medicine at Washington University in St. Louis. (She received her Ph.D. from UNC's Department of Microbiology and Immunology in 1997.)

Key says it was exciting to participate in the historical process as a lab technician with the Human Genome Project. "My job was to take the human-yeast DNA that was in a test tube and build the library of yeast cells that contain the hybrid DNA," she says.

"To do this, I would 'punch' holes into the yeast cells using a chemical solution. Then the human-yeast DNA would be mixed into the tube with the 'holey' yeast cells. The hybrid DNA would then go into the cells," she explains. "In the yeast cells, the human-yeast DNA could be propagated on little plates that contained nutrient agar (food for the yeasts). After a time, I would 'crack' open the cells -- like cracking a book -- and try to 'read' the DNA code that was inside."

Some Key Terms

DNA: the basic chromosomal material that encodes genetic information. The DNA is the language of the cell, consisting of a 4-letter alphabet.

Gene: the fundamental unit of heredity. Many genes code for proteins that give each organism its characteristics, such as appearance and behavior.

Genome: the complete set of DNA contained within a cell.

Key and her colleagues placed samples of DNA into yeast organisms. These yeast cells can carry the human DNA, storing it like volumes of books on a library shelf. "In a library, you take books off the shelf to read. In the yeast, you could find a piece of DNA and figure out what it's about," she says. Scientists then have to sort through the human "books" of information and place them in the correct order, Key says. "We tried to see how each piece fit into the rest of the DNA, like trying to put

together a puzzle."

As the pieces slowly came together, scientists came closer to realizing the goals of the Human Genome Project. "Most of all, the scientists just wanted to know the sequence of human DNA," says Key. "Basically, scientists have been working to create a map of all the genes that are found in a human cell."

The project, coordinated by the U.S. Department of Energy and the National Institutes of Health, reached its projected goal last summer under the leadership of scientist Francis Collins and his worldwide team of researchers. The announcement came years ahead of schedule (in part because a company



Key says she was honored to work with researchers Maynard V. Olson, recipient of the 1992 Genetics Society of America Medal and co-author of the *Nature* article releasing the 2001 draft of the human genome, and David Schlessinger, who was the first graduate student out of James Watson's laboratory. Watson was the co-discoverer of the structure of DNA.

The experience was a rewarding one because of the project's place in history. "I got the thrill of participating in a historical process," she says. "As I attended frequent lab meetings, I was privileged to listen to scientists figure out how to put the massive jigsaw puzzle that is the human genome together."

named Celera competed with the government-funded project and also published a map of the human genome this year) and opened many doors to scientific and medical discoveries. "These findings will be translated into something that will be applied to help society," Key says.

Once all the genes have been mapped and scientists figure out what each gene does, Key says that doctors could use the information to diagnose genetic diseases and perhaps treat them more effectively by replacing the damaged DNA causing the disease with undamaged DNA. Key says that some diagnostic tests for disease genes are already available, and gene therapy (the process of replacing a damaged gene with an undamaged gene) has been attempted.

"Of course, this raises all sorts of ethical questions at the same time as it increases knowledge," she says. "Do we really want to know everything that's wrong with us? Who should have access to the information?"

Despite these ethical issues, Key says the project will be beneficial to the public. "It's good to understand what's causing the disease because that way, we can work on potential cures. People want to save their relatives and save themselves, and I know they think it's worth the expense."

To Learn More

Visit these Web sites for more information about the Human Genome Project:

- U.S. Dept. of Energy: <http://www.ornl.gov/hgmis>
- Scientific American: <http://www.sciam.com/> (search for Human Genome Project)
- Celera Genomics: <http://www.celera.com/>

Key says that mapping the human genome is just one part of the puzzle, however. "We broke the DNA code, but we still do not know all the secrets that the genome holds. The Human Genome Project is a big step in the right direction." She says that once scientists figure out what all the genes do, the next step is to study the proteins made from the genes.



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