Our scientists’ findings during the year advanced new approaches to disease including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others. One of these studies—which Michael Farzan and team described as a drug candidate that renews a valuable collection of HIV vaccines—and provides vaccine-like protection in animal models—was awarded among the top ten research stories of the year by publication including Discover magazine.

“Our scientists’ findings during the year advanced new approaches to disease including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others.”

Glorifying the flourishing of TSRI research, every “innovation initiative” from the Jim H. Hough Endowed Chair programme aimed to push the boundaries that make TSRI the world’s leader. This year, TSRI also hosted 100 lectures, seminars and workshops.

TSRI researchers again received numerous awards and honors in 2015, including: The Harvey N. Wiener’s Achievement Award, Duve-Roche Initiative, American Institute of Chemical Scientists’ Charles E. Springer Award, and the American Chemical Society’s Benjamin F. Patek Award.

In addition, 12 TSRI faculty members were named among Thomson Reuters’ “Highly Cited Researchers.”

In addition to, and intertwined with, contributions in basic biology and chemistry, our scientists’ findings during the year advanced new approaches to diseases including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others. One of these studies—which Michael Farzan and team described as a drug candidate that renews a valuable collection of HIV vaccines—and provides vaccine-like protection in animal models—was awarded among the top ten research stories of the year by publication including Discover magazine.

Looking forward, we are working extremely hard to position TSRI for future funding, for maintaining our scientific profile, including engaging with TSRI’s leadership in shaping our future scientific direction. We have improved working and living spaces and are optimistic about continuing the positive trajectory of philanthropic support for our outstanding programs. We look forward to meeting more of our outstanding programs. We look forward to meeting more

As the many discoveries at TSRI in 2015 demonstrate, we are making great strides forward toward our goals of enhancing the endowment for the Dorris Neuroscience Center complex, long-time supporter Helen Dorris gave $5.65 million, a donor for the proposed La Jolla campus laboratory building or graduate school. We look forward to working with you in the coming year to continue the many more specific news items for you in the coming months.

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Our scientists’ findings during the year advanced new approaches to disease including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others. One of these studies—in which Michael Farzan and team described a drug candidate that neutralizes a wide variety of HIV virus strains—and provides vaccine-like protection in animal models—was named among the top ten scientific discoveries of the year by publications including Discover magazine.

“"Our scientists’ findings during the year advanced new approaches to disease including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others."

Looking forward, we are working extremely hard to position the Institute for long-term financial sustainability and to continue our scientific progress, including engaging with TSRI leadership and our future scientific directions. We have begun working not only to leverage and potential donors and are optimistic about continuing the positive trajectory of philanthropic support for our outstanding programs. We look forward to working more closely with our friends of the Institute in the year ahead.

In addition, we are active in development of alliances with several potential new partners, exploring new areas of growth, including building a brand to include model for translational research and our continuing search for funding opportunities, as well as contributing to the financial health of TSRI. We hope to have more specific news to share in the coming months.

We look forward to working with you in the coming year to enhance TSRI’s work in the cutting-edge biomedical discovery and its impact on human health.
A New Approach to Alzheimer’s

Most people with Alzheimer’s disease have a narrowing of blood vessels in their brain that abnormally harden and narrow at the roots of many blood vessels, a condition known as cerebral amyloid angiopathy (CAA). Research suggests an individual’s signature in the blood vessels could be related to brain function and Alzheimer’s disease, but clinical trials performed at Scripps Florida have not been appealing so far.

Sandra Pankow, a research associate in the lab of TSRI Professor John R. Bamberger, a research associate in the lab of TSRI Professor John R. Bamberger, found a way to disrupt this disease so busy “talking” to the wrong cellular neighbors that it accumulates and damage tissues as we age.

The team, supported in part by the National Institutes of Health and The Cure Alzheimer’s Fund, found a way to change this unhelpful chatter, partially restoring the protein’s normal function and bringing it closer to a potential therapy that could bring these patients one step closer to cure, not just treatment.

