

22ND ANNUAL

UCLA BRAIN ATTACK! '17

Symposium on State-of-the-Art Stroke Management

SATURDAY
MAY 6, 2017

UCLA Carnesale Commons | 251 Charles E. Young Drive, West • Los Angeles, California 90095

UCLA COURSE DIRECTOR:

Sidney Starkman, MD

Director, Emergency Neurology, Departments of Emergency Medicine and Neurology

UCLA FACULTY PLANNING COMMITTEE:

Bruce Dobkin, MD

Director, Neurological Rehabilitation and Research Program, Department of Neurology

Gary Duckwiler, MD

Director, Division of Interventional Neuroradiology, Department of Radiology

Jeffrey Saver, MD

Director, Stroke Neurology, Department of Neurology

Paul Vespa, MD

Director, Neurocritical Care, Departments of Neurosurgery and Neurology

Sponsored by:



DAVID GEFKEN SCHOOL OF MEDICINE at UCLA

In association with:



Saturday, May 6, 2017

7:30 AM Registration and Continental Breakfast

8:00 **Welcome**

Marvin Bergsneider, MD

8:10 **Stroke Prevention in Atrial Fibrillation: Update on New Medical and Device Therapies**

Noel G. Boyle, MD, PhD

8:40 **Neuroimaging of Acute Ischemic and Hemorrhagic Stroke: New Developments**

Bryan Y. Yoo, MD

9:10 **Applying Neuroimaging to Patient Selection for Intravenous Thrombolysis and Endovascular Thrombectomy**

David S. Liebeskind, MD

9:40 **The Need for Speed: Accelerating Door-to-Needle and Door-to-Puncture Times**

Neal M. Rao, MD

10:10 Break

10:30 **Endovascular Thrombectomy: State of the Art**

Reza Jahan, MD

11:00 **Quality Improvement in Stroke Care**

Latisha K. Sharma, MD

11:30 **Bringing the Hospital to the Patient: The Mobile Stroke Unit Paradigm**

May Nour, MD, PhD

12:00 PM **Lunch and UCLA Mobile Stroke Unit Tour**



1:30 **Afternoon Remarks**

Gregory W. Hendey, MD

1:40 **Care of Ischemic and Hemorrhagic Stroke in the Intensive Care Unit**

Manuel M. Buitrago Blanco, MD, PhD

2:10 **Intracerebral Hemorrhage: Minimally Invasive Evacuation and Other Recent Advances**

Paul Vespa, MD

2:40 **Arteriovenous Malformations: Multimodal Management**

Satoshi Tateshima, MD, PhD

3:10 Break

3:30 **Aneurysm Management: Flow Diverters, Coils, and Additional Advances**

Gary R. Duckwiler, MD

4:00 **Inducing Neuroplasticity and Recovery from Stroke**

Jason D. Hinman, MD, PhD

4:30 **Cryptogenic Stroke: Embolic Strokes of Undetermined Source, Long-Term Cardiac Monitoring, and Other Recent Advances**

Jeffrey L. Saver, MD

5:00 Adjourn

COURSE OBJECTIVES

At the conclusion of this program participants should be able to:

- Summarize recent developments in endovascular treatment of acute ischemic stroke
- Apply methods to accelerate time to thrombolysis and time to endovascular intervention
- Utilize treatment options for ischemic and hemorrhagic stroke
- Employ recent developments in management of arteriovenous malformations and intracranial aneurysms

TARGET AUDIENCE

Neurologists, Neurosurgeons, Interventional Neuroradiologists, Emergency Physicians, Family Practice Physicians, Internists, and other health care professionals who want to enhance their knowledge of the management of patients with cerebrovascular diseases.

