

ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS
Southern California Section
"Connecting Professionals, Practice, and the Public."

NEWSLETTER – June 2007

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Visit the Southern California Section Website: www.aegsc.org

Newsletter Editor – Steve Varnell, svarnell@lgcgeo.com

Meeting Date: *Tuesday, June 12th*****

Location: Steven's Steak House, 5332 Stevens Place, Commerce, California

Time: 6:00 p.m.-Social Hour; 7:00 p.m.-Dinner; 7:45 p.m.-Presentation

Cost: \$30 per person with reservations, \$35 at the door, \$15 for students with a valid Student ID

*****Reservations:** *** Please call Jon Relyea at (800) 554-3205 or email jon@radiusmaps.net***

Speaker: Ory Dor, Department of Earth Sciences, University of Southern California

Topic: "Pulverized rocks and the depth of dynamic damage generation along the Mojave section of the San Andreas Fault."

Abstract:

Expressions for structural asymmetry with respect to the slip zone of major faults in the southern San Andreas and the North Anatolian fault systems were observed and mapped at various scales in several sites along each fault. Geological mapping of Shear fabric on a cm to meter fault core scale, subsidiary faults and fault rocks on a 10's of meters fault zone scale and pulverized rocks on a 100's of meters damage zone scale show systematically that the northeast side of the San Andreas, San Jacinto and Punchbowl faults, and the south and north sides of the 1943 and 1944 rupture zones on the North Anatolian fault, respectively, are more damaged. Similar sense of asymmetry for the San Jacinto fault was observed in tomographic imaging of a ~100 m wide low velocity layer south of the small scale geological mapping sites (Lewis et al., 2005). Asymmetric erosion patterns along the North Anatolian fault including the presence of almost all the river valleys length south of the fault along the 1943 rupture and vice-versa along the 1944 rupture, strong asymmetry in drainage density and other related morphometric parameters between two correlative rock bodies on the two sides of the 1944 rupture and significant difference in the density of gully networks in bad-land terrains across the 1943 rupture are also consistent with higher damage content south and north of the 1943 and 1944 ruptures, respectively. The asymmetric damage patterns are compatible with preferred rupture directions northwestward on faults of the San Andreas Fault system, and westward and eastward on the 1943-1944 rupture sections of the North Anatolian faults, respectively (as occurred in these two recent North Anatolian fault earthquakes). Regional and local tomographic studies (e.g. Fuis et al., 2003; Scott et al., 1994) show that the more damaged northeast side of the of the San Andreas and San Jacinto faults is on the block with faster seismic velocities at depth. Significant damage content in sedimentary rocks of the Juniper Hills formation on the southwest side of the San Andreas Fault in the central Mojave section indicates that dynamic generation of damage can occur very close to the surface of the earth, in agreement with other indications for minimal exhumation of pulverized and other damaged fault zone rocks. An asymmetric shallow damage structure correlated with the velocity structure at depth is compatible with theoretical predictions of the theory for rupture along bimaterial interface (Ben-Zion and Shi, 2005). Microfractures in the Juniper Hills rocks near the fault, orientated preferably normal to its strike, are compatible with the transient stress field associated with seismic slip events on frictional rough surfaces (Chester and Chester, 2000). The damage fabric of those rocks is anisotropic and not compatible with an absolute tension.

Structural analysis of the orientation and slip data of 115 slip surfaces in the granitic hanging-wall of the Sierra Madre fault shows that their geometry and kinematics are compatible with the plastic respond predicted by Rice et al. (2005) to the violation of Mohr-Coulomb yielding criterion associated with the stress field of propagating mode II ruptures with slip weakening and a self-healing pulse.