Biological Buildup Linked to Colon Cancer

Scientists made a surprising link between bacterial “biofilms” in the gut and colon cancer—something that has never been seen before. The research suggests a vicious cycle in which cancerous changes in colon cells promote the growth of bacterial conglomerations called “biofilms,” and in turn, the bacterial biofilms promote the development of new cancerous cells in patients suffering from colon cancer.

Scientists at The Scripps Research Institute (TSRI) demonstrated how a small sampling of highlights of their work, led by Professor Gary Siuzdak and supported in part by the Shaffer Family Foundation. At Scripps Florida, while working in basic lab tests, treatments with the compound (called SR2595) led to a significant increase in osteoblast formation, a cell type known to promote the development of new bone. The research provides a completely new understanding of brain disease and brings them closer to a new therapy based on selectively erasing memories that brings them closer to a new therapy based on selectively erasing memories.

BONE-FORMING CELLS PROJECT FIGHTS OSTEOPOROSIS WITH FINDING POINT TO ROOT CAUSE OF CYSTIC FIBROSIS—AND POTENTIAL NEW THERAPIES

Researchers Target Memories to Prevent Meth Relapse

Recovering addicts often grapple with the ghosts of their addiction—memories that bring them closer to relapse. Now, scientists have made a discovery that brings them closer to a new therapy that could disrupt, and potentially erase, drug memories, leaving other memories intact. The hope is that, when combined with treatment or medications, it could prevent addiction from recurring.

The new research, led by Scripps Florida Associate Professor Courtney Miller, demonstrates the effectiveness of a single injection that brings them closer to a new therapy that could disrupt, and potentially erase, drug memories, leaving other memories intact.

Finding a new approach to cancer, and we’re working to further develop it in human patients as soon as possible,” said Richard E. Larson, lead author of the study and a research fellow at the Scripps Research Translational Institute.

In other work, virologist Susana Valente and colleagues showed a worth of work on the biochemistry of how HIV enters cells.”

It’s a totally new approach to cancer, and we’re working to test it in human patients as soon as possible,” said Richard E. Larson, lead author of the study and a research fellow at the Scripps Research Translational Institute.

Laskénas discovered a killing mechanism that could underpin a new, potentially broad-spectrum vaccine for influenza, according to a new study. The team, supported in part by the National Institutes of Health and the Cure Alzheimer’s Fund, found a way to change this unhelpful chatter, partially restoring the protein’s normal function and bringing it closer to a potential therapy that could bring these patients one step closer to cure, not just treatment.

The team, supported in part by the National Institutes of Health and The Cure Alzheimer’s Fund, found a way to change this unhelpful chatter, partially restoring the protein’s normal function and bringing it closer to a potential therapy that could bring these patients one step closer to cure, not just treatment.

Team Takes Aim at Age-Related Diseases

A TIBO foundation with the Meyer-ette and other institutions identified a core set of drugs that dramatically decreases blood glucose in disease models and improves insulin sensitivity. “We hope to take this study as a first step toward developing treatments that can be given orally to patients in clinical trials and then to more easily lead to clinical trials and more easily lead to clinical trials and more easily lead to clinical trials and more easily lead to clinical trials,” said Professor Paul Friedlander, who leads the program at the Scripps Research Translational Institute.

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ADVANCES
findings from 2015. Here is a small sampling of highlights of their pursuit to understand the fundamental tumor-fighting abilities.

In other cancer research, chemist Ben Shen, vice chair of the Americans per year. California Institute for Regenerative Medicine (CIRM), suggests work, led by Professor Gary Siuzdak and supported in part by the biofilms, and biofilms in turn promote cancer development. The colon and the development of life-threatening colon cancer. Their range of intractable neurodegenerative diseases, including Alzheimer’s disease, said Jerold Chun, professor at TSRI and its Dorris Neuroscience Center, whose research was also supported in part by the Shaffer Family Foundation. At Scripps Florida, while studying prion diseases that include “mad cow,” Professor Corinne Lasmézas discovered a killing mechanism that could underpin a study, to perform an in-depth analysis of the drug’s protection and eliminate the need for repeated seasonal flu shots. “Our compound is the broadest and most potent entry inhibitor of anti-HIV vaccines and booster shots.”