FACULTY

Marvin Bergsneider, MD

Professor and Residency Program Director*
Department of Neurosurgery

Manuel M. Buitrago Blanco, MD, PhD

Assistant Clinical Professor of Neurosurgery and Neurology*

Noel G. Boyle, MD, PhD

Clinical Professor of Medicine*
UCLA Cardiac Arrhythmia Center

Gary R. Duckwiler, MD

Professor and Section Chief of Diagnostic Interventional
Neuroradiology of Radiology*
Division of Interventional Neuroradiology

Gregory W. Hendey, MD

Chair and Professor of Emergency Medicine*

Jason D. Hinman, MD, PhD

Assistant Professor of Neurology*

Reza Jahan, MD

Professor and Director of Academic Affairs*
Division of Interventional Neuroradiology

David S. Liebeskind, MD

Professor of Neurology*
Director, Neurovascular Imaging Research Core
Director, Outpatient Stroke and Neurovascular Programs
Associate Neurology Director,
UCLA Comprehensive Stroke Center

May Nour, MD, PhD

Medical Director, UCLA Mobile Stroke Rescue Program,
Department of Neurology and
Division of Interventional Neuroradiology

Neal M. Rao, MD

Assistant Professor of Neurology*
Director, Olive View-UCLA Medical Center Stroke Program

Jeffrey L. Saver, MD

Professor and Senior Associate Vice-Chair of Neurology*
Director, UCLA Comprehensive Stroke Center

Latisha K. Sharma, MD

Associate Clinical Professor of Neurology*
Director, Stroke Center Medical Quality
Director, UCLA TeleStroke Program
Associate Director, UCLA Vascular Neurology
Residency Program

Sidney Starkman, MD

Clinical Professor of Emergency Medicine and Neurology*
Co-Director, UCLA Comprehensive Stroke Center
Director, UCLA Stroke Network

Satoshi Tateshima, MD, PhD

Associate Clinical Professor of Radiology*
Division of Interventional Neuroradiology

Paul Vespa, MD

Professor of Neurosurgery and Neurology*
Director, Neurocritical Care

Bryan Y. Yoo, MD

Assistant Clinical Professor of Radiology*
Division of Neuroradiology

* David Geffen School of Medicine at UCLA

ISCHEMIC STROKE:

Medical & Endovascular Emergency Treatment, Prevention and Rehabilitation

The UCLA Comprehensive Stroke Center presents its annual Brain Attack symposium to review the practical, clinical aspects of stroke prevention, diagnosis, and treatment. The course will cover stroke risk factors, diagnostic testing, and medical and interventional therapy.

Intravenous tPA and neuroendovascular thrombectomy are now proven therapies for treatment of acute ischemic stroke. The results of recent studies indicate that neurointerventional techniques of thrombectomy are beneficial up to six hours after symptom onset in most patients, and beyond six hours in select patients. A highly coordinated team approach is required to provide these treatments safely and effectively.

Neuroimaging techniques are playing an increasingly important role in the evaluation of stroke patients. Faculty will provide an in-depth discussion of innovative MR and CT techniques.

THE UCLA COMPREHENSIVE STROKE CENTER

The UCLA Comprehensive Stroke Center maintains a comprehensive treatment and clinical trials program for patients with cerebrovascular disorders. The UCLA Comprehensive Stroke Center – the first Joint Commission certified stroke center in Los Angeles County, provides multidisciplinary care for patients with stroke and kindred disorders including prevention, acute brain rescue, interventional neuroradiological and surgical therapy, and multimodal rehabilitation. The UCLA Comprehensive Stroke Center's treatment approach includes emergency physicians, stroke neurologists, vascular neurosurgeons, vascular surgeons, diagnostic and interventional neuroradiologists, and rehabilitation physicians.

Acute Treatment: For patients with new onset stroke symptoms, a "Brain Attack" rapid care program provides:

- immediate evaluation by emergency physicians and neurologists
- CT / MRI scan within minutes of emergency department arrival
- prompt neurovascular intensive/intermediate level care
- trials of novel therapies for ischemic and hemorrhagic stroke and acute interventional and surgical therapies.

Stroke in Children and Young Adults: Experts in pediatric neurology, neurosurgery, interventional and diagnostic neuroradiology, and stroke neurology work together at the UCLA Comprehensive Stroke Center to provide comprehensive evaluation and treatment for pediatric and young adult patients with cerebrovascular disorders including moyamoya syndrome, sickle cell anemia, hyper-coagulable states, cardioembolic stroke, arteriovenous malformations, and aneurysms.

Rehabilitation: The newly opened California Rehabilitation Institute is a 138 bed free-standing acute rehabilitation hospital in Century City that is a joint venture with UCLA and Cedars-Sinai, and provides state-of-the-art care to maximize recovery for patients with stroke.

