

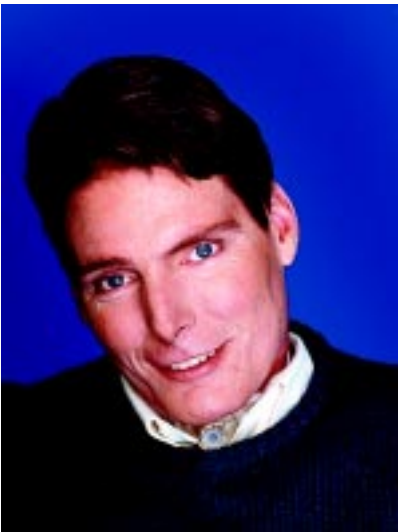
Spinal Connections

Reeve-Irvine Research Center Publication

<http://www.reeve.uci.edu/>

The Reeve-Irvine Research Center

The Reeve-Irvine Research Center has been established to study injuries to and diseases of the spinal cord that result in paralysis or other loss of neurologic function, with the goal of finding a cure.

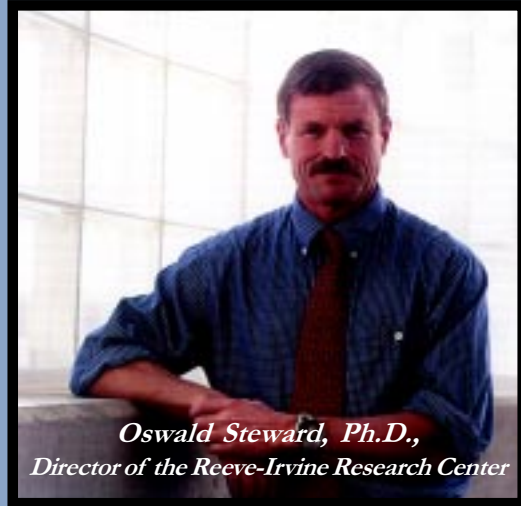


Actor Christopher Reeve

The Reeve-Irvine Research Center, named for actor Christopher Reeve, is part of the College of Medicine of the University of California, Irvine. Laboratories within the Center carry out cutting edge research on spinal cord injury and nerve cell regeneration.

The Center will also coordinate activities and cooperation of scientists around the world seeking to develop new treatments for spinal cord injury and cures for diseases impacting neurological function. On the establishment of this innovative and progressive research facility, Mr. Reeve said,

“I view this research effort and this program as a prototype for future research centers worldwide. It is a critical step in the strategic plan to coordinate all spinal cord research efforts.”



*Oswald Steward, Ph.D.,
Director of the Reeve-Irvine Research Center*

New Reeve-Irvine Director Arrives!

Dr. Oswald Steward, who is known for his work on the growth of nerve cells and how they recover from injury, assumed the Directorship of the Reeve-Irvine Research Center at UCI on March 1, 1999. As Director, he spearheads UCI's efforts to better understand trauma and diseases of the spinal cord and develop strategies to promote repair and regeneration of nerve cells.

“By building upon the excellent centers of expertise that already exist at UCI, I'm confident that we can find new ways to treat the devastating effects of spinal cord injury,” Steward said. Steward's research focuses on how nerve cells establish and maintain their connections with each other and how these “synapses” are modified after injuries. His research primarily focuses on how genes influence nerve cell

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\$1 Million Challenge

The Reeve-Irvine Research Center was launched through the generosity of Joan Irvine Smith and the Joan Irvine Smith & Athalie R. Clarke Foundation who provided a Challenge Grant totaling \$1 million. An additional \$2 million will be raised to bring the initial endowment for the Center to \$3 million. These funds will allow the Center to launch innovative research programs that are difficult to fund through traditional sources.

Mrs. Smith is the great-granddaughter of James Irvine, who assembled about 120,000 acres of what is now Orange County to form the Irvine Ranch. Mrs. Smith is known throughout the region for her philanthropy. She was instrumental in arranging for the original gift of land for the University, and has continued to be a major supporter of UCI. A noted horsewoman, she has been actively involved in breeding, training, showing and selling world-class horses at her farms, The Oaks, in both California and Virginia. The courage and perseverance of Christopher and Dana Reeve inspired Mrs. Smith to take the lead in establishing the Reeve-Irvine Research Center. Mrs. Smith commented, "I am confident that the physicians and scientists working under the auspices of the Reeve-Irvine Research Center will lead the way to a significant scientific breakthrough in spinal cord regeneration."