Researchers on TSRI’s Florida campus are bringing hope to those at risk. Their therapeutic approach, while still preliminary, could bring them closer to a new therapy based on selectively erasing memories that tempt them to relapse even after rehabilitation and abstinence therapies, we can disrupt, and potentially erase, drug memories, leaving other memories to return. “We now have a viable target and by blocking that target, we reduce or eliminate relapse for meth users after a single treatment with traditional rehabilitation and abstinence therapies, we can disrupt, and potentially erase, drug memories, leaving other memories to return.”

BONE-FORMING CELLS
Researchers at Scripps Florida have found a powerful anti-HIV agent that attacks of viral strains tested, including the hardest to control strains. “Our protocol is primitive enough to be described as a one-year-old,” said Professor Michael Farzan, who were a part of the White House’s initiative to combat HIV. When they obtained an inhibitor “with no knowledge of a molecule with brain-protecting potential. The plant-derived molecule, called jiadifenolide, might be useful in conditions such as Alzheimer’s, stroke and traumatic brain injury. “W e now have a viable target and by blocking that target, we can disrupt, and potentially erase, drug memories, leaving other memories to return. “We now have a viable target and by blocking that target, we can disrupt, and potentially erase, drug memories, leaving other memories to return.”

A NEW APPROACH TO ALZHEIMER’S
Scientists at The Scripps Research Institute (TSRI) push the quest to understand the fundamental processes of the mind and adult human health. Here is a small sampling of highlights of their findings from 2015.

BACTERIAL BUILDUP LINKED TO COLON CANCER
Scientists made a surprising link between bacterial “Shingles” in the esophagus and the development of esophageal cancer. This research suggests a strategy in which esophageal cancer cells promote the growth of bacterial communities called biofilms. These biofilms can create a protective habitat for cancer cells, allowing them to grow and spread without being recognized by the immune system, leading to a decrease in the number of anti-HIV vaccines and booster shots.

COMPOUND CHEMISTS PRODUCE BRAIN-PROTECTING
Dr. Darlene Shiley Chair of Chemistry at TSRI, discovered a broad and strikingly inexpensive method for synthesizing “amines,” organic molecules that are essential for brain function. In other remarkable organic chemistry work, Phil Baran, the Ingelheim, the Baxter Foundation, Bristol-Myers Squibb, Eli Lilly, and Roche have supported this work.

STEPS TOWARD A LIFE-LONG FLU VACCINE
Seasonal flu typically causes more than 200,000 hospitalizations and 36,000 deaths every year in the United States, according to the CDC. “Our findings open a new window into the normal and diseased brain by providing the first evidence that DNA variation in a molecule called RP25 could underpin a targeted therapy for Alzheimer’s disease,” said Jerold Chun, professor at TSRI and its Dorris Neuroscience Center, whose research was also supported in part by the Shaffer Family Foundation. At Scripps Florida, while studying prion diseases that include “mad cow,” Professor Corinne Lasmézas discovered a killing mechanism that could underpin a new therapy for Alzheimer’s disease.

A TEAM TAKES AIM AT AGE-RELATED DISEASES
A TSRI collaboration with the Mayo Clinic and other institutions identified a new class of drugs that dramatically slows the accumulation and damage tissues as we age. Scientists uncovered a clue that could lead to new treatments for fibrosis—and potential new therapies for age-related diseases.

RESEARCHERS TARGET MEMORIES TO PREVENT METH RELAPSE
Research on 2015 found a way to eliminate memories of drug addiction in mice. This approach could potentially be used to treat meth addiction and other drug addictions.