Carotid Endarterectomy: Microneurosurgical endarterectomy, with intraoperative brain monitoring, is available for asymptomatic and symptomatic carotid artery stenosis.

Reperfusion: For patients eligible to receive intravenous tPA, thrombolysis is rapidly administered. In addition, neurointerventionalist teams are available around the clock to perform emergency endovascular neurothrombectomy procedures.

Carotid and Intracranial Angioplasty and Stenting: UCLA provides angioplasty and stenting for selected patients with intracranial and extracranial carotid or vertebrobasilar stenoses.

NIH Studies: The UCLA Comprehensive Stroke Center is a co-lead center for the NIH Los Angeles-Southern California StrokeNET, one of twenty-five regional networks in the country for performing studies of stroke prevention, acute treatment, and recovery. In addition, UCLA is the coordinating center for the Los Angeles Neurological Emergency Treatment Trials (LA-NETT), which is a network conducting a number of clinical trials in emergency neurology, including acute stroke and status epilepticus.

Prevention: The Stroke Clinic provides comprehensive evaluation and treatment recommendations for individuals at increased risk for ischemic and hemorrhagic stroke, including those with atrial fibrillation, carotid artery stenosis, transient ischemic attacks, and newly diagnosed unruptured aneurysms or vascular malformations.

One Call, Immediate Accept

NEUROCRITICAL CARE RAPID TRANSFER

310-825-0909 - Press 1

Stroke Neurology 310-794-6379

Interventional Neuroradiology 310-267-8761

gduckwiler@mednet.ucla.edu

Emergency Neurology 310-794-0600

UCLA Comprehensive Stroke Center: www.stroke.ucla.edu

UCLA TeleStroke: www.telestroke.ucla.edu

UCLA Interventional Neuroradiology: www.aneurysm-stroke.com

California Rehabilitation Institute: www.californiarehabinstitute.com

Aneurysms, Cerebrovascular Malformations, and Brain Hemorrhage

Tremendous strides have been made in the management of complex vascular lesions of the brain and spinal cord. This symposium will provide a review of the basic principles of clinical and interventional management of subarachnoid hemorrhage, intracerebral hemorrhage, cerebral aneurysms, and cerebral vascular malformations. Developments in microsurgical and endovascular techniques as well as critical care neurology will be discussed.

THE UCLA INTERVENTIONAL NEUROVASCULAR PROGRAM

The UCLA Interventional Neurovascular Program has developed management protocols for the diagnosis and treatment of cerebrovascular disorders which incorporate diagnostic and interventional neuroradiology, microneurosurgery, stereotactic radiosurgery, neuroanesthesiology, neurocritical care, and intensive medical management. The members of the UCLA Interventional Neurovascular team have worked cooperatively for 3 decades with all of the management components available on-site at UCLA, allowing for efficient coordination of the various techniques.

Neurovascular Disorders Treated at UCLA:

Intracranial Aneurysms

Ruptured intracranial aneurysms may be treated either surgically or by endovascular technique. Postoperatively, transcranial Doppler and cerebral blood flow studies are available to assess for the development of vasospasm. Severe, medically refractory vasospasm is treated using balloon dilation angioplasty and/or pharmacologic intra-arterial infusion, performed by the interventional neuroradiology team. Giant and complex aneurysms often require combined treatment using endovascular techniques in conjunction with extracranial-intracranial arterial bypass, or surgery under hypothermic circulatory arrest.

Arteriovenous Malformations (AVMs)

The Neurovascular Program has extensive experience in the management of large and complex AVMs in children and adults, which are generally treated with embolization followed by microneurosurgical resection. Functional brain mapping for surgical planning is a critical component of management of AVMs. Deep and critically located AVMs are treated with stereotactic radiosurgery which is combined with embolization in larger lesions. Dural arteriovenous malformations are usually treated definitively by embolization alone, but in some complex cases, surgery or combined techniques are necessary. Spinal AVMs are treated by microsurgical excision, endovascular therapy, or most commonly, a combination of the two techniques. UCLA is also a designated HHT (hereditary hemorrhagic telangiectasia) Center of Excellence, and provides treatment for the whole range of lesions, including brain AVMs, that are seen in families.