Speaker:

Mr. Ory Dor completed undergraduate studies at the Hebrew University in Jerusalem, Israel followed by research exploring fresh and reactivated rupture zones in South African deep mines. Mr. Dor is currently completing a PhD program at the University of Southern California working on multi-scale & signal study of fault zone structure with implications for the mechanics of faulting and earthquakes. Mr. Dor is interested in the nature of earthquake signature as it is expressed by fault zone rocks, by the extent and structure of damage at different scales, and by symmetry properties of fault zones. The work at USC included multi-scale mapping of fault zones of the San Andreas and North Anatolian Fault systems. Mr. Dor uses meso-scale mapping at natural and artificial exposures, regional mapping of pulverized rocks, thin sections, image analysis, GIS analysis and structural analysis methods to infer about the symmetric properties of fault zones, preferred rupture propagation direction, the properties of the newly-defined pulverized fault zone rocks, and to provide constraints for the depth of dynamic

damage generation. Post-doc work including rock mechanics experiments with fault zone rocks is planned at Brown University in Providence, RI.

Chair Column

Roz Munro

Greetings Southern California,

BGG Meeting

The Board for Geologists and Geophysicists held its May 18 meeting in Santa Ana. In attendance were all of the Board members except Schmidt, who reportedly has moved out of state (and whose term is about to expire), Executive Officer Rick Rempel, George Dunfield, and Board Counsel Gary Duke. Buzz Spellman, Charles Nestle, and I represented AEGSC. Also present in the audience were Boris Zaprianoff, Frank Jordan, and Rick Gundry.

EO Rick Rempel has aggressively taken on his role and a lot of great progress was reported. The Board really seems on track to be functioning responsibly and supportively to its constituents, the licensees and the public. Some of the highlights:

Revisions to the Board's Strategic Plan are being worked on; an interim Plan is expected to be presented to the Board at the August meeting.

A new category, or status, of license was discussed. Currently there are two: Active and Delinquent. A third status was proposed that could cover retirees, out-of-state professionals holding licenses, or other non-active licenses. Due to the cost, many choose to let their license(s) lapse. To regain their license(s), they would have to take the registration exams again. The EO was asked to evaluate the idea and report back to the Board.

The budget was presented and discussed. It is positive and is based on more realistic and supportable assumptions.

The number of "Clear" (paid) Professional Geologists has increased from over 3300 in 1990 to over 4800 in 2007. There was a large up-tick in 1992-93 and there has been a steady rise between 2001 and the present, the greatest between 2005 and 2007.

The registration exams will be offered twice a year beginning Fall 2007. References and qualifications are being checked much more diligently and the new application form is more stringent and extensive.

The Examination Committee desperately needs new questions for the California specific exams from the geologic community on an ongoing basis (**that means you**). They especially want to improve the California Supplemental exam. They are working with the TAC (Technical Advisory Board) and Enforcement Oversight Committee.

Board legal counsel Gary Duke is working with the Engineering Board counsel to have complaints to the engineering board regarding engineers practicing geology referred to the Geology Board.

It was a very open meeting. We were welcome to address the board during the discussions and presentations, not relegated to a Public Forum slot where comments could be out of context or

forgotten. Board Member Shirley Husar complained that the attendance was so small. Chairman Black commented that lack of attendance was actually a positive sign.

The point is well taken, however. We need to be involved. **They are making decisions that affect our practice and licensure. That affects you individually.** Check the website. Attend meetings if you can. If you can't attend but have questions, comments, or concerns, forward them to us so we can present them or forward them directly to the Board or EO Rick Rempel.

Southern California Section Poster Display at AEG's 50th Anniversary Meeting

I have had no response from last month's request. AEG's 50th Anniversary meeting to be held in Universal City September 24-29 is rapidly approaching. **The Sections have been invited to present their history in a special poster display at the meeting.** Southern California was instrumental in the establishment of AEG and it is important to present our history. I'm asking, actually still begging, for input for the poster board. I'm not asking you to join a committee or attend a meeting (unless you want to) but I need you, as members of the **Southern California Section of AEG**, to provide any historical anecdotes, field trip memories, organizational background, photos, member highlights, section lowlights, anything that could enhance or chronicle the history of the Section. I've solicited Woody Higdon to help with some photos for the physical poster, but I need your input for the content. We're running out of time so please contact me at rmunro@mactec.com.