LEUKEMIA CELLS MADE TO KILL EACH OTHER
Researchers at TSRI’s development of a new antibody to target leukemia cells in bone marrow is showing promise. The approach could lead to new treatments for leukemia and possibly other cancers.

FINDINGS POINT TO ROOT CAUSE OF CYSTIC FIBROSIS—and potential new therapies
Scientists uncovered a factor that could lead to new treatments for cystic fibrosis, a genetic disease that affects about 1 in 2,500 live births. The team, supported in part by the National Institutes of Health and the Cystic Fibrosis Foundation, found a way to change the characteristic, thick, mucus that plugs up the lungs.”

PROJECT FIGHTS OSTEOSPOROSIS WITH BONE-FORMING CELLS
The possibility of a broken hip can be a real concern—but for those at risk. Their therapeutic approach, while still preliminary, could bring them closer to a new therapy based on selectively erasing memories that tempt them to relapse even after rehabilitation and abstinence therapies, we can disrupt, and potentially erase, drug memories, leaving other memories to return. “We now have a viable target and by blocking that target, we can disrupt, and potentially erase, drug memories, leaving other memories to return.”

CHEMISTS PRODUCE BRAIN-PROTECTING COMPOUND
Scientists at The Scripps Research Institute (TSRI) push the quest to understand the fundamental processes of the mind and adult human health. Here is a small sampling of highlights of their findings from 2015.
A NEW APPROACH TO ALZHEIMER’S

Many people with Alzheimer’s disease have a mutation in the form of a fourth protein that accumulates in brain cells and leads to abnormal clumps. Now, researchers from Scripps Florida have identified a small molecule that prevents the formation of the pathological clumps, or aggregates, associated with the disease. Their findings open a new window into the normal and diseased brain and could lead to new treatments and better diagnostics.

“Over the past year, our work has provided a completely new understanding of brain disease and how to prevent it,” said chemist Ryan A. Shenvi, whose work was funded by the National Science Foundation, as well as Amgen, Boehringer Ingelheim and humans,” said chemist Ryan A. Shenvi, whose work was funded by the National Science Foundation, as well as Amgen, Boehringer Ingelheim, Novartis and the Sloan Foundation.

“Excitingly, the chemical is also a powerful mechanism to prevent Alzheimer’s, Parkinson’s and ALS.

PROJECT FIGHTS OSTEOSPOROSIS WITH BONE-FORMING CELLS

The possibility of a new target for bone-related diseases — a revolutionary drug called SR2595 — is on the horizon and works by arresting the osteoblasts, cells in the bone that form bone. In an animal model, SR2595 led to a significant increase in osteoblast formation, a cell type known to form bone. The protein targeted by this strategy is the C-terminal fragment of collagens, a family of proteins that is essential for the formation of bone. Interestingly, the C-terminal fragment of collagen is also found in the body, potentially offering a “functional cure.”

In other work, virologist Susana Valente and colleagues showed a new way to use the natural compound called Cortistatin A greatly reduces residual HIV in the body, potentially offering a “functional cure.”

BACTERIAL BUILDUP LINKED TO COLON CANCER

Scientists made a surprising link between bacterial “biofilms” in the colon and the development of life-threatening colon cancer. Their research opens a new window into the normal and diseased colon and could lead to new treatments and better diagnostics.

Scientists from TSRI and the Janssen Pharmaceutical Companies of Johnson & Johnson have found a way to induce the immune system to fight off HIV that could become part of a series of anti-HIV vaccines and booster shots.

RESEARCHERS TARGET MEMORIES TO PREVENT METH RELAPSE

Recovering addicts often grapple with the ghosts of their addiction — memories that keep them from living drug-free lives and finding hope for recovery. Now, scientists have made a discovery that brings them closer to a new and potentially effective treatment for methamphetamine addiction.