Cavernous Angiomas of the Brain, Brain Stem, and Spinal Cord

Cavernous angiomas are generally treated by microsurgical excision when they have caused significant symptoms. Lesions of the brain stem and spinal cord can now be treated successfully using microneurosurgical techniques, usually in combination with intraoperative electrophysiologic monitoring.

Vein of Galen Malformations

Transarterial and transvenous endovascular approaches are employed to reduce flow through the fistula, combined in some cases with neurosurgical treatment.

Intracranial Arterial Stenosis

Stroke due to narrowing of the brain arteries carries one of the highest rates of recurrent stroke, as much as 25 percent. Treatment of narrowing of the intracranial arteries is performed by a multidisciplinary team of experts in both medical management and novel endovascular and surgical revascularization techniques, including angioplasty, stenting, bypass, and indirect revascularization surgeries.

UCLA Medical Center Facilities:

Stroke Unit

UCLA's Acute Stroke Unit, one of the first in the nation, offers comprehensive, cutting edge acute inpatient care for patients suffering from cerebral infarction, hemorrhage or other cerebrovascular diseases.

UCLA Neurocritical Care

The UCLA Neurocritical Care program is an internationally acclaimed center of excellence in patient care, training, and research. The 24-bed Singleton Neuro-ICU features numerous state-of-the-art technologies including continuous EEG monitoring, cerebral microdialysis, brain oximetry, transcranial doppler, the world's first ICU Robot (InTouch Health), and a comprehensive ICU Supercomputing System.

California Rehabilitation Institute

The California Rehabilitation Institute provides acute rehabilitation during the initial time of complex medical and neurological recovery post-stroke with the goal of reducing the impairments and disability associated with stroke and maximizing recovery.

UCLA Clinical Image Processing Laboratory

The laboratory is equipped with a full spectrum of 3D, image fusion, and post-processing software for cerebrovascular structural and perfusion study analysis.

Neurosurgical Operating Rooms

The neurosurgical operating rooms at UCLA, which accommodate more than 1,200 cases annually, include video systems for viewing microsurgical procedures, electrophysiologic equipment for brain monitoring, intraoperative angiography, and a frameless stereotactic imaging workstation (BrainLAB).

UCLA Cerebral Blood Flow Laboratory (Clinical)

This facility provides comprehensive transcranial Doppler evaluations and cerebral blood flow testing on inpatients and outpatients.

Interventional Neuroradiology Suites

The interventional angiography suites are equipped with the latest digital equipment, including 3-D rotational angiography designated for the performance of endovascular procedures. More than 400 such procedures are performed annually at UCLA.

Stereotactic Radiosurgery

The stereotactic radiosurgery section at UCLA utilizes state-of-the-art instrumentation for the treatment of vascular malformations of the brain. This multidisciplinary effort of neurosurgeons, physicists, radiologists, and radiation oncologists is planned on a three-dimensional and multiplanar computerized model using high resolution brain mapping imaging techniques.

Henry and Arline Gluck Mobile Stroke Rescue Program

UCLA is developing a Mobile Stroke Unit (mobile CT ambulance) program for advanced diagnosis, triage, and treatment of prehospital patients, including prehospital thrombolysis for acute ischemic stroke and prehospital reversal of anticoagulation for acute intracranial hemorrhage.

UCLA Comprehensive Stroke Center website: www.stroke.ucla.edu

Stroke Neurology 310-794-6379

Interventional Neuroradiology 310-267-8761

Neurocritical Care 310-267-9448

Emergency Neurology 310-794-0600

Selected Advances in Stroke Care and Research from THE UCLA COMPREHENSIVE STROKE CENTER