New Faculty Member Joins Research Team

The Reeve-Irvine Research Center is pleased to announce that Dr. Hans Keirstead will be joining the team on February 1, 2000. Dr. Keirstead has developed a novel, immunological technique for temporarily removing myelin from discrete areas of the spinal cord. Myelin is essential for neurons to communicate with each other, but for reasons that are not well understood, the presence of myelin causes neurons to stop growing, and so limits regenerative growth following injury. Dr. Keirstead has used his innovative technology, on which he holds a patent, to show that it is possible to promote axon regeneration in the spinal cord of experimental animals by temporarily removing myelin. As a member of the Reeve-Irvine Research Center, he will further refine this technique with the ultimate goal of creating a useful clinical application for repair following spinal cord injury. Dr. Keirstead received his Ph.D. from the University of British Columbia, was a postdoctoral fellow at the University of Cambridge, UK, and comes to the Center following an extensive, international search.

Center Launches with Scientific Think Tank

On May 2, 1999, Christopher Reeve visited the Reeve-Irvine Research Center to meet with Director Oswald Steward, Joan Irvine Smith, and a consortium of scientists at UCI working with the Center. New collaborative research activities and training programs within the Center were explored. In addition, a free-ranging discussion about new findings of scientists around the world led to groundbreaking ideas for future research and training programs. One specific outcome was a plan to launch a new training program for recent doctoral degree recipients that would focus on spinal cord injury/nerve cell regeneration research.



Steward, Reeve and Joan Irvine Smith

"New Director" Continued from page 1

regeneration, growth and function, and how physiological activity affects nerve cell connections.

Steward comes from the University of Virginia, where he was the Harrison Foundation Professor and Chair of the Department of Neuroscience. The University of Virginia is also where Christopher Reeve was treated after his accident. Dr. Steward maintains close ties with the Clinical Neuroscience enterprise at the University of Virginia, and especially with Dr. John Jane, who was Christopher Reeve's physician during his early post-injury treatment.

Jumping Hurdles

The Oaks International Equestrian Show Jumping Competition and Charity Dinner was held on Saturday September 18, 1999 on the greens of the Oaks/Blenheim/Rancho Mission Viejo Riding Park in San Juan Capistrano.

The Reeve-Irvine Research Center was one of seven local charities that benefited from a gala dinner with over 1,300 guests. The event raised more than \$10,000 in donations for the Center. Given his continued love of horses, Christopher Reeve was delighted that the Center was able to participate in this festive affair.



Research News

Research on spinal repair and recovery from disease and injury generally falls into three categories: containing the damage that follows the initial injury; inducing nerve regeneration and repair; and advancing therapies that enhance remaining functioning.

Currently, research in the Center focuses on the first two of these categories. Dr. Steward is exploring the role of different genes in the secondary degeneration that occurs after spinal cord injury. By identifying the relevant genes, it may be possible to develop new treatments to limit the secondary degeneration that otherwise causes loss of function. He is also exploring new strategies to promote nerve regeneration by manipulating the expression of key growth-promoting genes. Within the next few months, Center research in the area of regeneration will broaden to include Dr. Keirstead's novel technique for temporarily demyelinating axons in the injured spinal cord.

Two Receive Christopher Reeve Research Medals

Each year the Reeve-Irvine Research Center awards the "Christopher Reeve Research Medal for Spinal Cord Repair" to individuals who have made critical contributions to promoting recovery of function and repair of the damaged spinal cord. The medal acknowledges the most meritorious science, a proven body of work that has withstood the test of time and scrutiny, and recent enriching contributions to the field. This year's medal, along with a \$50,000 cash prize, was awarded to Dr. Reggie Edgerton of UCLA and Dr. Serge Rossignol of the University of Montreal, for their fundamental studies on spinal pattern generators. Their research established that the spinal cord has local circuits that can mediate highly complex motor functions, and that these circuits can be trained. These findings formed the basis for new rehabilitation therapies that show great promise for allowing partially-paralyzed patients to walk after years of being confined to a wheelchair. The medals were presented to Dr. Edgerton and Dr. Rossignol on November 16 in New York City at the "Magical Evening in Monte-Carlo". This annual fundraising event, sponsored by the Christopher Reeve Paralysis Foundation, was held at the Waldorf Astoria Hotel and was attended by 1200 people and Christopher Reeve.



Pictured from left to right: Dr. Edgerton, Christopher Reeve, Dr. Rossignol and Dr. Oswald Steward, who presented the medals

Want to talk about it?

For questions regarding our educational programs and clinical referrals, please contact:

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Interested in making a donation to the Reeve-Irvine Research Center? Please contact:

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The Center is Growing

The Reeve-Irvine Research Center is located in the recently dedicated Gillespie Neuroscience Research Facility for the Health Science. This state of the art research facility houses the Center laboratories and administrative offices. The coming months and years will see new faculty, international visiting scientists and students using the cutting edge equipment and services available in this beautiful building.



*The Gillespie Neuroscience Research Facility
Houses the Reeve-Irvine Research Center*

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NEW WEB SITE!**

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