<p style="text-align: center;">New California Building Code Published July 1, 2007 Local Codes Effective January 1, 2008</p>
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Charles Nestle

Last year Governor Schwarzenegger rescinded the Davis administration's adoption of the NFPA 5000 building code, and adopted instead the 2007 International Building Code (IBC), which is developed and published by the International Code Council (ICC), which was formed in 1994 by a merger of the three national building code publishers: ICBO (publisher of the familiar UBC), BOCA, and SBCCI. During January and February of this year the California Building Standards Commission (<http://www.bsc.ca.gov>) adopted, in sections, the 2007 International Building Code (IBC). The new California Building Code (CBC) will become effective July 1, 2007, and local codes MUST be adopted 180 days later (Jan. 1, 2008).

The new IBC is significantly different than the current one, and several of these differences may affect your practice, depending on what state and local amendments take effect. Here are a couple of examples from the 2007 IBC:

§1802.2.5 Rock Strata. Where subsurface explorations at the project site indicate variations or doubtful characteristics in the structure of the rock upon which foundations are to be constructed, a sufficient number of borings shall be made to a depth of not less than 10 feet (3048 mm) below the level of the foundations to provide assurance of the soundness of the foundation bed and its load-bearing capacity.

§1613.1 Definitions. Active Fault/Active Fault Trace. A fault for which there is an average historic slip rate of 1mm per year or more and geologic evidence of seismic activity within Holocene (past 11,000 years) times. Active fault traces are designated by the appropriate regulatory agency and/or registered design professional subject to identification by a geologic

report. *[According to the State Mining and Geology Board, the definition of active fault in the Alquist-Priolo Earthquake Fault Zoning Act takes precedence over the building code definition.]*

Seismic zones in Chapter 16 Structural Design are gone. They've been replaced by spectral response acceleration charts and the option of doing a site-specific study.

The current 2001 CBC on which the local codes are based contains a diminutive 3-page grading chapter (Chapter 33) and a slightly more substantial Appendix Chapter 33 that required specific adoption by the local agencies in order to be effective. If Appendix Chapter 33 was not specifically adopted, local agencies still had an enforceable grading code, however minimal. The 2007 IBC has no grading chapter, but does have a grading code in Appendix Chapter J that must be specifically adopted by local jurisdictions that want to regulate grading. If the local jurisdiction does not specifically adopt Appendix Chapter J, then that jurisdiction has no legal authority to regulate grading!

Appendix Chapter J is so completely different from the current Appendix Chapter 33 that the County of Los Angeles has spent several months working on their Code amendments, and the City of Los Angeles has also spent a considerable amount of time on theirs. The end result of this effort is a grading code in the City and County of Los Angeles that will be substantially similar to what you are used to. But what of those jurisdictions that don't have the time or staff to prepare their own amendments?

How will the new code impact your work? The new code will apply to building and grading permit applications applied for on or after January 1, 2008. But many of your reports for those projects will have been prepared prior to that date, under assumptions and requirements of the current code. It is conceivable that in some cases compliance with the new code will require you to do additional subsurface investigation and/or revise analyses and statements or code references made. If possible, local jurisdictions may be able to make their code changes available several months prior to their effective date. Hopefully, compliance with the new code will be a fairly smooth process.

*****Announcements*****

**2nd Annual Sustainable Watershed Management:
A Five-Day Short Course at the University of California, Santa Barbara**

**A joint project between the Bren School of Environmental Science & Management, UCSB,
and UCSB Extension**

Please visit the following website for more information: <http://www.unex.ucsb.edu/watershed/>

From Rick Gundry, President, Inland Empire Chapter, AEGSC:

**Re: Job Position Announcement - Teaching an Engineering Geology Course
Summer, 2007, Cal Poly Pomona**

Dr. John Klasik, Chairman of the Geological Sciences Department, California State Polytechnic University, Pomona announced a teaching position for this summer for a course in Engineering Geology.

Dr. Klasik indicates this opportunity would be particularly ideal for a graduate student or post-doc. Dr. Klasik also indicated a second Lab portion. Dr. Klasik is also looking for a successful candidate who would be interested in teaching this course in the following academic year and beyond. The summer course class and lab schedule are as follows:

Lecture: M-W 12:00 - 1:15
Lab: M 8-11; and, alternate
Lab: W 8-11

Interested candidates should contact Cal Poly Pomona, preferably Dr. Klasik, for details, qualifications and credentials required, and related information such as the pay, other opportunities, etc.