- **First device therapy for acute ischemic stroke**
 - Coil Retriever, Stent Retriever
 - Invented/Developed at UCLA
- **Leading device therapies for cerebral aneurysms**
 - Guglielmi detachable coil, Matrix coil
 - Invented at UCLA
- **Leading catheter therapy for intracranial arteriovenous malformations and fistulae**
 - Onyx liquid embolic agent
 - Developed at UCLA
- **First MRI demonstration of successful reversal of advanced stroke injury in humans**
- **First validated instrument for paramedic recognition of stroke**
 - Los Angeles Prehospital Stroke Screen (LAPSS)
- **First validated instrument for paramedic recognition of large vessel occlusion (LVO)**
 - Los Angeles Motor Scale (LAMS)
- **First prehospital neuroprotective treatment of stroke trial**
 - Field Administration of Stroke Therapy - Magnesium (FAST-MAG)
- **First stroke device studied utilizing FDA approved exception from informed consent under emergency circumstances**
- **First multi-center trial of body weight-supported treadmill training and drug therapies for stroke**
- **First clinical cellphone PACS system for remote review of CT and MRI scans in acute stroke**
 - Developed at UCLA
- **First US multicenter trial of endoscopic treatment for acute intracerebral hemorrhage**
- **First trial of indirect revascularization for patients with intracranial atherosclerosis**
- **First routine use of intraoperative digital subtraction angiography for evaluation after surgical aneurysm and AVM treatment**
- **First Neuro ICU-adjacent comprehensive stroke imaging center with CT, PET, 3T MRI**
- **First ICU and ED robot for remote monitoring of stroke patients**
- **First cerebral blood flow laboratory to use bedside xenon CBF studies and TCD for stroke critical care and research**
- **First clinical information system with acute stroke management dashboard**
- **First to deploy write-once, write-everywhere stroke note for clinical documentation and automated quality and research database completion**
- **First systematic secondary prevention program for cerebral atherosclerosis**
 - Preventing Recurrence of Thrombo-embolic Events through Co-ordinated Treatment (Stroke PROTECT Program)
- **First accredited undergraduate program for Student Stroke Research**
 - UCLA Student Stroke Team
- **First accredited undergraduate program for Stroke Community Education and Research**
 - UCLA Stroke Force
- **First confirmation that stroke diagnosis in the field by paramedics and neurologists by cell phone is highly accurate**
 - Field Administration of Stroke Therapy - Magnesium (FAST-MAG)
- **First validation of wearable, remote wireless health monitoring for stroke**
 - Developed by UCLA Wireless Health Institute faculty and students

SYMPOSIUM INFORMATION

ENROLLMENT - *Extremely Limited.*

****EARLY ENROLLMENT IS ADVISED****

We accept American Express, MasterCard, Visa, and Discover.

ONLINE REGISTRATION

Please follow registration procedures located at **www.cme.ucla.edu/courses** and click on **"UCLA Brain Attack! '17"**.

By Phone: Call **(310) 794-2620**.

ENROLLMENT FEES

Includes course registration, syllabus, continental breakfast, break refreshments, and lunch.

\$200 Early Enrollment

\$225 (After April 7th)

\$150 UC Faculty/Staff

LOCATION

UCLA Carnesale Commons

251 Charles E. Young Drive, West
Los Angeles, CA 90095
(see next page for map and directions)

PARKING

From 7:00 AM to 1:00 PM, a \$12 pre-paid parking permit will be supplied by the course and provided to you at the Sunset Village parking structure entrance for non-UCLA attendees.

Please convey that you are attending the UCLA Brain Attack! Symposium and the attendant will issue you the pre-paid parking permit.

If you arrive outside the specified time frame, you may purchase a parking permit at the Westwood parking kiosk off Westwood Boulevard at your own expense of \$12, cash only.

ACCREDITATION

The Office of Continuing Medical Education, David Geffen School of Medicine at UCLA is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Office of Continuing Medical Education, David Geffen School of Medicine at UCLA designates this live activity for a maximum of 6.75 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Disclosure

The FDA has issued a concept paper which classifies commercial support of scientific and educational programs as promotional unless it can be affirmed that the program is "truly independent" and free of commercial influence. In addition to independence, the FDA requires that non-promotional, commercially supported education be objective, balanced, and scientifically rigorous. The policy further states that all potential conflicts of interest of the CME staff and faculty be fully disclosed to the program's participants. In addition, Accreditation Council for Continuing Medical Education policy now mandates that the provider adequately manages all identified potential conflicts of interest prior to the program. We at UCLA fully endorse the letter and spirit of these concepts.

Refunds

Cancellations must be received in writing by April 7, 2017, and will be subject to a \$75 processing fee. No refunds will be given after that date. If, for any reason, the course must be canceled, discontinued, or rescheduled by the Office of Continuing Medical Education, a full refund will be provided. You may fax your refund request to 310-794-2624.