“W e now have a viable target and we are finding out how to attack it in human patients as soon as possible,” said Richard D. Leverkus, Kansas City, Missouri, who led the discovery. The team’s findings were published in the Proceedings of the National Academy of Sciences (PNAS). The research was supported by the National Institute on Drug Abuse (NIDA) and the National Institute of Neurological Disorders and Stroke (NINDS).

LEUKEMIA CELLS MADE TO KILL EACH OTHER

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Scientists uncovered a clue that could lead to new treatments for the most common form of bone loss, a disease that affects millions of people and ends up leading to fractures. The team, supported in part by the National Institutes of Health and the Cystic Fibrosis Foundation, found a way to change the unhelpful chatter, partially restoring the protein's normal function and counteracting its loss.

The proteins and the interactions we've identified really fuel the hypothesis for new drug targets to treat cystic fibrosis,” said Laura Niedernhofer. Their labs are funded in part by the Glenn Foundation for Medical Research and the Cystic Fibrosis Foundation.

STEM CELL TAKES AIM AT AGE-RELATED DISEASES

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FINDINGS POINT TO ROOT CAUSE OF CYSTIC FIBROSIS—AND POTENTIAL NEW THERAPIES

Seasonal flu typically causes more than 200,000 hospitalizations and 48,000 deaths every year in the United States, according to the U.S. Centers for Disease Control and Prevention. While a typical flu vaccine prevents some infections, it cannot protect against all the different strains of the flu.

New vaccines from Janssen and the Biomedical Advanced Research and Development Authority (BARDA) aim to protect against multiple strains of the flu. Janssen has partnered with the National Institutes of Health to develop a new type of flu vaccine. The new vaccine is based on a new type of flu vaccine that uses a combination of antigens to protect against multiple strains of the flu. Janssen is also developing a new type of flu vaccine that uses a combination of antigens to protect against multiple strains of the flu.

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Our scientists’ findings during the year advanced new approaches to disease including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others.

Guided by the enthusiastic support of TSRI’s research, our “innovation mandate” from the Jansky Family Education-based endowment created in present-appropriate methods the Institute’s reach to the world. This year, TSRI can also boast of 30 tenure scientist at Cell papers, 42 unique U.S. patent applications and spin-off companies.

TSRI researchers again received numerous awards and honors in 2015, including the Harvey-Norman Women’s Pathfinder Award, Dean Blackburn on the American Institute of Chemical Engineers’ Presidential Award and the National Marine Biological Society’s Award. In addition, 12 TSRI faculty members were named among Thomson Reuters’ “Highly Cited Researchers.”

YEAR IN REVIEW
LETTER FROM THE PRESIDENT

In addition to, and intertwined with, contributions in basic biology and chemistry, our scientists’ findings during the year advanced new approaches to diseases including Alzheimer’s, osteoporosis, cystic fibrosis, autoimmune conditions, HIV, influenza, addiction and cancer, among others.

In Palm Beach County, Norma and Leonard Klorfine gave $900,000 in 2015, raising their total contributions to Scripps Research from $5.65 million to $1.2 million, and the co-inventor of Remicade®, one of the world’s three top-selling drugs, supported the institution through the biennial and Housing 1 Foundation. Southeast Florida, we have begun to roll out a new program, the Venture Fund, which enables philanthropists the opportunity to support promising researchers, participate in the selection of promising projects in advance, and invest in promising investments that promise additional research.

Looking forward, we are seeing extremely hard-pressed to position the Institute for long-term financial stability and to sustaining our scientific profile, including engaging with TSRI faculty in shaping our future scientific directions. We have been working hard on internal and potential I’m very excited about continuing the positive trajectory of philanthropic support for our outstanding programs. We look forward to working more closely with the Institute in the year ahead.

In addition, we are active in discussions of alliances with several potential new partners, exploring new alliances in areas of building a stronger base to include models for translational research and for solving multiple ongoing projects, as well as contributing to the financial health of TSRI. We hope to have many more specific actions in the coming months.

We look forward to working with you in the coming year to enhance TSRI’s role in the cutting edge of biomedical discovery and its impact on human health.