John A. Klasik, Professor & Chair
Geological Sciences Department
Cal Poly Pomona
Pomona, California 91768
Phone: (909) 869-3453
FAX: (909) 869-2920

Chapter Meetings

Inland Empire:

For the latest information and updates, please visit <http://www.aegsc.org/chapters/inlandempire/>

Central Coast:

Monthly meetings will take place on the last Wednesday of every month at Rusty's Pizza in Goleta. Social hour begins at 6 pm, the meeting begins at 7pm.

For the latest information and updates, please visit <http://www.aegsc.org/chapters/centralcoast/>

For more information or to be added to the CA Central Coast Chapter email list, please contact Robert Urban via email at robert_urban@urscorp.com.

San Diego:

For the latest information and updates, please visit <http://www.aegsc.org/chapters/extremesocal/>

National Business Donation

- **Platinum** - \$1,000
- **Gold** - \$500
- **Silver** - \$250

Company name, address and contact information are presented in AEG News and section receives 10% of donation. A national donation does not yield a line in our local section newsletter.

Company & Employment Advertising Newsletter (includes SoCal website posting)

	<u>Month</u>	<u>Year</u>
▪ Business Card	\$10	\$100
▪ ¼ Page	\$20	\$200
▪ ⅓ Page	\$30	\$300
▪ ½ Page	\$35	\$350
▪ Full Page	\$50	\$500

SoCal website posting only

\$20/month

* The deadline for submitting an advertisement for next month's newsletter is Friday, June 29th.

YEAR 2007 CONTRIBUTORS NEEDED

Contributions from corporations and individual members are greatly appreciated. Contributors will be listed in our newsletter throughout the year and can post their logo or business card in the newsletter if so desired. Please mail contributions made out to **AEG** to our section treasurer, Peter Thams.

2007 MEMBERSHIP RENEWAL

For those of you who have not yet renewed **(the deadline was November 1)**, are unsure about your membership status, or did not receive your membership dues statement, please contact AEG Headquarters at www.aegweb.org. You can renew your membership online. Please update your membership if you wish to continue to receive future issues of the newsletter.

*****NOTICE: Proposed New AEG Publication*****

**WHO'S WHO in SO CALIFORNIA ENGINEERING GEOLOGY
The Evolution of Engineering Geology in Southern California**

Have you ever wondered "Whatever happened to ___?" or "I've heard of ___, who is he?"

The undersigned have decided to try to prepare an internet publication with the above title, which will include biographies of engineering geologists in southern California. We would like you to share your biography (autobiography) with other EGs. If you have worked on an interesting project, others would like to know about it.

If we limit each autobiography to 3 pages of text, plus photos, this publication would be more than 1,000 pages long. Therefore, we plan to utilize a proposed new AEG Foundation internet website, where there is no limit to total pages, and we can use color photos. Also, this new website will be available for no-charge access, worldwide, thus spreading the word on the history and evolution of engineering geology, and southern California's immense contribution.

We suggest (not require) three criteria for inclusion: 1. That you are a CA licensed CEG; 2. That you are now or once were a member of AEG; 3. That you have enough years of professional experience to relate one or more significant projects you have worked on. We believe there are more than 250 such EGs in southern California. This will be an evolving internet site where new autobiographies can be added.

We will also include Memorial biographies of past notable geologists in southern California. So far, we have identified 30, including John Buwalda, Ian Campbell, Tom Dibblee, Rollin Eckis, Perry Ehlig, Richard Jahns, John Mann, F.L. Ransome, Charles Richter, Dottie & Marty Stout, Gene Waggoner. We will give a presentation on many of these notable geologists at AEG's 50th Anniversary Annual Meeting in September in Los Angeles.

Here is a CHECKLIST FOR YOUR AUTOBIOGRAPHY:

Complete NAME, address, phone, email; BIRTH DATE and place; UNIVERSITY(s) attended, major(s), degree(s), year(s); MILITARY service; FIRMS/AGENCIES you worked for; up to 3 significant PROJECTS you worked on; possibly relate a serious or humorous INCIDENT; a MENTOR you may wish to acknowledge; professional SOCIETIES, HONORS, AWARDS; HOBBIES; up to 5 PUBLICATIONS; PHOTOS of yourself and of projects (scanned images preferred).