ACCOMMODATIONS

Although not specifically endorsed by this conference, a list of hotels conveniently located to UCLA is available here: **<http://www.uclahealth.org/Pages/patients/lodging.aspx>**

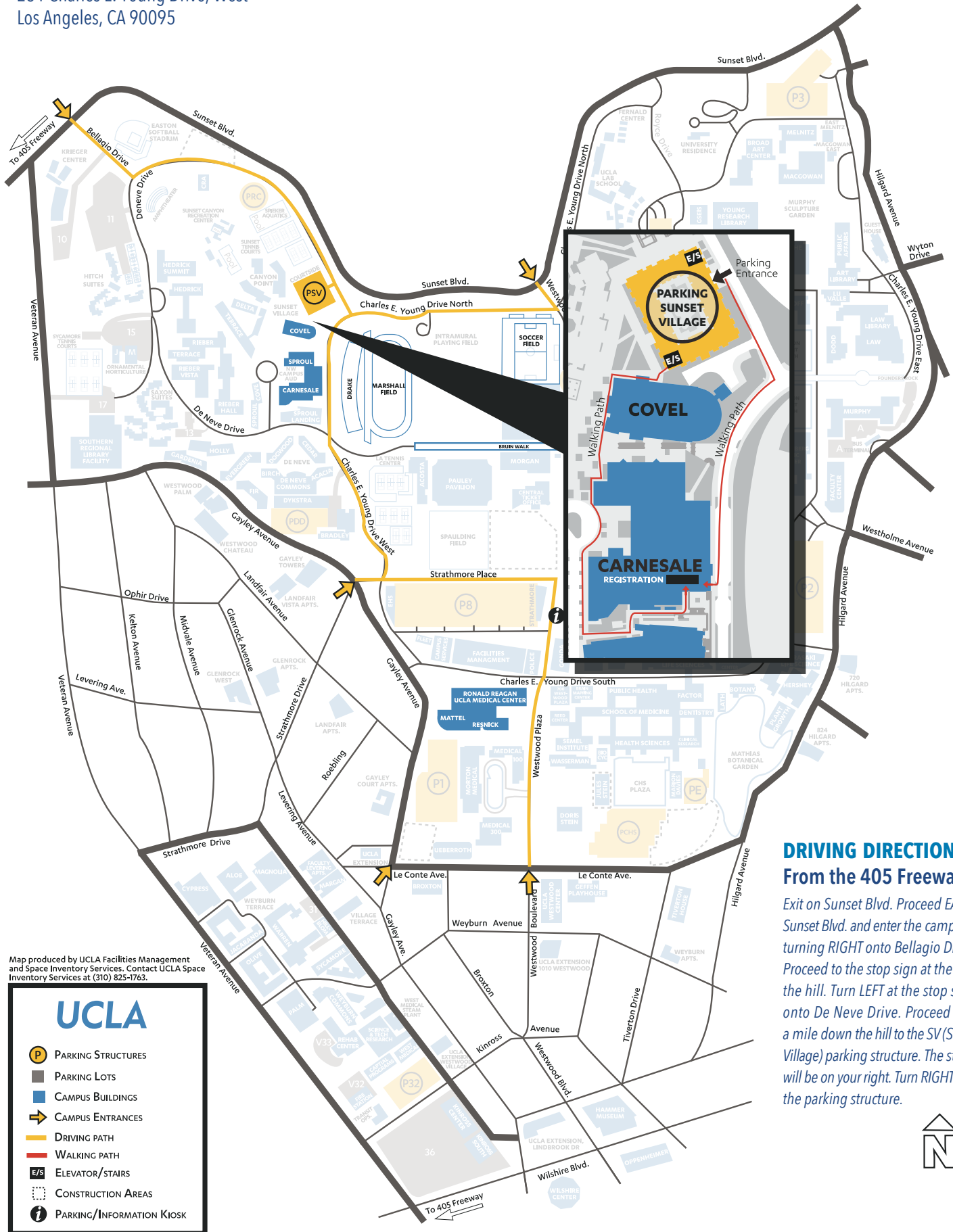
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Map produced by UCLA Facilities Management and Space Inventory Services. Contact UCLA Space Inventory Services at (310) 825-1763.

The Symposium organizing committee would like to thank Nathalie Kaldjian, graphic artist in UCLA Facilities Management Geographic Information Systems, for creating the map.