So, if you wish to be included in this new internet publication, prepare your autobiography and email it with photos to: allen@hatheway.net and in the Subject box, type: So. Cal. Geologist. Or mail it to Allen Hatheway, 10256 Stoltz Dr., Rolla, MO 65401. Please, no more than 3 pages of text, single-spaced, Times New Roman, 12 pt.

Please pass this notice on to those you may know who no longer get this Newsletter.

In the spirit of camaraderie, we thank you,

Richard Proctor
Allen Hatheway
David Rogers
Larry Cann
Bob Lynn

EMPLOYMENT OPPORTUNITIES & ADVERTISING



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MACTEC Engineering and Consulting, Inc., a leading national geotechnical and environmental firm, is seeking Staff and Project Engineering Geologists for the Los Angeles office Geotechnical Division.

STAFF GEOLOGIST: The position requires a BS, MS preferred. 1 to 2 years experience is desirable. (Job ID 1251)

PROJECT GEOLOGIST: The position requires a BS, MS preferred, and minimum 3 to 5 years of experience. (Job ID 2058)

MACTEC offers excellent benefits and salary commensurate with experience. Please email, fax, or mail your resume to:

MACTEC
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Los Angeles, CA 90040
fax (323) 889-5398
dtliu@mactec.com

Job descriptions and requirements at: <http://www.mactec.com/careers/>



**Lawson & Associates
Geotechnical Consulting, Inc.**

Lawson & Associates Geotechnical Consulting, Inc.

2045 Royal Avenue, Ste. 125
Simi Valley, CA 93065

Tele: (805) 579-3434 Fax: (805) 579-3435

Email: kesmond@lqcgeo.com

Website: www.lqcgeo.com

LGC is looking for dynamic individuals to join our team and work on some of Orange, Los Angeles, Ventura, San Bernardino, Santa Barbara and Kern Counties' most interesting and technically challenging projects. If you are an experienced geotechnical professional, or just starting your career, please do not hesitate to contact us. All inquiries will be considered in the utmost confidence. We look forward to hearing from you.



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CH2M HILL has openings for talented Hydrogeologists in our Santa Ana office. These entry- to mid-level consultants will support projects that include site characterization and groundwater/soil remediation of hazardous and solid waste sites, assessment and remediation of regional groundwater contamination, groundwater protection, evaluation and development of groundwater resources/water supply.

Requirements include: BA/BS in Hydrogeology, Hydrology, Geology, or Environmental Engineering. Proper work authorization required (non-academic visa for any employer in the U.S.)

If you are interested please apply directly online to Requisition #16034BR (entry level) or #16198BR (mid level) at <http://www.ch2m.jobs>. When submitting your resume, please reference source code PFAEGSC.

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HEI has current employment opportunities for Engineering Geologists, Geotechnical Engineers and Soils Technicians. Established in 1985, HEI has demonstrated a level of professionalism that has resulted in being retained to consult on some of the most challenging geotechnical projects in California. We have immediate position openings in offices located in Laguna Beach, San Juan Capistrano and Carlsbad.

Project to Senior level Engineering Geologists and Geotechnical Engineers: BS or higher and CEG or RCE registrations required. Experience on a variety of projects and excellent verbal and written communication skills a must.

Technicians: At least three years of experience in the field and/or laboratory.

HEI offers salary commensurate with experience, a benefits package and bonuses. Send resume in confidence to lindal@hetheringtonengineering.com or FAX to (949) 487-9116.

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Company Profile

Since 1986, clients have turned to Ninyo & Moore for complex geotechnical and environmental challenges. As a leading geotechnical and environmental sciences engineering and consulting firm, Ninyo & Moore provides specialized services including evaluations for airports, bridges, commercial developments, dams, educational facilities, harbor and offshore structures, highways and roadways, hospitals, industrial developments, landfills, light rail transit lines, pipelines, power stations, railroads, residential developments, reservoirs and tanks, transmission lines, tunnels, water and wastewater treatment plants to clients in both the public and private sectors. With offices in Colorado, California, Nevada, Arizona, and Texas, the firm is fully committed to being responsive, cost-efficient, and thorough in meeting its clients' project needs and objectives.

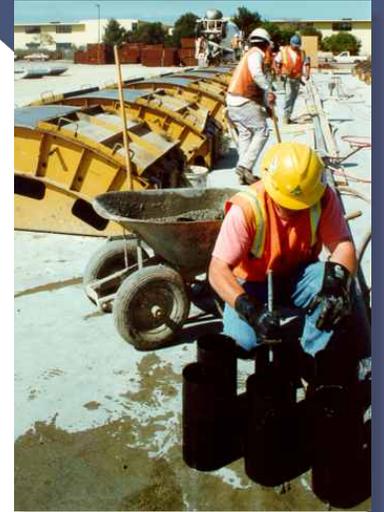
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- ✓ **IRVINE:** *Asbestos & Lead Professional, Project Engineer/Geologist, Senior Staff Engineer/Geologist, Senior Environmental Engineer, Staff Engineer/Geologist, Staff Environmental Scientist, and Marketing Assistant.*
- ✓ **LAS VEGAS:** *Asbestos & Lead Professional, Construction Field Technician, Geotechnical Engineer, Project Engineer, Project Geologist, Senior Project Engineer, Staff Engineer, and Staff Geologist.*
- ✓ **OAKLAND:** *Field Special Inspectors, Materials Project Manager/Supervisor, Project Environmental Geologist, Scientist or Engineer, Senior Geotechnical Engineer, Senior Project Geotechnical Engineer, Staff Geotechnical Engineer, and Administrative Manager.*
- ✓ **PHOENIX:** *Construction Field Technician, Project Environmental Scientist, Project Manager-Construction Materials Testing, and Senior Environmental Professionals.*
- ✓ **SAN DIEGO:** *Project Engineer/Geologist, Senior Geotechnical Engineer, Staff Engineer, and Construction Field and Laboratory Technicians.*

Successful candidates should have a BS or MS degree for staff-level positions and five years or more of experience for project to senior-level positions. The candidates should be detailed oriented and have excellent verbal and written communication skills. Professional Engineer (PE) and/or Professional Geologist (PG) registrations are preferred for project or senior positions.



Ninyo & Moore offers excellent benefits and great opportunities for professional growth. Please visit our website for complete and detailed job descriptions and to submit your resume in confidence at www.ninyoandmoore.com/careers.html or mail to our corporate office at 5710 Ruffin Road, San Diego, CA 92123, Attention: Human Resources. EOE





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If you are looking for a new opportunity to work with a creative and diverse geotechnical firm seeking to expand operations, *Albus-Keefe & Associates, Inc.* is a place where you can make a difference. We are looking for qualified individuals to work on interesting and technically challenging projects in Orange, LA, Ventura, San Bernardino, and Riverside Counties.

Albus-Keefe & Associates, Inc. is an EQUAL OPPORTUNITY EMPLOYER. All qualified candidates are encouraged to apply. For immediate consideration, email your resume and salary history to: RNash@Albus-Keefe.net -OR- fax to 714-630-1916.

STAFF & PROJECT LEVEL GEOLOGISTS:

Candidates should possess a BS or higher degree and have experience in public works, commercial and/or residential projects. Duties include performing geologic investigations, field observation and data collection during site construction operations, office analysis, proposal and technical report preparation, and project management.

SENIOR ENGINEERING GEOLOGIST:

Candidates must possess CEG registration and have experience in public works, commercial and residential projects. Duties include managing geologic investigations and construction operations, office analysis, proposal and technical report preparation, supervising/mentoring staff, and business development.

Geosoils Consultants, Inc.

Staff Level Geologist: Geosoils Consultants, Inc. is looking for a staff level engineering geologist for work on a variety of engineering projects in Los Angeles/Ventura Counties. Geosoils Consultants, Inc. is located in Van Nuys, California. Contact George Larson, Rudy Ruberti or Dave Sherman for further information. 818-785-2158.

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